

Jan B. Rittaler

Industrial Concentration and the Chicago School of Antitrust Analysis

Jan B. Rittaler

Industrial Concentration and the Chicago School of Antitrust Analysis

After roughly 15 years of merger control application in the Federal Republic of Germany a *reassessment of the significance* of this instrument of antitrust policy seems necessary. This is particularly so in view of the *reorientation of merger control policy in the United States* which has been - in its original version - the model for the German merger control system.

Concerning merger control, the reorientation is characterized by the notion that the *structure-conduct-performance paradigm* which has dominated U.S. antitrust for a quarter of a century is imprecise or even incorrect and "that bigness in business does not necessarily mean badness".

This makes the fundamental question arise of whether the German merger control system is still up to date in terms of the underlying market theory and of whether the *German Act Against Restraints of Competition* by means of a Fifth Amendment needs a reorientation towards aspects of market conduct and performance instead of market structure.

Jan B. Rittaler was born in 1959 in Schwäbisch Hall (F.R.G.). After graduation from highschool he studied Economics and Business Management at the University of Hohenheim (Stuttgart) and at the Graduate School of Management of the University of California at Los Angeles (UCLA). From October 1984 until August 1988 he was a Research Assistant with the Department of Economics at the University of Hohenheim. Furthermore, he was Managing Director of CIVIS Management Consulting Ltd. in 1986 and 1987. In October 1988 he completed his Doctorate in Economics. He is now working as an adviser for corporate strategy and planning, and EEC Common Market matters for the Board of Directors of a distinguished Swiss holding company.

Industrial Concentration and the Chicago School of Antitrust Analysis

Hohenheimer Volkswirtschaftliche Schriften

Herausgegeben von
Prof. Dr. Cay Folkers, Prof. Dr. Joachim Genosko,
Prof. Dr. Harald Hagemann, Prof. Dr. Klaus Herdzina,
Prof. Dr. Franz Mehler t, Prof. Dr. Renate Ohr,
Prof. Dr. Walter Piesch, Prof. Dr. Ingo Schmidt,
Prof. Dr. Helmut Walter, Prof. Dr. Josua Werner,

Band 11



Verlag Peter Lang
Frankfurt am Main · Bern · New York · Paris

Jan B. Rittaler

**Industrial
Concentration
and the Chicago School
of Antitrust Analysis**

A Critical Evaluation
on the Basis of Effective Competition



Verlag Peter Lang
Frankfurt am Main · Bern · New York · Paris

CIP-Titelaufnahme der Deutschen Bibliothek

Rittaler, Jan B.:

Industrial concentration and the Chicago School of Antitrust Analysis : a crit. evaluation on the basis of effective competition / Jan B. Rittaler. - Frankfurt am Main ; Bern ; New York ; Paris : Lang, 1989

(Hohenheimer volkswirtschaftliche Schriften ; Bd. 11)

Zugl.: Hohenheim, Univ., Diss., 1988

ISBN 3-631-40874-9

Open Access: The online version of this publication is published on www.peterlang.com and www.econstor.eu under the international Creative Commons License CC-BY 4.0. Learn more on how you can use and share this work: <http://creativecommons.org/licenses/by/4.0>.



This book is available Open Access thanks to the kind support of ZBW – Leibniz-Informationszentrum Wirtschaft.

NE: GT

D 100

ISSN 0721-3085

ISBN 3-631-40874-9

ISBN 978-3-631-75388-0 (eBook)

© Verlag Peter Lang GmbH, Frankfurt am Main 1989

Alle Rechte vorbehalten.

Das Werk einschließlich aller seiner Teile ist urheberrechtlich geschützt. Jede Verwertung außerhalb der engen Grenzen des Urheberrechtsgesetzes ist ohne Zustimmung des Verlages unzulässig und strafbar. Das gilt insbesondere für Vervielfältigungen, Übersetzungen, Mikroverfilmungen und die Einspeicherung und Verarbeitung in elektronischen Systemen.

Printed in Germany

**To my parents
Hildegard and Jan**

**"There is a story of a drunkard
searching under a street lamp
for his house key, which he had
dropped some distance away.
Asked why he didn't look where
he had dropped it, he replied,
'It's lighter here!"**

Abraham Kaplan,
The Conduct of Inquiry,
New York 1964, p. 11

Preface

After completion of this doctoral thesis which was submitted to the Faculty of Economics and Social Sciences at the University of Hohenheim in June 1988, the author feels obliged to express some acknowledgments. Without the help of the subsequently mentioned scholars, colleagues, consultants, and friends the contribution and the author's well-being would surely have suffered a variety of shortcomings and defects. The author feels proud to be responsible for the remaining errors.

Prof. Dr. Klaus **Herdzina** and Prof. Dr. Lothar **Vollmer** contributed basic insights into antitrust law and economics on which the major part of the thesis is based and they assisted in the examination and administration procedure. This applies also and particularly for UnivProf. Dr. Ingo L.O. **Schmidt** who has - in addition to that - spent valuable leisure time (which he otherwise would probably have spent with his family or in research) in having the thesis under his care. I am thus especially indebted to him.

My dear colleagues, Drs. Harald **Lob**, Ulrich **Kirschner**, Heinrich **Pascher**, Diplom-Volkswirt Stefan **Elßer** and Diplom-Volkswirt Heinrich-Josef **Engelke** have created the "ambiente" and "spirits" necessary for a creative completion of the work. This applies especially for Dr. **Kirschner** with whom I formed a strong duopson applying a concept of countervailing power. Self-evidently my present colleagues went to school on the encompassing experience perceived and transmitted by our former colleagues, Drs. Wolfgang **Krüger** and Helmut **Witkowski**.

Frau Renate **Strobel** won my applause for never loosing her charming kind and her good sense of humour - even in the most critical moments. This made her a real life-saver. She was assisted by Frau Renate **Dietrich**.

The author owes a debt to Dr. Peter **Fenn**, B.A., M.A., who polished up the final draft through his outstanding language abilities and thus enriched the foundation which was mainly laid by Dr. Hansjörg **Meyer**. It was also through their encouragement that the author decided to run the risk of writing his dissertation in a language other than his native one.

The willingness of my **parents** to provide the necessary background for my education must be emphasized particularly here. My gratitude for this may not be expressed sufficiently just by words.

Last, but definitely not least, I would like to acknowledge gratefully the encouragement, patience, and emotional help of my fiancée and future spouse Marina **Robitschek**. She often had to fight the unexpected obstacles and problems a dissertation brings along in the personal sphere. Her endurance resulted in a strong spill-over effect.

J.B.R.
Stuttgart-Hohenheim, October 1988

Table of Contents

Introduction: Antitrust Economics, Policy, and Law at the Crossroads: A Reorientation	1
I. <u>The Context</u>	1
II. <u>Developments in U.S. Antitrust Policy During the 1970s and 1980s</u>	3
1. Antitrust Economics	4
2. Antitrust Enforcement	9
a. The Antitrust Division of the Department of Justice	10
b. The Federal Trade Commission	14
3. Antitrust Adjudication	16
4. Antitrust Legislation	19
III. <u>The Source of Reorientation: The Chicago School of Antitrust Analysis</u>	23
1. The Foundations	23
2. Chicago Antitrust Philosophy	25
IV. <u>Definition of the Field of Research and Course of Inquiry</u>	27
Part 1: Analytical Framework for the Evaluation of Restraints of Competition by Industrial Concentration	31
I. <u>Free Enterprise System, Competition, and Public Policy</u>	31
1. Economic Order and Competition	31
2. Nature and Meaning of Competition	33
3. Competition and Public Policy	36
II. <u>Economic Evaluation of Industrial Concentration: Theoretical Approach and Public Policy</u>	39
1. Antitrust Policy Objectives	39
a. Objectives and Interrelations	40
b. Conflicting Objectives	42

2. Elements of the Approach to an Evaluation of Industrial Concentration	44	
a. Models of Competition	44	
b. The Structure-, Conduct-, Performance-Paradigm, and the Competitive Process	48	
c. Effective Competition and Competition Impairment	53	
d. Intensity of Competition and the Adequate Test	58	
3. The Treatment of Competition Impairment and Public Policy Alternatives	60	
a. Approaches	61	
b. Rules	62	
III. <u>Competition and Industrial Concentration</u>		64
1. Concentration and Economic Theory	64	
a. Nature and Meaning of Economic Concentration	64	
b. Economic Concentration and Power	67	
c. Features of Industrial Concentration	71	
aa. Significance	71	
bb. Causes	76	
cc. Effects	80	
d. Forms of Industrial Concentration	82	
aa. Internal Growth	83	
bb. External Growth	83	
(1) Horizontal Mergers	84	
(2) Vertical Mergers	84	
(3) Conglomerate Mergers	85	
2. Measurement of Industrial Concentration	86	
a. Analysis of Industrial Concentration	86	
b. Defining the Relevant Market	87	
c. Measures of Industrial Concentration	92	
IV. <u>Concluding Remarks</u>		96

Part 2: The Central Elements of the Current Theoretical Edifice	99
I. <u>The Current Debate on The Goals of Antitrust: Economics or Sociopolitics?</u>	99
1. The Current Efficiency-Orientation	101
2. Evidence of the Goals of Antitrust	107
a. Legislative History of the Antitrust Statutes	107
b. Adjudicative Development	110
c. Plausibility Considerations	113
3. Antitrust Legislation and Rent-Seeking Behavior	115
4. The German Case	117
II. <u>Methodology and Theoretical Model Underlying the Evaluation of the Competitiveness of Mergers</u>	120
1. The General Methodology of Analysis	120
a. Neoclassical Price Theory as an Instrument of Analysis	120
b. Price/Quantity-Interrelations as Indicators of Consumer Welfare	124
c. The General Methodology: Conclusions	129
2. Mergers, Efficiency, and the Model for Evaluation	130
a. Consumer Welfare and Efficiency: Remarks on Interdependence	130
b. The Incorporation of Current Efficiency Considerations	131
c. The Partial Equilibrium Trade-Off Model Reconsidered	133
d. Qualifications to the Model	137
aa. Premises and Assumptions	137
bb. General Welfare Measurement	139
cc. Allocative Efficiency	140
dd. Productive Efficiency	142
ee. Transfer of Wealth	146
III. <u>Impediments to New Competition</u>	150
1. Perfect Competition, Monopoly, and Potential Competition	151
2. The Meaning, Definition, and Importance of Barriers to New Competition	152
3. The Measurement of Barriers to New Competition	158
4. Kinds of Barriers to New Competition and their Sources: Plausibility and Empirical Evidence	160

a. Structural Barriers	160
aa. Economies of Large Scale	161
bb. Absolute Cost Advantages	164
cc. Product Differentiation Advantages	167
b. Strategic Barriers	173
c. Legal and Administrative Barriers	177
d. Barriers to Exit	179
5. An Evaluation of Impediments to New Competition	182
IV. <u>Concluding Remarks</u>	184

**Part 3: Industrial Concentration through Horizontal Mergers:
Effects on Performance**189

I. <u>The Economic Rationale Underlying the Traditional Merger Policy</u>	189
1. The Content of the Concentration-Collusion Doctrine	190
2. Economic Returns as a Standard of Measurement	192
3. Empirical Attempts to Verify the Concentration-Collusion Doctrine	195
a. Empirical Evidence	197
aa. Concentration and Prices	197
bb. Concentration, Profit Rates, and Price-Cost Margins	200
b. Collusion and "Critical Levels" of Concentration	203
c. The Suitability of the Different Performance Criteria	205
d. Insufficiencies of Traditional Studies	208
II. <u>The Validity of the Mainline Paradigm and the New Learning-Hypothesis</u>	210
1. Efficiency as a Cause of Concentration	210
2. Concentration as a Possible Cause of Collusion	212
3. The Theoretical Basis and the Empirical Evidence of the New Learning-Hypothesis	214
4. Revised Policy Conclusions for Horizontal Mergers	219
5. Critical Evaluation of the New Learning-Hypotheses, the Underlying Premises, and their Empirical Evidence	221
a. Impediments to Competition	221
b. Accounting Data and the Data Base	223

c. The Core of the Oligopoly and Other Omissions	227
d. The Persistence of Profits in the Long Run	230
III. Firm Market Share as the Essential Determinant of Interfirm Profitability Differences	232
1. Interfirm Profitability Differences: Efficiency or Market Power?	232
2. The Range of Economies of Size as an Alternative Explanatory Approach	237
3. The Evidence of Efficiency on the Basis of Merger Performance	248
IV. Concluding Remarks	250
Part 4: Vertical Mergers: Anticompetitive Effects and the Attainment of Efficiencies.....	255
I. Vertical Integration and Efficiency-Enhancement	256
1. Transaction-Costs and Different Mechanisms for the Organization of Economic Exchange	257
a. Economic Exchange via Markets: Costs of Using the Price Mechanism	257
b. Economic Exchange via Organizations: Costs of Using Internal Organization	260
2. Efficiency-Enhancement as the Underlying Reasoning for Vertical Integration	261
3. Efficiency Gains vs. Anticompetitive Consequences: Necessity for a Trade-Off?	263
II. Empirical Evidence on the Extent of Vertical Integration and Associated Efficiency Advantages	265
1. The Measurement of the Extent of Vertical Integration	265
2. The Empirical Evidence on Efficiency-Enhancement	266
a. Studies on Transaction-Specific Market Characteristics	267
b. Studies on Actual Cost Savings	268
3. A Critical Review of the Applicability of the Transaction-Cost Approach to an Efficiency Analysis of Vertical Integration	270

III. An Evaluation of Possible Anticompetitive Consequences Resulting from Vertical Integration	273
1. The Reasoning Underlying Anticipated Anticompetitive Consequences: Foreclosure of Actual and Potential Competitors	273
2. Particular Anticompetitive Effects Associated with Foreclosure	278
a. Price and Output Consequences	278
b. Price and Supply Squeeze	282
c. Price Discrimination	286
d. Impediments to New Competition	290
e. Collusive Effects	294
3. The Likelihood of Anticompetitive Effects and Revised Policy Conclusions	298
IV. Concluding Remarks	301

**Résumée: Application of the Results of an Analysis of the
Chicago School Approach Towards Industrial Concentration**305

I. The Legal Treatment of Industrial Concentration	305
1. The Approach	306
2. The Relevant Statutes	308
3. The Merger Term in the Statutes	309
4. The Minimum Thresholds	310
5. The Point of Intervention	310
6. Overall Justification	313
II. Trends and Tendencies in Enforcement and Adjudication	314
1. The Use of Economic Evidence in Enforcement and Adjudication	314
2. An Evaluation of Trends and Tendencies	315
a. Determining Market Delineation	315
b. Determining Market Domination	317
aa. Superior Market Position	318
(1) Market Structure	318
(a) Market Share	319
(b) Financial Strength	321

(c) Market Barriers	324
(2) Market Conduct	326
bb. Oligopolistic Domination	328
c. Strengthening Market Domination	331
 III. <u>An Evaluation of the Propositions for a Reform of Merger Control in the Fifth Amendment of the ARC</u>	332
1. Political and Economic Order: Thoughts on Structural Complementarity	333
2. The Object of Protection: Competition vs. Competitors	336
3. An Evaluation of the Proposals on the Basis of Our State of Knowledge	338
a. The Proposals	338
b. The Evaluation	341
 IV. <u>Concluding Remarks</u>	346
 <u>Bibliography</u>	351

Table of Abbreviations

AD	Antitrust Division of the U.S. Department of Justice
BTDr.	Bundestagsdrucksache
CCH	Commerce Clearing House
cert.	certiorari
ch(s).	chapter(s)
col(s).	column(s)
cf.	confer
esp.	especially
et al.	et alii
FCO	German Federal Cartel Office
FTC	U.S. Federal Trade Commission
Fig.	figure
Ibid.	ibidem
MC	Monopolies Commission
op. cit.	opus citum
para(s).	paragraph(s)
reh.	rehearing
repr.	reprint
resp.	respectively
rev.	revised
sec(s).	section(s)
Sup.Ct.	Supreme Court
Tab.	table
TB*	Transfer Binder
TRR*	Trade Regulation Report(s)
TRRer*	Trade Regulation Reporter
U.S.C.A.	United States Code Amendment
vol(s).	volume(s)

* References and trade cases refer to Commerce Clearing House (CCH) publications unless documented otherwise.

Journals and Periodicals Cited

AB	The Antitrust Bulletin
AER	The American Economic Review
AG	Die Aktiengesellschaft
ALER	Antitrust Law & Economics Review
ALJ	Antitrust Law Journal
AJAE	American Journal of Agricultural Economics
ArizLR	Arizona Law Review
ASQ	Administrative Science Quarterly
BB	Betriebs-Berater
BJE	The Bell Journal of Economics
BOIS	Bulletin of the Oxford Institute of Statistics
CJE	The Canadian Journal of Economics
CoLLR	Columbia Law Review
CornLLR	Cornell Law Review
DB	Der Betrieb
EJ	The Economic Journal
GeorgeLJ	The Georgetown Law Journal
GLR	Georgia Law Review
GRUR Int	Gewerblicher Rechtsschutz und Urheberrecht Internationaler Teil
GWLR	George Washington Law Review
HastLJ	Hastings Law Journal
HJWH	Hamburger Jahrbücher für Wirtschafts- und Gesellschaftspolitik
HBR	Harvard Business Review
HLR	The Harvard Law Review
HofLR	Hofstra Law Review
HWB	Handwörterbuch der Betriebswirtschaftslehre
IJIO	The International Journal of Industrial Organisation
IOR	Industrial Organization Review
JMCB	Journal of Money, Credit & Banking
JB	Journal of Business
JEB	Journal of Economics and Business
JEL	The Journal of Economic Literature
JIE	The Journal of Industrial Economics
JITE	The Journal of Institutional & Theoretical Economics
JLE	The Journal of Law & Economics

JNST	Jahrbücher für Nationalökonomie und Statistik
JPE	Journal of Political Economy
JZ	Juristenzeitung
LIFo	List Forum
MA	Der Markenartikel
MDE	Managerial and Decision Economics
MLR	Michigan Law Review
NJW	Neue Juristische Wochenschrift
NWULR	Northwestern University Law Review
NYULR	New York University Law Review
OhioStLJ	Ohio State Law Journal
PC	Public Choice
QJE	The Quarterly Journal of Economics
QREB	Quarterly Review of Economics & Business
RES	Review of Economic Studies
REST	The Review of Economics & Statistics
SCR	The Supreme Court Review
SEJ	Southern Economic Journal
StLouisULJ	St. Louis University Law Journal
TLR	Texas Law Review
UCHILR	The University of Chicago Law Review
UPLR	The University of Pennsylvania Law Review
VLR	Virginia Law Review
WEJ	Western Economic Journal
WuW	Wirtschaft und Wettbewerb
YEE	Yale Economic Essays
YLJ	The Yale Law Journal
ZfB	Zeitschrift für Betriebswirtschaft
ZfWS	Zeitschrift für Wirtschafts- und Sozialwissenschaft
ZHR	Zeitschrift für das gesamte Handelsrecht und Wirtschaftsrecht
ZSVw	Zeitschrift für Volkswirtschaft, Sozialpolitik, und Verwaltung

Survey of Figures and Tables

Figures

Fig.	1: Circular Interdependence of Structure, Conduct, and Performance as the Traditional Framework of Industrial Organization Analysis	50
Fig.	2: The Williamson Trade-Off Model	134
Fig.	3: Deadweight Loss and Linear Demand Curve	142
Fig.	4: Barriers to Entry and Social Surplus	155
Fig.	5: A Synopsis of Impediments to Competition	181
Fig.	6: Industry Profile and Efficiency Differences	217
Fig.	7: Relative Market Share and Profitability Differences	233
Fig.	8: Means of Governance as a Result of Investment Characteristics and Transaction Frequency	260
Fig.	9: Squeezing in the Steel Industry	284

Tables

Tab.	1: The U.S. Federal Supreme Court in 1987/88	2
Tab.	2: Fiscal Requests of the Antitrust Enforcement Agencies: 1982 – 1988	11
Tab.	3: Survey of the Different Approaches Dealing with Restraints of Trade in the U.S.A. and the Federal Republic of Germany.....	39
Tab.	4: Overall Industry Concentration and Aggregate Concentration	74
Tab.	5: Structural Change of Aggregate Concentration in the U.S.	75
Tab.	6: Williamson's Offset Calculations	135

Introduction: Antitrust Economics, Policy, and Law at the Crossroads: A Reorientation

I. The Context

The body of U.S. antitrust laws and its developments and changes over nearly one hundred years have had significant influence on antitrust legislation and enforcement worldwide.¹

Developments and changes in antitrust policy have so far always been accompanied by two characteristics. On the one hand, there has been a close linkage between the improvement of price theory and the development of antitrust theory², a linkage that to some extent is being given up within the context of recent changes. On the other hand, changes in antitrust theory have always been supported by particular schools of thought.³ One of these schools of thought, the *Chicago School*, which in contemporary economics is mainly known within the context of monetarism (Karl Brunner, Milton Friedman, Allan Meltzer et al.), has developed a legal and economic approach to antitrust, mainly throughout the 1960s and 1970s.

This approach is supported by a group of economists and lawyers (*Bork, Demsetz, Director, Posner, Stigler* et al.) who have gained considerable influence on contemporary U.S. antitrust policy.⁴

This is not only shown by the "turnaround" in antitrust policy announced by former Secretary of Justice William French Smith in 1981 but also by the new Merger Guidelines of 1982/1984, the Vertical Restraints Guidelines of 1985, the Antitrust Law Reform Package of 1986, and by the fact that judges

1 This significant influence has mainly two reasons. The U.S. antitrust statutes are nearly one hundred years old and they represent the largest experience in application to date, cf. Schmidt, Ingo, *Wettbewerbspolitik in den USA*, in: Cox, Helmut, et al. (eds.), *Handbuch des Wettbewerbs*, München 1981, pp. 533-556, 535; Möschel, Wernhard, *Antitrust and Economic Analysis of Law*, 140 JITE (1984), pp. 156-171, 156.

2 Cf. Sullivan, Lawrence A., *Antitrust, Microeconomics, and Politics: Reflections on Some Recent Relationships*, 68 CLR (1980), pp. 1-12, 6.

3 For a short survey on the history of the different schools of antitrust, cf. Audretsch, David B., *Divergent Views on Antitrust Economics*, 33 AB (1988), pp. 135-160; Hovenkamp, Herbert, *Antitrust Policy After Chicago*, 84 MLR (1985), pp. 213-284, 213-217; for a detailed survey cf. Singleton, Ross C., *Industrial Organization and Antitrust: A Survey of Alternative Perspectives*, Columbus, Ohio 1986.

4 For a survey on this school cf. Schmidt, Ingo, and Jan B. Rittaler, *Die Chicago School of Antitrust Analysis. Wettbewerbstheoretische und -politische Analyse eines Credos*, Baden-Baden 1986.

on the unofficial "waiting list", to be appointed to U.S. Federal Courts, are preeminent Chicago scholars (e.g., *Easterbrook, Posner*):⁵

Tab. 1: The U.S. Federal Supreme Court in 1987/88

Name	Appointed	President	Political Opinion
Brennan	1956	Eisenhower	liberal
White	1962	Kennedy	center-conservative
Marshall (black)	1967	Johnson	liberal
Blackmun	1970	Nixon	liberal
Rehnquist (Chief Justice)	1972	Nixon	conservative
Stevens	1975	Ford	independent
O'Connor (female)	1980	Reagan	conservative (Chicago)
Scalia	1986	Reagan	conservative (Chicago)
Kennedy*	1987	Reagan	center-conservative**

* The appointment of Justice Bork was not confirmed by Congress and Justice Ginsburg resigned from the appointment made by President Reagan

** Political opinion was not confirmed yet

The controversy between the Chicago School and another school of thought - the *Harvard School* - which has dominated U.S. antitrust policy for nearly half a century, is of eminent relevance to competition policies in Europe, especially with regard to the European Economic Community (EEC). Furthermore, major developments in U.S. antitrust policy tend to be adopted by the German Act Against Restraints of Competition (ARC), the so-called Gesetz gegen Wettbewerbsbeschränkungen (GWB)⁶ with a certain time-lag. This

5 For evidence cf. Toepke, Utz P., Antitrustspruchpraxis 1985/86, in: FIW (ed.), Schwerpunkte des Kartellrechts 1985/86, Verwaltungs- und Rechtsprechungspraxis Bundesrepublik Deutschland, EG und USA, Köln et al. 1987, pp. 175-200, 184 f. The Committee on the Judiciary and the U.S. Senate have approved the nomination of Judge Scalia but refused to appoint Robert H. Bork, one of the leading representatives of the Chicago School, as a member of the Federal Supreme Court in November 1987. The majority vote against him was based on the belief that he represented extreme conservative views not in accordance with the constitution in various legal fields.

6 The German Act Against Restraints of Competition (ARC) was passed by parliament in 1957 and was heavily influenced by the Decartelization Laws of the WW II Allies as well as U.S. antitrust philosophy after WW II. This is documented by the fact that parliament sent a commission to the United States in order to study antitrust.

Interdependence between German competition policy and U.S. antitrust policy becomes even more important under the impression that the revision of antitrust enforcement and adjudication in the United States is rather radical and could lead to a "*de facto repeal*" of several sections of the antitrust laws⁷ and, therefore, could exert strong influence on German antitrust legislation and policy, esp. in the field of mergers.⁸

II. Developments in U.S. Antitrust Policy During the 1970s and 1980s

Interpretation and enforcement of the United States antitrust laws have gone through several stringent as well as lax phases over the nearly one hundred years since the Sherman Act was passed.

Although it is difficult to determine at what point in time dissenting opinions which have formed current antitrust philosophy under the *Reagan Administration* appeared as a counterpart to mainstream antitrust, one can identify certain landmarks. These have their roots partly in the developments of the 1970s but are centred mainly in the current decade, in which the departure from mainstream antitrust theory has become more obvious.⁹

The main concern of the contribution submitted is to analyze the economic basis behind the recent evolution of U.S. antitrust policy. The recent evolution of U.S. antitrust shall be presented against the background of the

7 Cf. Mueller, Dennis C., United States' Antitrust: At the Crossroads, in: de Jong, Henk W., and William G. Shepherd (eds.), *Mainstreams in Industrial Organization - Book 2*, Dordrecht et al. 1986, pp. 215-241, 215; it should be noted that if this tendency continues, it will mean that European cartel laws will be more severe than the U.S. statutes, thus reversing previous historical trends.

8 The discussion has just recently begun in the Federal Republic of Germany and has led to calls for a reorientation of German competition policy by business representatives, cf. Hözlner, Heinrich, Die Reagan-Administration hat im Kongreß ein Novellen-Paket zur Reform der Kartellgesetze eingebracht, *Handelsblatt* No. 72, April 15 (1986), pp. 6 f.

1 The basic ideas of Chicago antitrust reach back to pre WW II Chicago economics; Kitch, Edmund W., The Fire of Truth: A Remembrance of Law and Economics at Chicago, 1932-1970, 26 JLE (1983), pp. 163-233, 231: "The problem with that story is that the basic truths that were being taught at Chicago ... were not really new truths. They were old truths. The principal effect ... has been to return economics to its older traditions."

dominant political and constitutional principle governing most western hemisphere states, i.e. the separation of power into three separate and largely independent sectors: the legislative, the executive, and the judicative.²

1. Antitrust Economics

Numerous and complex factors, among them a variety of political and social developments, account for the recent changes in the field of antitrust. Among these factors, however, the one that played the most prominent role was the change in thinking within the economics profession.³

An efficiency-oriented approach to antitrust law and economics has emerged from a newly developed field called "*the economic analysis of law*"⁴, which inquires into actual and potential legislative rules and their public and private enforcement under efficiency considerations.⁵ This approach has led to a dramatic shift in the mainstream economic tenet concerning the size of monopoly welfare losses and efficiency gains, resulting from various market structures and business practices. The approach mainly discards the former belief that increased industrial concentration causes significant losses in welfare. The new approach gives an increased weight to economic evidence, efficiency, and overall economic welfare effects.⁶

Antitrust law and economics became increasingly the current antitrust paradigm. It did not develop from a full-blown antitrust philosophy, but was rather the result of reflexions on specific questions raised by several antitrust cases.⁷ The basic features of the Chicago School of Antitrust Law and

2 The presentation of recent developments will be restricted to landmark changes which for practical reasons will be categorized and dealt with, according to the following sequence: economics, executive, judicative, legislative.

3 Cf. Mueller, United States' Antitrust ..., op. cit., 221.

4 For some of the first contributions cf., e.g., Calabresi, Guido, Some Thoughts on Risk Distribution and the Law of Torts, 70 YLJ (1960/61), pp. 499-528, and Coase, Ronald, The Problem of Social Cost, 3 JLE (1960), pp. 1-44.

5 Cf. Borchert, Manfred, and Heinz Grossekettler, Preis- und Wettbewerbstheorie, Stuttgart et al. 1985, p. 162.

6 Cf. Mueller, United States' Antitrust ..., op. cit., 215, 221.

7 Cf. Posner, Richard A., The Chicago School of Antitrust Analysis, 127 UPLR (1979), pp. 925-949, 926. For further explanation and details, cf. infra.

Economics can be attributed to the works of Aaron Director⁸ and George J. Stigler⁹ in the 1950s and 1960s. Chicago School theory emerged from these basic works and applies neoclassic price theory to antitrust problems. The Chicago School criticizes the structural approach of the Harvard School for doing particularistic industry studies, as being untheoretical, and discarding or playing down important principles of economic theory.¹⁰

What began as criticism and the rejection of the mainstream position, later crystalized into a body of new theories and an orthodox position, put forward in particular by Bork.¹¹ It centres around four fields of economic research:

- (1) The most advanced and elaborated field of economic research that has shaped the Chicago approach to antitrust is the **deregulation** issue.¹² It can be shown that under certain conditions free competition among firms is not efficient in producing socially optimal allocation of resources and a socially desirable distribution of income.¹³ This can be the case for economic (market failure) or non-economic (e.g., protection of a natural resource) reasons.¹⁴ The first instance, as a rule, results in a natu-

⁸ Cf. Director, Aaron, and Edward H. Levi, *Law and the Future: Trade Regulation*, 51 NWULR (1956), pp. 281-296.

Director was strongly influenced by the works of Frank H. Knight, cf. Knight, Frank H., *Risk, Uncertainty, and Profits*, Boston, New York 1921, and idem, *Some Fallacies in the Interpretation of Social Cost*, 38 QJE (1924), pp. 582-606.

So were his colleagues and students, such as Bork, Bowman, McGee, Telser et al. who elaborated on Director's key ideas. For further reference cf. Posner, *The Chicago School ...*, supra, 926: note 2.

⁹ For a summary of Stigler's works, cf. Stigler, George J., *The Organization of Industry*, Homewood, Ill. 1968.

¹⁰ Cf. Posner, *The Chicago School ...*, supra, 931; we will carry out an thorough analysis of the main differences in the features of the schools, in the contribution presented.

¹¹ Cf. Bork, Robert H., *The Antitrust Paradox: A Policy at War with Itself*, New York 1978.

¹² Although this is not exclusively a Chicago domain, preeminent Chicago scholars have contributed to the emergence of the field and have been predominant ever since, cf. Joskow, Paul L., and Roger C. Noll, *Regulation in Theory and Practice: An Overview*, in: Fromm, Gary (ed.), *Studies in Public Regulation*, Cambridge, Mass. 1981, pp. 1-65, 36, and Pascher, Heinrich, *Die U.S.-amerikanische Deregulation Policy im Luftverkehrs- und Bankenbereich*, Frankfurt a.M. et al. 1987.

¹³ Cf. Koch, James V., *Industrial Organization and Prices*, 2nd ed., Englewood Cliffs, N.J. 1980, p. 436; and Shepherd, William G., *The Economics of Industrial Organization*, 2nd ed., Englewood Cliffs, N.J., 1985, p. 349.

¹⁴ For details on these reasons cf. Koch, *Industrial Organization ...*, op. cit., 436-440.

ral monopoly, which is characterized by increasing returns to scale along relevant demand. This constellation inevitably leads to a (natural) monopoly. In the case of a natural monopoly the public steps in, leaves the monopoly with the supplier, but regulates the monopolist's parameters of action by the promulgation and enforcement of rules constraining the monopolist's behavior.¹⁵

From 1960 to 1975, a series of economic studies showed that regulation caused inefficiency.¹⁶ Since 1970, new insights have shown that political causes frequently motivate the regulation of particular industries.¹⁷

These insights supported the view that changes in regulatory policy as well as regulation itself were often not economically justified but were the result of attempts by interest groups to obtain a more favorable redistribution of wealth.¹⁸ Since economic analyses showed that public regulatory policies did not operate in the traditional public interest sense (economic efficiency and equitable distribution of income), regulatory reform movement emerged.¹⁹ This deregulation movement calls for an end to the entry and price regulation of industries with basically competitive structures and precise economic impact analysis for cases in

15 Cf. Noll, Roger C., The Political Foundations of Regulatory Policy, 139 JITE (1983), pp. 377-404, 387 f.; regulation, in fact, is not restricted to single supplier markets. There can be numerous market participants, the other possibility being that the public is itself the supplier, cf. Shepherd, The Economics ..., op. cit., 349.

16 Cf., e.g., Averch, Harvey, and Leland L. Johnson, Behavior of the Firm Under Regulatory Constraint, 52 AER (1962), pp. 1052-1069.

17 Cf. Noll, The Political Foundations..., supra, 377; for a survey on what is termed "capture theory", cf. Schröter, Klaus, Die wettbewerbspolitische Behandlung von Ausnahmebereichen - dargestellt am Beispiel der Fernwärmeirtschaft in der BRD, Frankfurt a.M. et al. 1986, pp. 93-108.

18 For the original essay cf. Coase, Ronald, The Federal Communications Commission, 3 JLE (1959), pp. 1-40; for the basic works cf. Demsetz, Harold, Why Regulate Utilities?, 11 JLE (1968), pp. 55-65; Peltzman, Sam, Toward a More General Theory of Regulation, 19 JLE (1976), pp. 211-240; Posner, Richard A., Theories of Economic Regulation, 5 BJE (1974), pp. 335-358; and Stigler, George J., The Theory of Economic Regulation, 5 BJE (1974), pp. 335-358.

For some fundamental treatment of the issue cf. Kahn, Alfred E., The Economics of Regulation, vol 1: Economic Principles, New York et al. 1970; idem, vol 2: Institutional Issues, New York et al. 1971; and Weldenbaum, Murray L., The Future of Business Regulation, New York 1979.

19 Cf. Keeler, Theodore E., Theories of Regulation and the Deregulation Movement, 44 PC (1984), pp. 103-145, 103.

which market failure is a more plausible explanation.²⁰

As a result of this change in economic thinking, Congress, the *Reagan* Administration, as well as the regulatory agencies, have jointly deregulated airlines, railroads and trucking.²¹

- (2) The second field of economic research centres around the **transaction-cost approach**.

Vertical contractual linkages, as well as vertical integration, can be seen as institutions for mediating economic activities at some cost.²² Some contractual ties such as exclusive dealings and requirements contracts used to be found illegal under Sec. 3 of the Clayton Act because of their effects on competition.²³

Recent research has focused on the costs arising from the use of different contractual linkages and has emphasized possible economic advantages of contractual ties over other linkages leading to cost savings.²⁴

This has led to the notion among economists that vertical arrangements in general and vertical mergers in particular are efficiency-enhancing, carry little or no anticompetitive effects and, therefore, should not be per se illegal.²⁵

20 Cf. Sullivan, Antitrust, Microeconomics, and Politics..., supra, 5; and Noll, The Political Foundations ..., supra 402.

21 Cf. Keeler, Theories of Regulation ..., supra, 104.

22 For the basic works on different mechanisms of economic coordination cf. Coase, Ronald, The Nature of the Firm, 4 *Economica* (1937), pp. 386-405; and for a detailed up-to-date survey cf. Ouchi, William G., Markets, Bureaucracies, and Clans, 25 *ASQ* (1980), pp. 129-141. For basic works on the transaction-cost approach and for further details cf. Williamson, Oliver E., Markets and Hierarchies. Analysis and Antitrust Implications, New York 1975; idem, Transaction Cost Economics: The Governance of Contractual Relations, 22 *JLE* (1979), pp. 233-262; Klein, Benjamin, et al., Vertical Integration, Appropriate Rents and the Competitive Contracting Process, 21 *JLE* (1978), pp. 297-326; and De Alessi, Louis, Property Rights, Transaction Costs, and X-Efficiency: An Essay in Economic Theory, 73 *AER* (1983), pp. 64-81.

23 Cf. Mueller, United States' Antitrust ..., op. cit., 221 f.

24 Cf. Klein, Benjamin, Transaction Cost Determinants of 'Unfair' Contractual Arrangements, 70 *AER* (1980), pp. 356-362; Monteverde, Kirk, and David J. Teece, Appropriable Rents and Quasi-Vertical Integration, 25 *JLE* (1982), pp. 321-328.

25 Cf., e.g., Williamson, Oliver E., Assessing Vertical Market Restrictions: Antitrust Ramifications of the Transaction Cost Approach, 127 *UPLR* (1979), pp. 953-993, 992 f., although not being considered Chicagoan; for a jurist's view on the issue cf. Easterbrook, Frank H., Vertical Arrangements and the Rule of Reason, 53 *ALJ* (1984), pp. 135-173, 135 f., and 168 f., confirming the economist's view.

- (3) The third field of research is associated with the so-called **new-learning hypothesis**.

Assuming the presence of economies of scale, the traditional industrial organization approach assumed that it was necessary for firms in an industry to achieve a certain size in order to be efficient in the sense of having lower average costs.²⁶ This led to the reasoning that size would cause lower costs and, therefore, bring about increased efficiency. The new-learning hypothesis reverses this causal chain, stating that it is efficiency which is responsible for size as an important component of industry structure. It is argued that firms often differ in their degree of efficiency, and that the more efficient firms grow more rapidly than their relatively inefficient competitors.²⁷ Therefore, size is determined by efficiency, not vice versa. A variety of empirical studies have tried to support this hypothesis.²⁸

- (4) The fourth field of research inquired into the question of how competitive behavior in setting prices was to be distinguished from predatory conduct that would eliminate competitors from the market and, therefore, was considered anticompetitive.²⁹ **Predatory pricing or conduct** in this context can be defined as hindering competitors by price-cutting which aims at disciplining them or driving them out of the market. Such a price policy can result in the crowding out of the attacked firm and, at

26 Cf. Bain, Joe S., *Economies of Scale, Concentration, and the Condition of Entry in Twenty Manufacturing Industries*, 44 AER (1954), pp. 15-39.

27 Cf. Brozen, Yale, *Bain's Concentration and Rates of Return Revisited*, 14 JLE (1971), pp. 351-369; idem, *Concentration and Structural and Market Disequilibria*, 16 AB (1971), pp. 241-248, Demsetz, Harold, *Industry Structure, Market Rivalry, and Public Policy*, 16 JLE (1973), pp. 1-9, and Idem, *Two Systems of Belief about Monopoly*, in: Goldschmid, Harvey J., et al. (eds.), *Industrial Concentration: The New Learning*, Boston, Toronto 1974, pp. 164-184.

28 Cf. Carter, John R., *Collusion, Efficiency, and Antitrust*, 21 JLE (1978), pp. 435-444; Demsetz, *Industry Structure ...*, supra; and Peltzman, Sam, *The Gains and Losses from Industrial Concentration*, 20 JLE (1977), pp. 229-263. On the rising skepticism towards that view, cf. Briggs, John DeQ., and Stephen Calkins, *Antitrust 1986-87: Power and Access (Part 1)*, 32 AB (1987), pp. 275-333, 326-328.

29 For the landmark essay on the issue, cf. Areeda, Phillip, and Donald F. Turner, *Predatory Pricing and Related Practices Under Section 2 of the Sherman Act*, 88 HLR (1975), pp. 697-733, and for a part of the subsequent discussion, cf. Areeda, Phillip, and Donald F. Turner, *Scherer on Predatory Pricing: Reply*, 89 HLR (1976), pp. 891-900; Joskow, Paul L., and Alvin K. Klevorick, *A Framework for Analyzing Predatory Pricing*, 89 YLJ (1979), pp. 213-270; and Scherer, Frederic M., *Predatory Pricing and the Sherman Act: A Reply*, 89 HLR (1976), pp. 869-890.

the same time, in a disproportionate internal growth of the attacked firm. Nonrealized profits or losses of the first period can then be compensated by increased profits in the second period after having disciplined the other firm or after the disappearance of this firm.

What came to be called the *Areeda/Turner*-rule, placed economic efficiency gains above all other objectives.³⁰ The rule treated conduct as anti-competitive if it led to prices below the short-run marginal costs of the alleged predator, whereas before the advent of the rule the courts used to compare prices to long-run average cost estimates.³¹ These proposals by *Areeda* and *Turner* have stimulated a lively discussion on the question of what criteria should be applied by the courts in order to distinguish predatory from non-predatory conduct. This change in economic thinking, which later played a key role in several private anti-trust suits, had an almost immediate impact on judicial thinking.³²

2. Antitrust Enforcement

The enforcement of the United States antitrust laws is characterized by a dual system encompassing the *Antitrust Division (AD)* of the Department of Justice and the *Federal Trade Commission (FTC)* as enforcement agencies.³³ Although the Federal Trade Commission has an independent legal status, its enforcement duties and general policies can be influenced by the legislative powers (budget). The AD's overall antitrust policy is framed by the *Secretary of Justice* who executes government policy and is responsible politically. The administration's appointments to both agencies have led to wide fluctuations in the severity and emphasis of enforcement in the past, and to broad implicit limitations of the agencies' permitted range of action.³⁴

30 Cf. Mueller, *United States' Antitrust* ..., op. cit., 218.

31 Cf. Utah Ple. v. Continental Baking, 1967 CCH Trade Cases § 72,074.

32 Cf. Mueller, *United States' Antitrust* ..., op. cit., 219; for this case made, see also the reasoning on predatory pricing in this Introduction.

33 For details on antitrust law enforcement cf. Schmidt, Ingo, *Wettbewerbspolitik und Kartellrecht: Eine Einführung*, 2nd ed., Stuttgart 1987, pp. 182-185; Shepherd, William G., *Public Policies Toward Business*, 7th ed., Homewood, Ill. 1985, pp. 137, 147-153; and Sullivan, Lawrence A., *Handbook of the Law of Antitrust*, St. Paul, Minn. 1977, pp. 751-754.

34 Cf. Shepherd, *Public Policies* ..., op. cit., 132-139, and 148 for the main steps of antitrust decisions and litigation; for the development of the agencies' resources, see Tab. 2.

After President Reagan came to office, the former heads of the enforcement agencies Baxter and Miller III announced a 'New Deal' in antitrust which was strongly supported by former U.S. Secretary of Justice William French Smith.³⁵

This new enforcement policy of antitrust is based on the view that the mistaken concepts of the past Administration(s) have generated anticompetitive effects by not placing enough emphasis on economic efficiency, and that there is a greater need for clarity and, hence, certainty in the laws.³⁶

Under the influence of this new direction and emphasizing this new philosophy, the antitrust authorities have increasingly concentrated their activities on prosecution for horizontal cartel agreements, whereas prosecution for strategic behavior (unilateral action), as well as stringent merger enforcement, have declined in importance.³⁷ Furthermore, vertical arrangements of competitors are not seen as per se anti-competitive because of anticipated efficiency gains along the chain of production and distribution.³⁸

a. The Antitrust Division of the Department of Justice

The Antitrust Division of the Department of Justice (AD) and the offices of the United States Attorneys have statutory power to enforce the antitrust laws of the United States.³⁹

The most drastic change in antitrust policy since the depression days⁴⁰ is also reflected by the policy of the AD. As has been noted supra this policy of the agencies is being influenced by staffing and funding.

The AD is being headed by civil servants that were appointed by the Reagan Administration because they were close to Chicago economics and, the-

35 Cf. Blechman, Michael D., Neue Entwicklungen in der amerikanischen Wettbewerbspolitik, 32 WuW (1982), pp. 173-188, 173; address of U.S. Secretary of Justice Smith, CCH TRRer TB: Current Comment 1969-1983, § 50,430.

36 Cf. Smith, supra, pp. 55,973 f.

37 Cf. Möschel, Antitrust ..., supra, 156.

38 Cf. Smith, supra, p. 55,975; for the economic reasoning cf. supra as well as Part 4 of this contribution.

39 Cf. 15 U.S.C.A. §§ 1-4; whether this is done by civil or criminal proceedings, depends on the act to be enforced; for further details cf. Sullivan, Handbook ..., op. cit., 751, as well as Sullivan, Thomas E., and Herbert Hovenkamp, Antitrust Law: Policy and Procedure, Charlottesville, Va. 1984, pp. 61-63.

40 Cf. Weston, Glen E., Neue Entwicklungen im U.S. Antitrustrecht und die kartellrechtliche Beurteilung von Beschränkungen in Patentlizenzverträgen, 86 GRUR Int (1984), pp. 125-136, 128.

refores, strictly followed government policy.⁴¹ The fiscal request by the AD for the years 1981 - 1986 shows a trend towards relaxation in enforcement.⁴²

Tab. 2: Fiscal Requests of the Antitrust Enforcement Agencies:
1982 - 1988 (million \$)

	Antitrust Division of the Department of Justice	Federal Trade Commission
1982	44,0	68,8
1983	46,5	60,8
1984	44,3	64,2
1985	45,6 ¹	66,5
1986	43,5	65,5
1987	46,4	65,0
1988	45,6 ²	69,9 ³

¹ Reflects the transfer of 20 positions from the Civils Aeronautics Board to the AD, including the corresponding budget

² In contrast, \$ 48,5 million were authorized by the Committee of Congress

³ Request fully authorized

Source: Adapted from CCH Trade Regulation Reports; and Briggs, John DeQ., and Stephen Calkins, Antitrust 1986-87: Power and Access (Part 1), 32 AB (1987), pp. 275-333.

In addition to the decrease in funds, there has been a significant re-allocation of internal resources supporting action against government maintained monopolies in order to repel the influence of regulatory commissions and foster competition in exempted industries.⁴³

This recent policy is characterized by what might be called 'bread and butter antitrust'⁴⁴, and encompasses two general directions:

41 For the four Assistant Attorneys General Baxter, McGrath, Ginsburg, and Rule that were appointed by the Reagan Administration, cf. TRR No. 478, February 23, 1981, No. 626, December 12, 1983, No. 713, July 23, 1985, and No. 818, July 21, 1987, respectively.

42 Cf. CCH TRR No. 827, September 21, 1987, p. 3. This is not true for 1987 and 1988 since 'new policy' has been established via personnel staffing already, making restrictive funding obsolete.

43 Cf. Tollison, Robert D., Antitrust in the Reagan Administration: A Report from the Belly of the Beast, 1 IJIO (1984), pp. 211-221, 216; and FIW (ed.), Internationale Kartellrechtspraxis 1983/84. OECD-Länderberichte Über Wettbewerbsbeschränkungen, FIW-Dokumentation Heft 8, Köln et al. 1986, pp. 28-56, 30.

44 Cf. Tollison, Antitrust in the Reagan Administration ..., *supra*, 216.

- non-interference in the market process (as far as possible);
- rigorous prosecution of cartels, especially in areas where the use of sealed bidding procedures by the government promotes collusion of its input suppliers (bid-rigging).

With regard to the evaluation of mergers, there is a strong trend towards taking into consideration possible efficiency effects as well as effects resulting from foreign competition.⁴⁵

As a result, the Merger Guidelines of 1984, issued by the AD, have raised the thresholds for challenging a merger in order to attain possible efficiency gains. In essence, these guidelines contain changed enforcement rules along the following lines:

- critical market shares in merger cases have been augmented;
- the boundaries of the relevant market have been enlarged;
- the efficiency-defense has been introduced;
- the failing firm defense has been extended to failing divisions of otherwise healthy firms;
- vertical mergers have to have significant horizontal effects before being challenged; and
- conglomerate mergers are being considered a non-problem.

This objective is furthermore attained by bringing less enforcement actions to the courts and transforming merger antitrust practice into an "agency negotiation policy" by working with merging parties to achieve relief by consent. This can be viewed as an application of relatively permissive "shadow guidelines" reserving the stricter guidelines for litigation. However, this does not change the opinion of many courts obviously since there seems to be a rather strict application of merger standards by the courts even after the issuance of the 1984 Merger Guidelines.⁴⁶

Pure conglomerates are seen as a non-problem⁴⁷ and the essence of the new policy towards vertical restraints⁴⁸ is that they are considered procompetitive and efficiency enhancing. They should be treated according to a "rule of

⁴⁵ Cf. OECD-Länderbericht 1983/84 ..., op. cit. 30.

⁴⁶ Cf. TRR No. 655, June 18, 1984, Part II: "Merger Guidelines 1984"; and on the issue, Briggs/Calkins, Antitrust 1986-87 ... (Part 1), *supra*, 301-305.

⁴⁷ Cf. Möschel, Antitrust ..., *supra*, 156.

⁴⁸ Cf. Vertical Restraints Enforcement Guidelines, Issued by the Department of Justice, TRR. No. 687, Part II.

reason"⁴⁹ and only be subject to legal action if they lead to negative horizontal effects in a particular market. In cases of tying arrangements and resale price maintenance, the AD has tried to change existing per se rules of illegality by friend-of-the-court briefs (amicus curiae-procedure) into rules of reason, in order to take into consideration possible efficiency effects. However, a bill designed to codify the per se rule against resale price fixing and to overturn the ruling from the Monsanto case (rule of reason judgment) was brought in and approved by Congress.⁵⁰ With regard to monopolization, the Justice Department has dropped its legal action against IBM because the company's market position was considered a result of its superior efficiency.⁵¹

The monopolizing case against AT & T was settled by consent decree⁵², urging the company to divest its unprofitable local telephone companies.⁵³

In order to change the antitrust laws, the AD has prepared two reform packages that were presented in 1983 and 1986. They are intended to increase the efficiency and the productivity of the American industry as well as its international competitiveness.⁵⁴

49 For the meaning and difference in the legal doctrines 'rule of reason' and 'per se rule', cf. Sullivan, Handbook ..., op. cit., 171-186, and for a brief description cf. Koch, Industrial Organization ..., op. cit., 480.

50 Cf. CCH TRR No. 831, Oct. 19, 1987, p. 6, and No. 848, Febr. 17, 1988, p. 1. An amicus-curiae- or friend-of-the-court brief is a petition that might be submitted to court in a proceeding by a participating party "with strong interest in or views on the subject of an action ..., ostensibly on behalf of a party but actually to suggest a rationale consistent with its own views.", Black's Law Dictionary, 5th ed., St. Paul, Minn. 1979, p. 75.

51 Cf. Tollison, Antitrust in the Reagan Administration ..., supra, 216, as well as Weston, Neue Entwicklungen ..., supra, 128.

52 "Agreement by defendant to cease activities asserted as illegal by government (...). Upon approval of such agreement by the court the government's action against the defendant is dropped.", Black's Law Dictionary, op. cit., 370. Consent decrees can be regarded as material compromises between parties involved in a court proceeding about the issue in question. The agreement has to be filed with the court and needs the judge's approval, cf. Shepherd, Public Policies ..., op. cit., 145.

53 Currently, consent decrees are used by the AD to help companies to restructure their mergers in a way that eliminates antitrust problems, cf. Weston, Neue Entwicklungen ..., supra, 129.

54 Cf. National Productivity and Innovation Act of 1983, TRR No. 649, May 16, 1984, Part II, and Antitrust Law Reform Package of 1986, TRR No. 744, February 24, 1986, Part II; for more details cf. sec. II. 4. of this introduction.

b. The Federal Trade Commission

The second authority or agency to enforce the antitrust laws of the United States is the Federal Trade Commission.⁵⁵ The agency was established in 1914, is headed by five commissioners, one of whom is appointed chairman⁵⁶, enforces antitrust and consumer protection statutes and has developed rule-making power.⁵⁷

As has been noted in the case of the Antitrust Division with regard to its heads, all the chairpersons and commissioners that have been appointed to the FTC by the Reagan Administration, have been and are close to government policy and, therefore, to Chicago economics.⁵⁸ After assuming duties as FTC Chairman⁵⁹, James C. Miller III proposed a cut in the FTC's budget of 12% for the fiscal year of 1982⁶⁰, holding that, accompanied by cutbacks in programs, management improvements and program refinements, this would enhance the agency's efficiency.⁶¹

55 For a survey on the agency cf. Sullivan, *Handbook ...*, op. cit., 752-754; for the development of the agency's resources, see Tab. 2; for the main steps in the agency's prosecution action, see Shepherd, *Public Policies ...*, op. cit., 151.

56 Cf. 15 U.S.C.A. §§ 41-51.

57 The ability to issue rules ("Trade Regulation Rules") that govern all members of an industry instead of carrying out precedents, was formally enacted by Congress through the Magnuson-Moss Act in 1975, cf. Magnuson-Moss Warranty-Federal Trade Commission Improvement Act, 4 CCH TRRer, § 25,515-25,528, at pp. 30,331-30,340, esp. § 25,525, at p. 30,337.; cf. Shepherd, *Public Policies ...*, op. cit., 152; the attempt to veto these rules was declared unconstitutional by the Federal Supreme Court.

58 For evidence cf. Weston, *Neue Entwicklungen ...*, supra, 129; for the realignment of staff positions and new appointments of bureau directors cf. TRR No. 511, October 12, 1981, pp. 3 f., and the realignment of policy, cf. TRR No. 518, November 30, 1981, p. 3; evidence is also provided by the fact that commissioners that stated dissenting opinions in FTC cases either resigned voluntarily or their term of office ceased, which lead to decisions in favor of the new policy, cf. TRR No. 560, September 20, 1982, p. 10, and No. 616, October 3, 1983, p. 5.

59 Cf. TRR No. 510, October 5, 1981, p. 10; Senator Arlen Specter (R-Penn) pointed towards the aspect that lower funding could be an indirect way of phasing out the FTC's antitrust function at all, cf. ibid., 6.

60 The long-term perspective has been a 25% cut, partly due to the closing down of regional FTC offices, cf. Weston, *Neue Entwicklungen ...*, supra, 129.

61 Cf. TRR No. 532, March 8, 1982, p. 3.

As in the case of the Antitrust Division, there has been a sharp increase in the emphasis on economic efficiency as general policy⁶² and there has been a reallocation of internal resources in order to fight government maintained monopolies and the exemption of free professions from antitrust.⁶³ Consumer protection issues as well as pro-competitive effects of unilateral action, such as resale price maintenance, are being emphasized.⁶⁴

Critics state that an all time low in proceedings started by the FTC has been reached.⁶⁵ Due to the new philosophy, the divestiture proceedings partly pending for more than ten years agains Exxon Corp., Kellogg et al., and IBM have been dropped; the case against AT & T has been settled by consent decree.⁶⁶

There have been two additional policy changes that have contributed to the low number of proceedings started by the FTC. On the one hand, there have been strong attempts to help merging firms to restructure potential mergers in order to file consent decrees and not to issue complaints or orders⁶⁷ and on the other hand, there is now a strong tendency to consider other rele-

62 As has been pointed out by former Chairman Miller in remarks prepared for delivery before the Antitrust Section of the American Bar Association in Washington, D.C., cf. TRR No. 540, May 3, 1982, p. 6 f.

63 Cf. OECD-Länderbericht 1980/81, 33 WuW (1983), pp. 545-555, 552, and Tollison, Antitrust in the Reagan Administration ..., supra, 217.

64 Cf. TRR No. 540, supra, 7.

65 Cf. Weston, Neue Entwicklungen ..., supra, 130. One has to notice a turnaround to some extent, however. The FTC has been notably successful recently in winning cases in the courts of appeals, cf. Briggs/Calkins, Antitrust 1986-87 ... (Part 1), supra, 322.

66 Cf. FTC v. Exxon Co., CCH TRRer TB: FTC Complaints and Orders 1979-1983, § 21, 866; FTC v. Kellogg Co. et al., CCH TRRer TB: FTC Complaints and Orders 1979-1983, § 21, 899, as well as U.S. v. IBM Co., 4 CCH TRRer, § 45, 070 Case 2039, and U.S. v. AT & T, 4 CCH TRRer, § 45,070 Case 2416.

67 Cf., e.g., FTC v. Standard Oil Co. of California, CCH TRRer TB: FTC Complaints and Orders 1979-1983, § 22, 144, and FTC v. American Medical International, Inc., et al., CCH TRRer TB: FTC Complaints and Orders 1979-1983, § 22, 058; for further details on the cases, cf. FIW, Internationale Kartellrechtspraxis 1983/84 ..., op. cit., 52-54.

vant factors in merger cases, in addition to the market share criterion which in fact makes merger policy more lenient.⁶⁸

Furthermore, the FTC has stopped or cancelled several programs that collected relevant economic data on American industry for the purpose of government filing and legislative control (e.g., Statistical Report on Mergers and Acquisitions, and FTC Line of Business Reporting Program).⁶⁹

3. Antitrust Adjudication

During the past fifteen years, economic efficiency considerations have increasingly been introduced into the findings on antitrust cases in United States' courts.⁷⁰

The increasing shift in antitrust cases away from possible anticompetitive effects to possible pro-efficiency effects that led courts⁷¹ away from extra-economic interpretation of the antitrust statutes, was first initiated by the dissenting opinions put forward by Justices Harlan and Stewart in the Von's Grocery case⁷², they demanded the Supreme Court to confine its analysis to

68 Cf., e.g., FTC v. Schlumberger Ltd., CCH TRRer TB: FTC Complaints and Orders 1979-1983, § 21, 989, and FTC v. Echlin Manufacturing Co., 3 CCH TRRer, § 22, 268; although a manufacturer of automotive carburetor kits with almost 38% of the market purchased the third largest competitor with 10% of the market, the acquisition would not lessen competition substantially because of low barriers to that market, according to the ruling of an administrative law judge of the FTC in the Echlin case, cf. TRR No. 669, September 26, 1984, p. 3.

69 Cf. TRR No. 545, June 7, 1982, p. 6, and TRR No. 645, April 17, 1984, p. 1.

70 Cf. Blechman, Neue Entwicklungen ..., supra, 180; though we will confine our observations to landmark changes in the adjudication of the Supreme Court, it can be noted that the emphasis on efficiency as a dominant social value has been even more noticeable in lower court cases (i.e., Courts of Appeals and District Courts), cf. Sullivan, Antitrust, Micro-economics, and Politics ..., supra, 2 and 4; for a survey on procedures, sanctions and the relationship of public and private suits, cf. Areeda, Phillip, Antitrust Analysis: Problems, Text, Cases, 2nd ed., Boston, Toronto 1974, pp. 49-62, 68-90, and Schmidt, Ingo, US-amerikanische und deutsche Wettbewerbspolitik gegenüber Marktmacht, Berlin 1973, pp. 101-103.

71 Comparing the reasonings in antitrust cases by former Warren and present Burger Courts, named after the Chief Justices heading them, this transition seems remarkably distinct, cf. Sullivan, Antitrust, Microeco-nomics, and Politics ..., supra, 4, as well as Blechman, Neue Entwicklun-gen ..., supra, 176 f.

72 Cf. U.S. v. Von's Grocery, 1966 CCH Trade Cases, § 71,780, pp. 82,596-82,609, 82,601- 82,609; the merger of the third and sixth ranking retail grocery chains in the Los Angeles area was declared unlawful for violating Sec. 7 of the Clayton Act, although they only had a joint market share of nine percent.

the probable effect of the merger on competition in the relevant market and, in doing so, pleading for an economic analysis.⁷³ The efficiency emphasis became even more important at the point when it was ruled that a monopolist might use power in one market to gain advantage in another, if this was accompanied by a yield in efficiencies.⁷⁴

The effect of certain trends in economic thinking on legal proceedings was most clearly demonstrated by the adoption of what came to be called the Areeda/Turner rule, which established marginal costs as a criterion for legal action against predatory pricing.⁷⁵ The rule, emphasizing efficiency, was almost immediately adopted by the courts and in 90% of such cases led to a verdict in favor of the defendant.⁷⁶

Efficiency has also been the predominant underlying value in judging further unilateral action, such as tying arrangements, exclusionary practices, and the like. This tendency was initiated by a rule of reason approach judging territorial restrictions in dealer contracts.⁷⁷ Whereas such restrictions had in the past been condemned as per se illegal, courts now came to consi-

73 In later cases, the Supreme Court has stated that market shares are relevant in the sense of a *prima facie* proof, but have to be supplemented by additional features of the market structure, cf. Brown, David, *Neue Entwicklungen in der amerikanischen Wettbewerbspolitik*, 32 WuW (1982), pp. 180-188, 185, and for the case, cf. U.S. v. General Dynamics Corp., 1974-1 CCH Trade Cases, § 74,967.

74 Cf. Sullivan, Antitrust, Microeconomics, and Politics ..., *supra*, 3, and for the case, cf. Berkey Photo, Inc. v. Eastman Kodak Co., 1979-1 CCH Trade Cases, § 62,718, and *idem*, 1980-1 CCH Trade Cases, § 63,182 cert. denied. Similar reasoning underlay the decisions in the cases raised against IBM, cf., e.g., Telex Corp. v. IBM Corp., 1977-2 Trade Cases, § 60,127; Greyhound Computer Corp. v. IBM Corp., 1977-2 Trade Cases, § 61,603; Memorex Corp. v. IBM Corp., 1980-81 Trade Cases, § 63,645, with all certiorari applications being dismissed or denied and Courts of Appeals' decisions being affirmed.

75 The rule played a key role in several of the private antitrust suits against IBM; cf., e.g., California Computer Products v. IBM Corp., 1971-1 CCH Trade Cases, § 62,713.

76 Cf. Mueller, United States' Antitrust ..., *op. cit.*, 218.

77 Cf. Continental T.V., Inc. v. GTE-Sylvania, Inc., 1977-1 CCH Trade Cases, § 61,488, pp. 71,892-71,907, 71,892; the overruling of the *per se* rule was confirmed in Valley Liquors, Inc. v. Renfield Importers Ltd., 1981-2 CCH Trade Cases, § 64,744; for further discussion cf. Toepke, Utz P., *Antitrustspruchpraxis 1981/82*, in: FIW (ed.), *Schwerpunkte des Kartell-rechts 1981/82. Verwaltungs- und Rechtsprechungspraxis Bundesrepublik Deutschland, EG und USA*, Köln et al. 1983, pp. 137-152, 146-148.

der them positively in the light of efficiency gains. This reasoning was affirmed by a number of court decisions.⁷⁸

Certainly such restrictions continue to be regarded intrinsically illegal in the case of tying arrangements⁷⁹ and resale price maintenance⁸⁰. Thus far the doctrine of per se illegality has been retained.⁸¹ Nevertheless, efficiency evaluations have been introduced into the proceedings even here.⁸²

Following the reasoning that the inhibition of intra-enterprise conspiracies yielded economic inefficiencies, the Supreme Court overruled the intra-enterprise conspiracy doctrine⁸³ which held that common ownership and

78 Cf. U.S. v. Arnold, Schwinn & Co., 1967 Trade Cases, § 72,126; cf. also Toepke, Antitrustspruchpraxis 1985/86 ..., op. cit., 194 on the recent case Business Electrics Corp. v. Sharp Electronic Corp.; and Briggs, John DeQ., and Stephen Calkins, Antitrust 1986-87: Power and Access (Part 2), 32 AB (1987), pp. 699-730, 704-706. But on the limits of such considerations, cf. also CCH TRR No. 798, March 2, 1987, p. 1.

79 Cf. Jefferson Parish Hospital District No.2 v. Edwin G. Hyde, 1984-1 CCH Trade Cases, § 65,908, reversing and remanding a Court of Appeals decision, cf. idem, 1982-2 Trade Cases, § 64,945.

80 Although the arrangements are seen as per se violating Sec. 1 Sherman Act, a Supreme Court ruling has shown that the per se rule in resale price maintenance cases, introduced in Dr. Miles Medical Co. v. John D. Park & Sons in 1911, is seen as having lost its intellectual basis; for this evaluation cf. Toepke, Utz P., Antitrustspruchpraxis 1983/84, in: FIW (ed.), Schwerpunkte des Kartellrechts 1983/84, Verwaltungs- und Rechtsprechungspraxis Bundesrepublik Deutschland, EG und USA, Köln et al. 1985, pp. 89-119, 92 and for the ruling cf. Monsanto Co. v. Spray Rite Service Corp., 1984-1 CCH Trade Cases, § 65,906; the attempt to abolish the per se rule was supported by a friend-of-the-court brief of the Antitrust Division of the Department of Justice. It has been stopped by Congress through the means of budgetary regulations which prevent the Department of Justice from using its resources to try to abolish the per se rule for resale price maintenance, cf. TRR No. 767, July 28, 1986, at p. 4.

81 Cf. Toepke, Antitrustspruchpraxis 1983/84 ..., op. cit., 91.

82 Cf., e.g., CCH TRR No. 786, December 1986, p. 1: "Resale Price Maintenance: Airline's Discount Ticket Advertising Restriction not Per Se Illegal." There is a current tendency in adjudication to apply the **per se rule only to cases of market power**, whereas other cases are to be judged under a rule of reason, cf. NCAA v. Bd. of Regents of the University of Oklahoma, 1984-2 CCH Trade Cases, § 66, 139, affirming the Court of Appeals ruling, cf. idem, 1983-1 CCH Trade Cases, § 65,366; and Northwest Wholesale Stationers v. Pacific Stationery & Printing Co., 1985-1 CCH Trade Cases § 66,640, p. 66,174.

83 Cf. Hözlér, Heinrich, Supreme Court Überprüft Doktrin konzerninterner Wettbewerbsbeschränkungen, 33 WuW (1983), p. 784; for the case cf. Copperweld Corp. v. Independence Tube Corp., 1984-2 CCH Trade Cases, § 66,065.

control of various corporate executives are unable to liberate the alleged conspiracy from the impact of the Sherman Act.⁸⁴

Rather important for the attempt to foster competition in areas that were thus far exempted from the antitrust laws was the Supreme Court's decision that communities' actions ("state-action immunity doctrine")⁸⁵ would no longer enjoy immunity from antitrust liability.⁸⁶

Furthermore, the current Supreme Court seems to have followed the reasoning that not every arrangement over prices must necessarily be seen as a conspiracy and, therefore, as *ex ipso illegal*.⁸⁷

4. Antitrust Legislation

The antitrust policy of the present government of the United States has only transient character because statutory law is not dominant in the legal system and, therefore, law is shaped mainly by the courts. Hence, the current administration is trying to change legislation according to its general policies in order to overcome this transient character.⁸⁸

Before the efforts to change the existing statutes were started, however,

84 But cf. the revival of the doctrine in *Louisiana Power and Light Co. v. United Gas Pipe Line Co.*, 1986-2 CCH Trade Cases, § 67,272, and CCH TRR No. 775, Sept. 22, 1986, p. 1; and *Briggs/Calkins, Antitrust 1986-87* ... (Part 2), *supra*, 700-704. For the initial ruling of the Supreme Court on the intra-enterprise conspiracy doctrine, cf. *U.S. v. Yellow Cab Co.*, 1946-1947 CCH Trade Cases, § 57,576.

85 First ruled in *Parker v. Brown*, 1940-1943 CCH Trade Cases, § 56,250; the doctrine held that state action exemption reflects Congress' intention to embody in the Sherman Act the federalism principle that the States possess a significant measure of sovereignty under the Constitution of the United States.

86 For the case cf. *Community Communications Co. v. City of Boulder*, 1982-1 CCH Trade Cases, § 64,448, and for an earlier case cf. *City of Lafayette v. Louisiana Power and Light Co.*, 1978-1 CCH Trade Cases, § 61,936.

87 Cf. *Blechman, Neue Entwicklungen* ..., *supra*, 178, and for the case, cf. *Broadcast Music, Inc. v. Columbia Broadcasting System, Inc.*, 1980-2 CCH Trade Cases, § 63,289, cert. and reh. before the Supreme Court denied; the court pointed out that the crucial question was not, whether the licence agreed upon was to be seen as a price conspiracy, but, whether it unanimously had anticompetitive effects in order to justify *per se illegality*.

88 The most recent and comprehensive attempt, has been the Administration's Antitrust Law Reform Package of 1986, which we will take up again in the following; cf. TRR No. 744, *supra*, Part II.

prior efforts at the legislative level that were aimed at tightening the anti-trust laws had been definitely abandoned.⁸⁹

Based on an allegedly growing consensus that public regulation of private economic activity is likely to do more harm than good⁹⁰, there are strong legislative efforts to put an end to entry and price regulations of industries that basically dispose of competitive structures have so far been exempt from the full application of the antitrust laws.⁹¹

Three major material changes or supplements to antitrust legislation that emphasize current policy can be discerned:

- (1) **The Export Trading Company Act of 1982**⁹², that is supposed to strengthen the international competitiveness of U.S. firms, limits the application of the antitrust laws to export commerce.⁹³ The formation of export trading companies is promoted by reducing restrictions on trade financing and by modifying the application of the antitrust laws to certain export trades.⁹⁴
- (2) **The National Cooperative Research Act of 1984**⁹⁵, that is aimed at relaxing the antitrust laws insofar as they affect joint research and development ventures. The Act provides for the introduction of the rule of reason for the judging of such ventures and for limitation of recovery in

89 Cf. Möschel, Antitrust ..., supra, 156; these efforts encompassed legislative proposals for the possibility of deconcentration of industries as well as various no-fault monopolization proposals to protect small business, cf. also idem, Entflechtungen im Recht der Wettbewerbsbeschränkungen, Tübingen 1979, pp. 89-91.

90 Cf. Sullivan, Antitrust, Microeconomics, and Politics ..., supra, 5.

91 Congress has deregulated airlines, railroads, and trucking, and the political momentum for deregulation of other industries is growing, cf. ibid., 5, and Möschel, Antitrust ..., supra, 157. In the case of the deregulation of the airline industry, the remaining tasks have been transferred to the Department of Transportation by the Civil Aeronautics Board Sunset Act of 1984, cf. Pascher, op. cit.

92 Cf. TRR No. 554, August 9, 1982, Part II, being the first part of the Antitrust Improvement Act of 1982.

93 Cf. Toepke, Utz P., Antitrustspruchpraxis 1982/83, in: FIW (ed.), Schwerpunkte des Kartellrechts 1982/83. Verwaltungs- und Rechtsprechungs-praxis Bundesrepublik Deutschland, EG und USA, Köln et al. 1984, pp. 61-85, 64.

94 Cf. Export Trading Company Act of 1982, 4 CCH TRRer § 27,000.

95 Cf. TRR No. 649, May 16, 1984, Part II: National Cooperative Research Act of 1984, 4 CCH TRRer § 27,080, which was originally presented as National Productivity and Innovation Act of 1983, cf, TRR No. 614, September 19, 1983, Part II.

antitrust cases to actual damage.⁹⁶

- (3) The **Local Government Antitrust Act of 1984**⁹⁷, that is supposed to limit the antitrust liability of communities resulting from the change of the state-action immunity doctrine by the Supreme Court.⁹⁸

The **Antitrust Law Reform Package** that has been elaborated on by the Presidential Commission on Industrial Competitiveness⁹⁹ and presented as proposed legislation, consists of five legislative proposals, amending the Sherman and Clayton Acts and the Trade Act of 1974. In essence, these proposals weaken the standards for determining whether mergers are anticompetitive; they also provide for an antimerger relief for U.S. industries injured by foreign competition, and lower treble damages to the actual damage sustained by a competitor.¹⁰⁰ With regard to mergers, the bill contains two significant aspects in its proposed **Merger Modernization Act**:¹⁰¹

- the attempt to substitute the *incipiency doctrine* by a *significant probability doctrine*; and
- the attempt to substitute the *substantially lessening of competition* as the criterion of intervention by the ability to *exert market power in the long run*, measured by price-quantity relationships.

The proposals are pending for the time being, not having a significant probability of being passed because of changed majority relationships in Congress after the 1986 elections.¹⁰²

96 Cf. Toepke, *Schwerpunkte des Kartellrechts 1983/84* ..., op. cit., 93.

97 Cf. 4 CCH TRRer, § 27,104.

98 Cf., e.g., Community Communications Co. v. City of Boulder, op. cit., pp. 72,502-72,516, and FIW, *Internationale Kartellrechtspraxis 1983/84* ..., op. cit., 29, as well as for further details, Briggs/Calkins, *Antitrust 1986-87* ... (Part 2), supra, 728-730; and Toepke, Utz P., *Antitrustspruchpraxis 1984/85*, in: FIW (ed.), *Schwerpunkte des Kartellrechts 1984/85. Verwaltungs- und Rechtsprechungspraxis in der Bundesrepublik Deutschland, EG und USA*, Köln et al. 1986, pp. 103-150, 127-130.

99 Cf. TRR No. 691, February 19, 1985, at p. 4.

100 Cf. TRR No. 744, supra, at p. 3. For a detailed survey cf. Toepke, *Schwerpunkte des Kartellrechts 1985/86* ..., op. cit., 176-183.

101 Cf. Proposed Legislation: Administration's Antitrust Law Package, CCH TRR No. 744, February 1986, Part II, rebrought in the overall legislative proposal "Trade, Employment, and Productivity Act of 1987", cf. CCH TRR No. 799, March 9, 1987, p. 6; and for the evaluation, Schmidt, *Wettbewerbspolitik und Kartellrecht*, op. cit., 187.

102 Cf. Briggs/Calkins, *Antitrust 1986-87* ... (Part 1), supra, 319-321, particularly note 154 who quote Sen. Howard Metzenbaum (D-Ohio); and Toepke, *Schwerpunkte des Kartellrechts 1985/86* ..., op. cit., 183 note 24.

Two final legislative issues that have been of some importance, concerned legislative vetoes over enforcement agencies' rules¹⁰³, and the rejection of the Vertical Restraints Guidelines (VRG) by the Senate and the House of Representatives.¹⁰⁴

In the first issue, congressional veto over agency rules was declared unconstitutional by the Supreme Court¹⁰⁵ because it violated the separation-of-powers principle. The vetoes were used by the legislature to control the enforcement agencies' action and, therefore, partly government policy.

Regarding the second issue, the Judiciary Committee of the House of Representatives approved a resolution that the VRG of the Department of Justice "do not have the force of law, do not accurately state current antitrust law, and should not be considered by the Federal Courts as binding or persuasive".¹⁰⁶ The House as well as the Senate is trying to impose budget restrictions that are supposed to reflect the resolution.¹⁰⁷

Furthermore, the National Association of Attorneys General (NAAG) adopted Merger Guidelines of its own which are strikingly different from the ones issued by the Department of Justice, although not differing markedly in results except concerning market definition.¹⁰⁸

Regarding formal or procedural changes, the abandonment of treble damages has been part of the Antitrust Improvements Act of 1982, the Foreign Sovereign Recoveries Act¹⁰⁹, as well as the National Cooperative Research Act of 1984.¹¹⁰

103 Cf. TRR No. 602, June 27, 1983, and No. 604, July 11, 1983.

104 The Guidelines were issued by the Antitrust Division, cf. FIW (ed.), *Vertikale Verträge - US Guidelines 1985 und EG-Kartellrecht*, FIW-Dokumentation Heft 7, Köln et al. 1986, p. 4.

105 For the cases cf. Process Gas Consumers Group v. Consumer Energy Council of America, 1983-1 CCH Trade Cases, § 65, 474 at pp. 70, 718 f., and Immigration and Naturalization Service v. Chadha, 103 Sup. Ct. (1983), p. 2764.

106 TRR No. 731, November 25, 1985, at p. 2.

107 Cf. FIW, *Vertikale Verträge ...*, op. cit., 5; and CCH TRR No. 767, July 28, 1986, p. 4.

108 Cf. CCH TRR No. 800, March 16, 1987, p. 1; and as well, Briggs/Calkins, *Antitrust 1986-87 ... (Part 1)*, supra, 316-319.

109 Cf. TRR No. 575, January 3, 1983.

110 Cf. Toepke, *Antitrustspruchpraxis 1984/85 ...*, op. cit., 109. Restricting the claim in antitrust cases to the actual damage that has occurred, is supposed to deter plaintiffs which sue for 'tactical reasons'.

III. The Source of Reorientation: The Chicago School of Antitrust Analysis

1. The Foundations

The question of whether there is a distinctive Chicago approach to (anti-trust) economics¹ and how this approach can be characterized, has to be answered from the view point of the historical context.²

The roots of the Chicago style of antitrust economics, have on the one hand to be seen within the legal realism movement that arose in American law schools in the 1920s and that tried to study the operation of law in relation to social reality, i.e., how law would affect (economic) behavior in society.³ The practical need to teach economics at the law schools emerged from this movement and led to the appointments of various economists to law schools, such as Frank H. Knight, Jacob Viner, and later Aaron Director and Henry C. Simons, who were *Knight's* students.⁴ The basic features of Chicago antitrust economics are attributable to these scholars.

At first, it was mainly through the personal impact of *Knight* who generated highly idiosyncratic ideas on a few influential students (*Director, Simons*) that the subsequent course of Chicago economics was determined.

What all these early Chicago scholars had in common, however, was their sceptical view towards empirical work in the social sciences that set them apart from the main body of Chicago economists.⁵ The small group of *Knight's* students built a loosely coupled group to jointly advance their common ideas.

It was just around this time when Oscar Lange, a Polish born economist, became assistant professor at Chicago (1938) and tried to constitute a distinct

1 Diehard Chicagoans promote such a distinctive approach, whereas others, that are willing to refine the original ideas, perceive a certain convergence of the antitrust schools of thought, cf. Posner, *The Chicago School* ..., *supra*, 925.

2 For a survey, cf. Kitch, *The Fire of Truth* ..., *supra*, 163-233, and Reder, Melvin W., *Chicago Economics: Permanence and Change*, 20 JEL (1982), pp.1-38.

3 Cf. Kitch, *The Fire of Truth* ..., *supra*, 164.

4 Cf. Kitch, *The Fire of Truth* ..., *supra*, 167; for the main works, cf. *supra*; and Simons, Henry C. , *A Positive Program for Laissez-Faire: Some Proposals for a Liberal Economic Policy*, Chicago 1934.

5 Cf. Reder, *Chicago Economics* ..., *supra*, 6.

alternative to the earlier view of Chicago economists.⁶ This, in fact, can be viewed as a further root of the development of Chicago economics.

Lange was to be associated with the so-called "institutional school"⁷ which was in opposition to the standard theoretical tradition of price theory. This led to ideological tensions.

When Lange withdrew from Chicago to become Polish Minister for Economic Affairs after World War II and the *Cowles Commission*⁸ came to Chicago, this tension was emphasized and led to an ideological battle between *Knight* and his former students on the one hand, and the *Cowles Commission* and its adherents on the other hand, about topics such as research methodology, political ideology, and faculty appointments.⁹

Although the original ideas were jointly advanced by colleagues and students of *Knight*, *Director*, and *Simons*, there was a lack of coordination. This coordination, that brought together single efforts, was finally cemented by a conference on the topic of industrial concentration that was held by the Columbia Law Faculty¹⁰ and by a later and direct confrontation with the Harvard School¹¹ (*Bain*, *Caves*, *Mason*, *D. Mueller*, *Scherer*, *Shepherd*, *Sullivan* et al.) through a symposium held at the University of Pennsylvania.¹²

6 Cf. Lange, Oscar, *Price Flexibility and Employment*, Bloomington 1944.

7 Institutionalism was to be associated with interventionism, i.e., public policy was strongly used to reach predefined economic goals; Kitch, *The Fire of Truth ...*, supra, 178: "It was an environment in which the general intellectual atmosphere was strongly prosocialist. It was strongly in favor of government going all the way to take over the whole economy."

8 For details, cf. Reder, *Chicago Economics ...*, supra, 10.

9 Cf. Reder, *Chicago Economics ...*, supra, 10.

10 For a collection of the contributions presented, cf. Goldschmid, Harvey J. et al., *Industrial Concentration: The New Learning*, Boston, Toronto 1974.

11 For comprehensive statements of the Harvard position, cf. Bain, Joe S., *Industrial Organization*, 2nd ed., New York et al. 1968, Scherer, Frederic M., *Industrial market structure and economic performance*, second ed., Chicago 1980, Shepherd, *The Economics ...*, op. cit.

12 For the collection of the contributions presented, cf. the omnibus volume 127 *University of Pennsylvania Law Review* (1979).

2. Chicago Antitrust Philosophy

In the following, the system of values and beliefs that characterize the Chicago approach to (antitrust) economics will be stated.¹³

Regarding overall contemporary Chicago economics, the system of values and beliefs adhered to, is best described by Milton Friedman:¹⁴

"..., 'Chicago' stands for the belief in the efficiency of the free market as a means of organizing resources, for scepticism about government intervention into economic affairs, and for emphasis on the quantity of money as a key factor in producing inflation."

This philosophy encompasses the premises of methodological individualism that is historically associated with John Stuart Mill and Adam Smith. It contains a strong belief that all social phenomena should be traced back to their foundation in individual behavior.¹⁵

Regarding antitrust, this philosophy finds its correspondence in the theoretical model of competition since there is the belief that it "can be utilized to provide empirical proof that laissez-faire capitalism maximizes both personal freedom and economic welfare".¹⁶

This view led to a distinct change in - or rather, renewal - of intellectual climate among economists. There was a shift not only away from mainstream economics,¹⁷ but also to the view that government itself is undesirable.¹⁸

13 It has to be noted that this is a statement of contemporary Chicago antitrust philosophy, since this position is viewed as a misinterpretation of the traditional Chicago view by some authors, cf. Martin, David D., Industrial Organization and Reorganization, in: Samuels, Warren J. (ed.), The Chicago School of Political Economy, East Lansing (1976), pp. 295-310, esp. 296 and 311; Samuels, Warren J., The Chicago School of Political Economy: A Constructive Critique, in: Samuels, The Chicago School ..., op. cit., 1-18.

14 Friedman, Milton, Schools at Chicago, University of Chicago Magazine (1974), pp. 11-16, 11, quoted after Mishan, Ezra J., The Folklore of the Market: An Inquiry into the Economic Doctrines of the Chicago School, in: Samuels, The Chicago School ..., op. cit., 95-166, 95.

15 Cf. Paqué, Karl-Heinz, How Far Is Vienna from Chicago? An Essay on the Methodology of Two Schools of Dogmatic Liberalism, 38 Kyklos (1985), pp. 412-434, 413.

16 Wilber, Charles K., and Jon D. Wisman, The Chicago School: Positivism or Ideal Type, in: Samuels, The Chicago School ..., op. cit., 79-93, 79.

17 Cf. Paqué, How Far ..., supra, 412.

18 Cf. Martin, Industrial Organization, op. cit., 302; this strongly resembles the anti-institutionalist stance of the founding fathers of antitrust Chicago style, cf. supra.

In addition to this view, a strong analogy between a free market system and the *Darwinian* theory of natural selection and evolution is drawn¹⁹ by Chicago antitrusts:²⁰

"The environment to which the business firm must adapt is defined, ultimately, by social wants and the social costs of meeting them. The firm that adapts to the environment better than its rivals tends to expand. The less successful firm tends to contract - perhaps, eventually, to become extinct."

As has been shown *supra*, Chicago antitrust did not emerge from a full-blown philosophy, but was rather a product of specific questions raised by antitrust cases against the background of a system of values and beliefs that can be summarized as follows:²¹

- The market process is observed with regard to the "survival of the fittest" in a long-run perspective.
- Without government interference, a Pareto-optimal state is reached by the market process (so-called **tight prior equilibrium**).
- Governmental or public influence has to be repelled and restricted to the setting of a minimal legal framework.
- The analysis of the market process is carried out by using the concepts of monopoly and perfect competition as standards of reference.
- Economics is also applied to other socio-political fields (e.g. 'economics of marriage', 'economics of crime').

19 Cf. Adams, Walter, Public Policy in a Free Enterprise Economy, in: Adams, Walter, (ed.), The Structure of American Industry, 7th ed., New York 1986, pp. 395-427, 406-412.

20 Bork, The Antitrust Paradox, op. cit., 118, as well as Stigler's survivor test, cf. Stigler, The Organization ..., op. cit., 72-74.

21 Cf. Borchert/Grossekettler, op. cit., 161-163, and Schmidt/Rittaler, Die Chicago School of Antitrust Analysis, op. cit., 13.

With regard to other schools of thought within the field of antitrust theory, there seems to be a certain similarity between the Chicago School and the (Neo-) Austrian School (v. Mises, v. Hayek, Kirzner et al.) as far as the transaction cost approach is concerned. Both approaches are quite different in terms of their theoretical notion but they show a considerable amount of similarity with respect to policy implications and, therefore, are often compared with each other, cf. Paqué, How Far ..., *supra*, 412-434.

IV. Definition of the Field of Research and Course of Inquiry

For the adherents of theory underlying current antitrust policy associated with the Chicago School the only performance criterion by which business conduct is to be evaluated is the criterion of consumer welfare respectively economic efficiency. Whereas the traditional tenet was characterized by a close relationship between the structure of a particular industry, the resulting conduct of the industry's competitors, and the quality of performance flowing from that conduct, the current tenet emphasizes that performance is solely determined by the conduct of the competitors, regardless of how the structure of that particular industry looks like.

Traditional theory held that in addition to some other influential factors, the degree and development of an industry's concentration can be ascribed to a large extent to the number and size distribution of the industry's sellers and buyers, the conditions of entry to that particular industry, the scale economies to be realized, and the stage in the industry's maturity. Hence, the main purpose of the contribution submitted, is to evaluate critically the position towards industrial concentration taken by the *Chicago School*¹ with regard to the importance of the structural factors in particular industries and to draw possible conclusions and consequences for the competition policy of the Federal Republic of Germany.² Since the emphasis of our inquiry will be on external industrial concentration our conclusions are aimed at merger policy primarily.

After having dealt with recent changes in U.S. antitrust economics, executive, adjudication, and legislation in the **Introduction** and summarized landmark changes in the direction of antitrust in the United States, we will propose an analytical framework for the evaluation of restraints of competition by industrial concentration in **Part 1** as a standard of reference. Although we will mention various approaches to antitrust shortly, our preference will be with a modification of the so-called effective competition approach, assuming the validity the structure-, conduct-, performance-paradigm and a

1 A critical discussion of the differences between various *Chicago* scholars would be an overwhelming undertaking; therefore, we will restrict ourselves to statements of preeminent Chicago scholars who are fairly orthodox representatives of this school; we will deal with deviant positions as far as necessary.

2 This will be done with special reference to antitrust legislation.

structural predominance within the paradigm. This shall serve as a working hypothesis only since evidence for the paradigm's validity will be tested primarily in Parts 2 and 3 of the contribution submitted.

In Part 2 we will inquire into the main elements of the theoretical edifice of the current tenet associated with the *Chicago School*. This will in essence be an evaluation of several premises, assumptions, and hypotheses which are crucial for the current attitude towards industrial concentration. This part will comprise three sections. In the first section we will determine whether or not efficiency considerations were and are the exclusive concern of anti-trust policy in the United States, comparing the results to the concerns and goals of the cartel law (ARC) of the Federal Republic of Germany.

Section two will comprise an analysis of the adequacy and usefulness of neoclassical price theory and the static partial equilibrium trade-off model used by adherents of current theory for antitrust analysis.

Section three will treat the conditions of entry to a particular industry, trying to extract impediments to new competition and determine their importance for an industry's concentration process and the resulting performance.

Parts 3 and 4 will encompass the evaluation of horizontal and vertical mergers as the most common forms of external industrial concentration; this will be done with special reference to the so-called concentration-collusion doctrine concerning horizontal mergers and the importance of transaction-cost efficiencies concerning vertical mergers. We will present the traditional as well as the current approaches underlying public policy towards horizontal and vertical mergers, critically evaluate the *Chicago view* against the background of empirical findings, and finally draw policy conclusions.

The *Résumée* will finally emphasize the question of whether the German Act against Restraints of Competition (ARC) needs a reform along the lines of the *Chicago School* as a result of the conclusions from Parts 2, 3 and 4 of this contribution. If a need for a reform is confirmed on the basis of these results, we have to answer the question of how such a reform should look like and whether it should contain elements of currently discussed theory.

Special reference is paid to the importance of the role that structural elements, such as level of concentration, market share, market barriers, and

the like play. There will not be a thorough evaluation of antitrust institutions and sanctions. However, we will refer to them in as much detail as necessary at relevant points in the argument. The same applies to premises and assumptions, not closely connected to the view of current theory on industrial concentration.

Part 1: Analytical Framework for the Evaluation of Restraints of Competition by Industrial Concentration

In order to evaluate the effects of industry concentration we have to present a theoretical approach or standard of reference as a theoretical basis of antitrust policy. This particularly includes

- that we find competition to be the most adequate instrument for the coordination of economic activities and for securing an economic and political order;
- the confirmation that free enterprise systems tend towards self-destruction if not protected by public policy;
- to base a rational policy approach on predefined objectives as stated in constitutions, laws, or government programs;
- the search for operational criteria to separate competitive from noncompetitive conduct;
- to demonstrate the interrelatedness of economic concentration with economical, social, and political power; and
- to present the main features of industrial concentration.

I. Free Enterprise System, Competition, and Public Policy

1. Economic Order and Competition

The economic use of scarce resources has led to the recognition of the division of labor principle which has been discovered as the driving force of economic growth and progress since Adam Smith.¹

The division of labor, in turn, has created problems of allocation of economic resources and the distribution of economic outcome which required the coordination of economic activity² and, therefore, made necessary a regulative mechanism to steer and control economic processes.³

1 Cf. Böbel, Ingo, *Wettbewerb und Industriestruktur: Industrial Organization – Forschung im Überblick*, Berlin et al. 1984, p. 1.

2 Cf. Knight, Frank H., *The Economic Organization*, New York 1951, p. 14; Scherer, Frederic M., *Industrial market structure and economic performance*, second ed., Chicago 1980, p. 1.

3 Cf. Cox, Helmut, and Harald Hübener, *Wettbewerb: Eine Einführung in die Wettbewerbstheorie und Wettbewerbspolitik*, in: Cox, Helmut et al. (eds.), *Handbuch des Wettbewerbs*, München 1981, pp. 1-48, 3.

Different mechanisms for the coordination of economic activity can be discerned.⁴ Most western hemisphere countries rely mainly on markets and a free enterprise system⁵ to coordinate economic activity because the phenomenon of competition that takes place in such systems leads to a stimulation of innovation, a minimization of resource waste and generally to a satisfaction of consumer needs at minimum cost.⁶ Within this framework, the price mechanism can be seen as an instrument and general institution for the analytical comprehension of economic interdependencies.⁷

The choice of a free enterprise system is at the same time a choice of a distinct political order; that is to say, there is a structural complementarity between this system and a democratic political order and a civil legal order, which provided the basis for an economic constitution of this type:⁸

4 Essentially, these are three mechanisms. The coordination may be achieved to conform with tradition, by central planning, by the market system, or by a mixed system of these three mechanisms, cf. Scherer, Industrial market structure ..., op. cit., 1.

5 A market can be viewed as "an organized process by which buyers and sellers exchange goods and services for money, the medium of exchange.", Greer, Douglas F., Industrial Organization and Public Policy, 2nd ed., New York 1984, p. 3. A free enterprise system is "an economy the members of which rely on the forces of competitive markets to allocate resources and organize the productive process.", Stocking, George W., Workable Competition and Antitrust Policy, Nashville 1961, p. 1.

6 Cf. Areeda, Phillip, Introduction to Antitrust Economics, 52 ALJ (1983), pp. 523-537, 523; and Scherer, Industrial market structure..., op. cit., 9. Nevertheless, there are different views on the functions a free enterprise system should perform, cf. Leftwich, The Price System and Resource Allocation, 7th ed., Hinsdale, Ill. 1979, pp. 20-27.

7 Cf. Kaufer, Erich, Nochmals: Von der Preistheorie zur Wettbewerbstheorie, 18 ORDO (1967), pp. 95-114, 95.

8 Caspari, Manfred, Joint Ventures Under EEC Law and Policy, paper presented at a seminar on "Antitrust and Trade Policy in the United States and the European Community" at the Fordham Corporate Law Institute, October 23, 1987. Cf. Miller, J.P., Economic Goals and the Role of Competition: Introduction, in: Miller, J.P. (ed.), Competition, Cartels and their Regulation, Amsterdam 1962, pp. 1-6, 2; Böhm, Franz, Privatrechtsgesellschaft und Marktwirtschaft, 17 ORDO (1966), pp. 75-151.

In Germany this complementarity of economic and political or legal order has been espoused as a principle especially by the so-called Ordoliberal School led by Walter Eucken, Wilhelm Röpke, Alfred Müller-Armack et al. For these economists the essential basis for successful economic policies is a sound legal and institutional framework (ordo) in which technical policy issues must be subordinated to the requirements of this framework; for a survey cf. Hutchison, Thomas W., The Politics and Philosophy of Economics: Marxians, Keynesians and Austrians, New York and London 1981, pp. 155-175; for some basics cf. Eucken, Walter, Grundsätze der Wirtschaftspolitik, 5th ed., Tübingen 1975, esp. p. 21.

Another essential aspect of competition policy is what the Germans call the "ordnungspolitische" function. Competition, acting as a controlling, selecting and driving force through decentralized decision-making processes, is the only basic economic principle appropriate for free, democratic states."

For the purpose of analysis we will also rely on the free enterprise system, the market mechanism, and competition. Although we will not inquire into the legal and institutional framework, we will take a closer look at the nature and meaning of competition that ought to take place in an economy of this kind.

2. Nature and Meaning of Competition

Although competition is a political, social, and economic desideratum in a market-based free-enterprise system⁹, no adequate definition of competition has so far been formulated¹⁰; the term competition is thus used ambiguously.¹¹

9 Cf. McNulty, Paul J., Economic Theory and the Meaning of Competition, 82 QJE (1968), pp. 639-656, 639.

10 Cf. McNulty, Economic Theory ..., supra, 639; Schmidbauer, Allokation ..., op. cit., 18. In this sense, one could use any definition of competition such as, e.g., Webster's Third New International Dictionary, vol. 1, Chicago et al. 1971, which defines competition as "a market condition in which a large number of independent buyers and sellers compete for identical commodities, deal freely with each other, and retain the right of entry and exit from the market."

11 Cf. Leftwich, The Price System ..., op. cit., 29.

In order to avoid the shortcomings which characterized previous attempts to define competition¹², we will dispense with a formal definition.¹³ Instead, we will circumscribe competition and name its main characteristics, in order to find out how competition works and have a rationale for it.¹⁴

Competition as a socio-economic principle for the organization of economic activity has to be seen as an instrument for the realization of certain goals. It cannot be seen in the absence of ulterior motives, therefore.¹⁵ In this sense, it can be seen as a dynamic process that is characterized by initiatory moves and imitative responses. Within this process, market imperfections are the result of initiatory competitive action and, at the same time, prerequisites for imitative competitive action.¹⁶ The anonymous pressure on prices and costs that is exerted by competition, and that is not verifiable by the market participants, tends to contribute to the realization of goals by forcing on the market participants an economically rational form of beha-

12 For attempts to define competition in positive terms cf. Böhm, Franz, *Die Ordnung der Wirtschaft als gesellschaftliche Aufgabe und rechtsschöpferische Leistung*, Stuttgart and Berlin 1937, p. 124. Clark, John M., *Competition As A Dynamic Process*, Washington 1961, p. 13. On the absence of a concrete definition of competition cf., e.g., Knight, Frank H., *The Ethics of Competition*, 37 QJE (1922/23), pp. 579-624, esp. 589: "The critical reader of general economic literature must be struck by the absence of any attempt accurately to define that competition which is the principal subject of the discussion."

13 Some authors are of the opinion that for the purpose of analysis there has to be a clear definition of competition, cf. Schmidbauer, *Allokation ...*, op. cit., 25. The proposal for the Act Against Restraints of Competition did not contain a legal definition of competition since it was seen as a phenomenon changing over time, cf. *Schriftlicher Bericht des Ausschusses für Wirtschaftspolitik über den Entwurf eines Gesetzes gegen Wettbewerbsbeschränkungen*, BTDr. 3644, p. 13; cf. as well Cox/Hübener, *Wettbewerb ...*, op. cit., 5.

14 If not a definition, at least this is necessary as a basis for erecting a rigorous analytical system adequate both for economic analysis and for public policy, cf. McNulty, *Economic Theory ...*, supra, 639, 641.

15 Cf., e.g., Stigler, *The Organization of Industry*, op. cit., 5; Zohlnhöfer, Werner, *Wettbewerbspolitik im Oligopol. Erfahrung der amerikanischen Antitrustpolitik*, Basel and Tübingen 1968, p. 5; a deviant position is stated by Hoppmann, Erich, *Zum Problem einer wirtschaftspolitisch praktikablen Definition des Wettbewerbs*, in: Schneider, Hans K. (ed.), *Grundlagen der Wettbewerbspolitik*, Berlin 1968, pp. 9-49, 12, who views competition as an end in itself and rejects competition as an instrument for the attainment of goals since by this it is assumed that the economy and its participants are part of a constructivist system and, therefore, manipulable.

16 Cf. Schmidt, Ingo, *Wettbewerbspolitik und Kartellrecht: Eine Einführung*, 2nd ed., Stuttgart 1987, p. 60.

vier.¹⁷ The profits gained by initiatory competitive action will not disappear at once, but will be eroded over time.¹⁸

In addition to the consensus position that competition has to be considered a dynamic process¹⁹, further characteristics by which competition can be described are relevant:²⁰

- competition can only take place if there are markets;
- the consumer must be able to choose among alternative suppliers;
- the competitive process must be open and free;
- competition must proceed under uncertainty;
- the competitors have to act antagonistically towards one another.

If we want to define a concept of competition which is relevant and adequate both for economic analysis and economic policy²¹, we will have to determine the goals that competition as an instrument is supposed to

17 Cf. Schmidt, *Wettbewerbspolitik und Kartellrecht*, op. cit., 38; and as well Zohlnhöfer, *Wettbewerbspolitik im Oligopol*, op. cit., 11.

18 In order to find out how competition works, to carry out economic analyses and draw policy conclusions, we will have to develop a model of competition which will be done in Part I, II, 1.b.; for basic sources on the nature of competition cf. Marshall, Alfred, *Principles of Economics*, 8th ed., London 1920; Robinson, Joan, *The Economics of Imperfect Competition*, London 1933; Chamberlin, Edward H., *The Theory of Monopolistic Competition*, Cambridge, Mass. 1933; Schumpeter, Joseph A., *Capitalism, Socialism and Democracy*, New York 1942; Bain, *Industrial Organization*, op. cit.; and Stigler, *The Organization of Industry*, op. cit.

A survey on the development of the idea of competition is found in Stigler, George J., *Perfect Competition, Historically Contemplated*, 65 JPE (1957), pp. 1-17; McNulty, Paul J., *A Note on the History of Perfect Competition*, 75 JPE (1967), pp. 395-399; and idem, *Economic Theory* ..., supra.

19 The dynamic aspect of competition has mainly been emphasized by Abramovitz, Arndt, Clark and Schumpeter. Although competition has to be dynamic and, therefore, cannot be primarily related to structural aspects of markets, it has been described most ambiguously in behavioral terms, cf. Hayek, Friedrich A. von, *The Constitution of Liberty*, Chicago 1960, p. 265.

20 Cf. Armentano, Dominick T., *Antitrust and Monopoly: Anatomy of a Policy Failure*, New York et al. 1982, p. 14; Clark, *Competition As A Dynamic Process*, op. cit., 9, 13, 63; Cox/Hübener, *Wettbewerb* ..., op. cit., 6; Greer, *Industrial Organization* ..., op. cit., 3; Schmidt, *Wettbewerbspolitik und Kartellrecht*, op. cit., 2; Shepherd, *The Economics* ..., op. cit., 11; and idem, *Public Policies* ..., op. cit., 34-36.

21 Cf. McNulty, *Economic Theory* ..., supra, 641.

achieve.²² Furthermore, we will have to find out whether we are able to specify conditions that are necessary and sufficient in order to achieve effective competition.²³

Before doing this, it is important to find out whether competition is self-maintaining, whether its existence has to be secured by public policy, or whether it is possible at all.

3. Competition and Public Policy

There would not be a need for antitrust policy if the competitive mechanism was self-maintaining; then attempts of business organizations to extinguish competition would be fruitless.²⁴ According to a strict natural rights perspective, there would not be any reason whatsoever to justify antitrust regulation. Even if competition were bound to be destroyed the economic freedom to contract would have to be left untouched by the public.²⁵

22 There is the notion that different constellations of conditions are responsible for different intensities of competition and, therefore, the different degrees by which goals are attained, cf., e.g. Schmidbauer, *Allokation ...*, op. cit., 31, 49.

23 Cf. Shepherd, *Public Policies ...*, op. cit., 36 f.; and Schmidbauer, *Allokation ...*, op. cit., 47.

24 In fact, this position would foster a laissez-faire approach by denying the basic idea of a legal system as an instrument for correcting reality, cf. Möschel, Wernhard, *Recht der Wettbewerbsbeschränkungen* Köln et al. 1983, p. 52.

Another reason for this position would be a general belief in the benevolence of business organizations in the competitive process that would leave competition untouched, cf. Schmidt, *Wettbewerbspolitik und Kartellrecht*, op. cit., 143.

25 This strict natural rights perspective "holds that individuals have alienable rights to life, liberty, and property. These rights imply the liberty of any person or persons to enter into any noncoercive trading agreement on any terms mutually acceptable, to produce and trade any factor or good that they own, and to keep property realized by such free exchange.", Armentano, *Antitrust and Monopoly ...*, op. cit., 8; on this position cf. as well Pilon, Roger, *Cooperations and Rights: On Treating Corporate People Justly*, 13 GLR (1979), pp. 1245-1370; and Hessen, Robert, *In Defense of the Corporation*, Standford 1979.

There has been a denial of the laissez-faire principle through history, however, that has always led to a minimal level of public policy, including the classic economists, such as , e.g. Adam Smith, cf. Armentano, *Antitrust and Monopoly ...*, op. cit., 5; Clark, *Competition As A Dynamic Process*, op. cit., 67; Möschel, *Recht der Wettbewerbsbeschränkungen*, op. cit., 51; and as well Külp et al., op. cit., 176.

Antitrust policy would be impossible if the competitive process was self-destructive, an economic tenet that peaked in the 1920s²⁶ but which can also be found nowadays.²⁷ Actually, this view embodies the assumption of the impossibility of a legal system as such and , therefore, has to be rejected.²⁸

We will take the position that there is a "construction default"²⁹ in the free enterprise system which will inevitably lead to the destruction of this system if there is no public policy.³⁰ Within the market process³¹, market participants decide under uncertainty. In this context, uncertainty is a necessary condition for the effectiveness of competition.³² Public policy objectives will only be attained if market participants behave competitively. During the market process, however, competitors will try to impair the socioeconomic instrument of competition by noncompetitive action since this will bear individual advantages.³³

Competition impairment in this context, has to be viewed as a legal and/or factual restriction of relevant formal and material alternatives of choice in using competitive parameters.³⁴ It is obvious that the attempt to impair

26 Cf. Robinson, Joan, *The Impossibility of Competition*, in: Chamberlin, Edward H. (ed.), *Monopoly and Competition and their Regulation*, 1954, pp. 245-254.

27 Cf. Galbraith, John K., *The Affluent Society*, Boston 1956; idem, *American Capitalism: The Concept of Countervalling Power*, London 1957; and Idem, *Economic Development*, Cambridge, Mass. 1968.

28 Cf. Möschel, *Recht der Wettbewerbsbeschränkungen*, op. cit., 51.

29 The expression was coined by the German ordoliberal economist Franz Böhm, cf. Cox/Hübener, *Wettbewerb ...*, op. cit., 8.

30 Cf., e.g., Clark, *Competition As A Dynamic Process*, op. cit., 66; and Röper, Burkhardt, *Die Konkurrenz und ihre Fehlentwicklungen: Untersuchungen über Störungen der Marktwirtschaft*, Berlin 1952, pp. 24 and 27.

31 A market process can be understood as action of market participants in and through which the economic exchange of goods and services is performed, cf. Hoppmann, Erich, *Zum Schutzobjekt des GWB*, in: Mestmäcker, Ernst-Joachim (ed.), *Wettbewerb als Aufgabe. Nach zehn Jahren Gesetz gegen Wettbewerbsbeschränkungen*, Bad Homburg v.d.H. et al. 1968, pp. 61-104, 89.

32 Cf. Hayek, Friedrich A. v., *Die Arten der Ordnung*, 14 ORDO (1963), pp. 3-20, 16.

33 For details on the discrepancy between individual behavior and collective results cf. Schelling, Thomas C., *Micromotives and Macrobbehavior*, New York 1978, pp. 25-32.

34 Cf. Schmidt, *Wettbewerbspolitik und Kartellrecht*, op. cit., 109, and text infra.

competition makes public policy necessary since otherwise competition will be destroyed. Antitrust policy in this sense encompasses measures that will protect, maintain, and promote competition as an instrument for the attainment of objectives.³⁵ This can be characterized as an Instrumentalist-utilitarian position.³⁶

The measures of public policy have to be based on the law provided by the legislator; only within such a legal framework, will individualistic rational behavior constitute a competitive process that can be protected from destruction.

The rationale for the U.S. antitrust laws is the protection of economic freedom and free and unfettered competition³⁷, whereas the rationale of the Act Against Restraints of Competition (ARC) is the protection of a free enterprise system, the protection of the freedom to compete, and the restriction of economic power.³⁸ With regard to the main aspects we juxtapose the alternative policy approaches:

35 Cf. Preiser, Erich, *Die Zukunft unserer Wirtschaftsordnung*, 5th ed., Göttingen 1968, p. 18; Zohlnhöfer, *Wettbewerbspolitik im Oligopol*, op. cit., 16.

36 Cf. Bjork, Gordon C., *Private Enterprise and Public Interest: The Development of American Capitalism*, Englewood Cliffs, N. J. 1969, esp. chs. 1, 3, and 5. The question to what degree public policy increases public welfare and at the same time is efficient, is heavily disputed nowadays, cf. Liebhafsky, H. H., *American Government and Business*, New York 1971, pp. 23-26; Rothbard, Murray N., *Towards a Reconstruction of Utility and Welfare Economics*, New York 1978.

37 Cf. Lange, Bernd-Peter, et al., *Konzentrationspolitik in den USA*, Tübingen 1972, p. 2; Schmidbauer, *Allokation ...*, op. cit., 54; furthermore this includes a restriction of economic power, Edwards, Corwin, *Control of Cartels and Monopolies: An International Comparison*, New York 1967, p. 197: "They (the goals; added by the author) consist in a) keeping prices low and the price of goods adequate for the needs of consumers, and promoting improvements in technology and business organization that contribute to these results; and b) preventing private action that impairs business opportunity or access to markets." (emphasis added).

38 Cf. Schmidbauer, *Allokation ...*, op. cit., 45 f.

Tab. 3: Survey of the Different Approaches Dealing with Restraints of Trade in the U.S.A. and the Federal Republic of Germany

Kinds of Restraints	Country	USA*	FRG
<u>horizontal restraints of trade</u>		mostly per se rule accord. to Sec. 1 Sherman Act	per se rule in Sec. 1 ARC with a number of exemptions in Secs. 2-8 ARC
<u>vertical restraints of trade</u>			
- price restraints		- per se rule accord. to Sec. 1 Sherman Act	- per se rule in Sec. 15 ARC
- nonprice restraints		- rule of reason	- rule of reason
<u>mergers</u>		only cautious application of Sec. 7 Clayton Act and mainly towards large horizontal mergers	relatively strict application of Sec. 24 ARC

* This applies for the current policy based on Chicago views

II. Economic Evaluation of Industrial Concentration: Theoretical Approach and Public Policy

1. Antitrust Policy Objectives

Antitrust cannot be evaluated in the abstract.¹ A rational policy approach towards antitrust violations is only sensible with regard to predefined objectives as stated in constitutions, laws or government programs.² It is the public interest to attain these standards as closely as possible by means of public policy.³

1 As the disagreement over the effectiveness of antitrust is commonly a disagreement over its goals, the evaluation of antitrust requires a clear understanding of goals, cf. Kauper, Thomas C., The Goals of United States Antitrust Policy: The Current Debate, 136 JITE (1980), pp. 408-434, 408 and 416.

2 Cf. Schmidt, Wettbewerbspolitik und Kartellrecht, op. cit., 33. To make goals explicit means also to avoid hidden value judgments.

3 Cf. Shepherd, Public Policies ..., op. cit., 6.

a. Objectives and Interrelations

At first sight, a vast number of goals appears to be presented in antitrust literature.⁴ However, the variety can be reduced to a few main goals⁵ which can be grouped into the categories of economic and noneconomic objectives.⁶ Within the category of economic objectives, which comprises economically desirable results, the following objectives can most commonly be found:⁷

- economic efficiency, including allocative and productive efficiency;
- equity, meaning distribution of economic benefits according to the input into the economic process;
- consumers' sovereignty;
- technological progress;
- facilitation of high and stable employment.

⁴ For a general treatment of the economic policy objective issue cf. Bouling, Kenneth E., *Principles of Economic Policy* London 1959, pp. 131-158; and Giersch, Herbert, *Grundlagen der Wirtschaftspolitik*, 1st vol.: *Grundlagen*, Wiesbaden 1961, pp. 59-90. For a basic treatment of antitrust objectives cf. Bain, *Industrial Organization*, op. cit., 498-501; Clark, *Competition As A Dynamic Process* ..., op. cit., 63-88; Kaysen/Turner, *Antitrust Policy* ..., op. cit., 11-16; and Kantzenbach, Erhard, *Die Funktionsfähigkeit des Wettbewerbs*, 2nd ed., Göttingen 1967, pp. 12-19.

On the interrelatedness of economic and antitrust objectives cf. Bartling, Hartwig, *Leitbilder der Wettbewerbspolitik*, München 1980, pp. 1-8.

⁵ The positive evaluation of the goals embodies a normative value judgment, cf. Bain, *Industrial Organization* ..., op. cit., 23; as well as Kantzenbach, *Die Funktionsfähigkeit* ..., op. cit., 14.

⁶ Cf. Kauper, *The Goals* ..., supra, 416 f.; Dirlam, Joel B., and Alfred E. Kahn, *Fair Competition: The Law and Economics of Antitrust Policy*, Westport, Ct. 1970, p. 17, Greer, Douglas F., *Industrial Organization and Public Policy*, 2nd ed., New York, 1984, pp. 17 f., Scherer, *Industrial market structure* ..., op. cit., 12 f.; Shepherd, *Public Policies* ..., op. cit., 501.

⁷ Cf. as well Zohlnhöfer, Werner, *Wettbewerbspolitik im Oligopol. Erfahrungen der amerikanischen Antitrustpolitik*, Basel and Tübingen 1968, pp. 6 f.

It should be pointed out that it is a matter of operationality whether these objectives can serve as specific market performance goals, cf. Bain, *Industrial Organization*, op. cit., 501.

Noneconomic objectives comprise political as well as social considerations. The most important ones can be summarized as follows:⁸

- freedom of choice or opportunity;
- prevention of undue concentration of economic and, therefore, social and political power;
- maintenance of competition as an end in itself;
- protection of small business;
- redistribution of income.

The development of a system of antitrust objectives and instruments is based on commonly accepted values which can be viewed as ethical premises.⁹ A set of functions can be stated on a second level, the fulfilment of which furthers the attainment of the more basic aims and underlying values. We will base our considerations on a set of functions introduced by *Kantzenbach*¹⁰ and enlarged on by *Schmidt*:¹¹

- equitable income distribution;
- allocative efficiency;
- consumers' sovereignty;
- flexibility according to changes in economic conditions;
- technological progress;

8 Cf. Dirlam/Kahn, Fair Competition ..., op. cit., 17; Kauper, The Goals ..., supra, 417; Pitofsky, Robert, The Political Content of Antitrust, 127 UPLR (1979), pp. 1051-1075, 1053-1057; Shepherd, Public Policies ..., op. cit., 6. It is not a question of whether to include such noneconomic motives, but how to implement these objectives, cf. Schwartz, Louis B., "Justice" and Other Non-Economic Goals of Antitrust, 127 UPLR (1979), pp. 1076-1081.

There is a tendency, however, to displace such noneconomic considerations, cf. Schmidbauer, Allokation ..., op. cit., 48. This position neglects that "(a)ntitrust has a broader base than the findings of economists as to the conditions required for optimum economic performance.", Neale, Alan D., and D. G. Goyder, The Antitrust Laws of the U.S.A.: A Study of Competition Enforced by Law, 3rd ed., Cambridge et al. 1980, p. 441.

9 Cf. Sosnick, Stephen H., A Critique of Concepts of Workable Competition, 72 QJE (1958), pp. 380-423, 393. We will base our considerations on a threefold set of values which are situated on a first level in a hierarchy of goals: liberty, welfare and justice, cf. Schmidt, Wettbewerbspolitik und Kartellrecht, op. cit., 33.

10 Cf. Kantzenbach, Die Funktionsfähigkeit ..., op. cit., 16-19.

11 Cf. Schmidt, Wettbewerbspolitik und Kartellrecht, op. cit., 33-37.

- freedom of choice or opportunity through prevention of undue concentration of economic power.¹²

Furthermore, on a third level, norms within the market categories structure, conduct and performance can be utilized to operationalize these functions and measure their fulfilment.¹³

The procedure results in the statement of a hierarchy of basic objectives, functions and norms, all of which are interrelated.¹⁴

b. Conflicting Objectives

Three different kinds of interrelations between policy objectives can be discerned. Objectives can be indifferent to each other, complementary or competing, i.e. conflicting.¹⁵ As in social life, conflicts can be seen as regular concomitants in the field of economic policy objectives.¹⁶

The consensus that no single objective shall be treated as an absolute, makes it necessary to indicate which objective should prevail in situations

12 This catalogue of goals does not represent a closed system in the sense of achieving optimal results. It comprises more or less the most important functions from the author's point of view, cf. for this position Zohlnhäuser, *Wettbewerbspolitik im Oligopol*, op. cit., 8.

In addition to the five economic functions mentioned, the socio-political function of freedom of choice through prevention of undue concentration of economic power is seen by the author as furthering the prevention of social and political power, the protection of small business, as well as the maintenance of competition as an end in itself. For this reason, these functions are taken into account explicitly. Redistribution of income is not seen as a matter of antitrust.

13 Cf. Sosnick, A Critique ..., supra, 393.

14 Cf. Kaysen/Turner, Antitrust Policy ..., op. cit., 45; and Schmidt, *Wettbewerbspolitik und Kartellrecht*, op. cit., 33. For an extensive historical survey on general economic objectives and antitrust objectives within different theoretical approaches cf. Alsmöller, Horst, *Wettbewerbspolitische Ziele und Kooperationstheoretische Hypothesen im Wandel der Zeit*, Tübingen 1982, who make objectives explicit that have been mentioned only implicitly by some authors.

15 On the interrelations of economic policy objectives in general cf. Boulding, *Principles of Economic Policy*, op. cit., 131-157; Giersch, *Grundlagen ...*, op. cit., 59-90; on the interrelations and esp. conflicts between antitrust objectives cf. Kantzenbach, *Die Funktionsfähigkeit ...*, op. cit., 49-54; Scherer, *Industrial market structure ...*, op. cit., 81-118 and 407-438; as well as Schmidt, *Wettbewerbspolitik und Kartellrecht*, op. cit., ch. 5.

16 Cf. Dirlam/Kahn, *Fair Competition ...*, op. cit., 18; and Giersch, *Grundlagen...*, op. cit., 59.

where various objectives conflict.¹⁷

Resolving the conflict of objectives is not an economic issue but a matter of political choice. A trade-off is not easy to achieve, nor do per se-rules exist for resolving such conflicts, since different antitrust approaches will lead to different priorities.¹⁸

Three categories of conflict can be distinguished:¹⁹

- conflicts between static and dynamic functions within the category of economic objectives;²⁰
- conflicts between the economic functions and the socio-political objectives of prevention of undue concentration of economic power;
- conflicts between the antitrust functions as such and other meta-economic objectives.

The main potential for conflicts lies within the second category since in situations of conflict it has to be decided whether desirable economic performance (economic functions) or the decentralization of economic power to

17 Cf. Kaysen/Turner, Antitrust Policy ..., op. cit., 45; Kauper, The Goals ..., supra, 408: "To the degree that (...) economic, political and social goals are consistent, i.e., when the achievement of efficiency also results in diffusion of power more generally, the controversy may seem purely academic. But such goals are often inconsistent, and a choice between them is necessary in order to resolve specific cases."

The Chicago School, on which we will elaborate in the following, treats consumer welfare as the sole purpose of antitrust policy, cf. Schmidt/Rittaler, Die Chicago School ..., op. cit., 37-44.

18 Cf. Dirlam/Kahn, Fair Competition ..., op. cit., 18-21; on the one hand, one can justify an approach that is oriented totally towards economic objectives, cf. Kantzenbach, Die Funktionsfähigkeit ..., op. cit., 13; whereas others prefer an approach that is solely oriented towards the freedom to compete, denying possible conflicts, cf. Hoppmann, Erich, Zum Schutzobjekt des GWB, in: Mestmäcker, Ernst-Joachim (ed.), Wettbewerb als Aufgabe - Nach zehn Jahren Gesetz gegen Wettbewerbsbeschränkungen, Bad Homburg v.d.H. 1968, pp. 61-104, 103 f.; Mestmäcker, Ernst-Joachim, Das Verhältnis des Rechts der Wettbewerbsbeschränkungen zum Privatrecht, 21 DB (1968), pp. 787-799, 790; yet others see surprisingly few difficulties, or at least accord little explicit discussion to possible goal conflicts, since they acknowledge that deviant objectives have to be subordinated to the protection of competition as an end in itself, cf. Sosnick, A Critique ..., supra, 394.

19 Cf. Schmidt, Wettbewerbspolitik und Kartellrecht, op. cit., 81-104. Since this is an optional taxonomy, others are viable as well, cf. Dirlam/Kahn, Fair Competition ..., op. cit., 22-24; Kaysen/Turner, Antitrust Policy ..., op. cit., 82-84.

20 For an accurate distinction, cf. Kantzenbach, Die Funktionsfähigkeit ..., op. cit., 16-18.

protect individual freedom should prevail.²¹ In fact, this conflict is heavily disputed.²²

It can be summarized that the conflicts described can possibly occur but do not have to occur.²³ We will present our antitrust approach on the basis of the objectives presented and by taking into consideration conflicting objectives.

2. Elements of the Approach to an Evaluation of Industrial Concentration

The attainment of predefined antitrust objectives can only be secured by promoting desirable forms of competition. Within this context, the primary purpose of a model of antitrust is to distinguish competitive from noncompetitive market conduct and, therefore, competitive from noncompetitive market processes. The competitive process has to be standardized, as it were, since deviations from that standard indicate competition impairment and, therefore, deficient attainment of antitrust objectives.²⁴

a. Models of Competition

Whereas free and unfettered competition in the view of classical economists would lead to an adjustment and harmony of interests of market participants if placed in a legal framework²⁵, neoclassical economists inquired into the conditions which would constitute the market equilibrium, following a compe-

21 Cf. Kantzenbach, *Die Funktionsfähigkeit ...*, op. cit., 52-54; Kauper, *The Goals ...*, supra, 418; Schmidbauer, *Allokation ...*, op. cit., 50 f.; Scherer, *Industrial market structure ...*, op. cit., 81-88.

Kaysen/Turner, *Antitrust Policy...*, op. cit., 82: "In our proposed standard of policy we have given primacy to the limitation of market power over the promotion of desirable economic performance."

22 The same applies to the question whether competitors or competition should be protected, although there does not necessarily have to be a conflict, cf. Kaysen/Turner, *Antitrust Policy ...*, op. cit., 19; Schmidbauer, *Allokation ...*, op. cit., 45; Schmidt, *Wettbewerbspolitik und Kartellrecht*, op. cit., 81-83; and Schwartz, "Justice" ..., supra, 1076. We will judge on a case by case basis.

23 Cf. Schmidt, *Wettbewerbspolitik und Kartellrecht*, op. cit., 105.

24 "(T)he formulation of public policy requires a distinction between situations and practices which are in the public interest and those that are not", Mason, Edward S., *Monopoly in Law and Economics*, 47 *Y LJ* (1937), pp. 34-49, 49.

25 Cf. Bartling, *Leitbilder ...*, op. cit., 9; and Schmidt, *Wettbewerbspolitik und Kartellrecht*, op. cit., 3.

titive process.²⁶ The recognition that this model of perfect competition contained no reliable standards for evaluating real-world conditions since the conditions for equilibrium were unrealistic themselves²⁷, led to a "pessimistic" attitude towards the notion of competition; it was asserted that real-world market imperfections would lead to economically undesirable performance (inefficient resource allocation, overcapacity, etc.).²⁸

In a seminal article²⁹ John Maurice Clark made a first attempt to induce a search for operational norms which would serve to indicate "workable competition".³⁰ The development of the basic idea of this concept has been done in two steps. In a first step, Clark acknowledged that perfect competition does not exist and cannot exist and has presumably never existed, recogni-

26 For a survey on the classics cf. Schmidt, Wettbewerbspolitik und Kartellrecht, op. cit., 2-5; Bartling, Leitbilder ..., op. cit., 9-11; Schröter, op. cit., 10-13.

The first systematic inquiries into these conditions have been done by Walras, Léon, Elements of Pure Economics or the Theory of Social Wealth, 2nd ed. London 1965 (original title: Elements d'économie politique pure ou théorie de la richesse, Paris-Lausanne 1901); the conditions were systematically listed first by Knight, Frank H., Risk, Uncertainty and Profit, London and Chicago 1971 (original: 1921), pp. 76-81.

For up-to-date statements of the conditions cf. Henderson, James M., and Richard E. Quandt, Microeconomic Theory: A Mathematical Approach, 3rd ed., Auckland et al. 1980, pp. 136 f.; and Koutsoyiannis, Anna, Modern Microeconomics, 2nd ed., 2nd reprinting, London et al. 1981, pp. 484-504.

27 We will not state an indepth critique of the neoclassic model of perfect competition since this is not within the scope of the contribution and, in addition, has been done elsewhere, cf. Bartling, Leitbilder ..., op. cit., 14-19; Mc Nulty, A Note on the History ..., supra; and Stigler, Perfect Competition, Historically Contemplated, supra; Clark, Competition As A Dynamic Process, op. cit., chs. 2 and 3.

28 Cf. Chamberlin, Edward H., The Theory of Monopolistic Competition, 8th ed., Cambridge, Mass. 1962; Robinson, The Impossibility of Competition, op. cit.; idem, The Economics of Imperfect Competition, 2nd ed., London 1969; and Sraffa, Piero, The Laws of Returns under Competitive Conditions, 36 EJ (1926), pp. 535-550, 542: "It is necessary, therefore, to abandon the path of free competition and to turn in the opposite direction, namely, towards monopoly."

29 Cf. Clark, John M., Toward a Concept of Workable Competition, 30 AER (1940), pp. 241-256; and for extensions idem, Competition: Static Models and Dynamic Aspects, 45 AER (1955), pp. 450-462.

30 One could also use the synonyms 'healthy' or 'effective'. In fact, Clark used the term 'effective' in his later publications, cf. Gay Fortman, Bastiaan de, Theory of Competition Policy: A Confrontation of Economic, Political and Legal Principles, Amsterdam 1966, p. 84.

Workable competition can be seen as "a set of operational norms or standards by which markets may be evaluated", Greer, Industrial Organization ..., op. cit., 40.

zing that some departures from the model of perfect competition would not be as harmful as formerly assumed; even if further imperfections ("remedial imperfections") were added, this form of competition could nonetheless serve as an inferior substitute to perfect competition (second-best solution).³¹

Strongly influenced by Joseph A. Schumpeter,³² Clark turned away from the static model as a public policy standard in a second step.³³ Competition would only allow for dynamics, technological progress, and innovation if market imperfections occurred. These imperfections were viewed as a result of initiatory moves and, at the same time, prerequisites for imitative responses in the competitive process.³⁴ They therefore became fundamental to the emergence of competition as such. The crucial question which followed from this new view was which imperfections were desirable for effective competition and which combinations of them would be most conducive.³⁵ Clark's

31 For this evaluation cf. Poeche, Jürgen, Workable Competition als wettbewerbspolitisches Leitbild, in: Poeche, Jürgen (ed.), Das Konzept der 'Workable Competition' in der angelsächsischen Literatur, FIW-Dokumentation Heft 1, Köln et al., pp. 9–32, 12; Schmidt, US-amerikanische ..., op. cit., 25; and idem, Wettbewerbspolitik und Kartellrecht, op. cit., 11.

Clark, Toward a Concept of Workable Competition, supra, 242: "If there are for example, five conditions, all of which are essential to perfect competition, and the first is lacking in a given case, then it no longer follows that we are necessarily better off for the presence of any one of the other four. In the absence of the first, it is *a priori* quite possible that the second and the third may become positive detriments; and a workable satisfactory result may depend on achieving some degree of 'imperfection' in these other two factors."

32 Clark was influenced mainly by Schumpeter's theses on innovation; cf. for the original sources Schumpeter, Joseph A., Theorie der wirtschaftlichen Entwicklung, Leipzig 1912, and idem, Capitalism, Socialism and Democracy, op. cit.

33 Cf. Clark, Competition As A Dynamic Process, op. cit. For this evaluation cf. e.g., Kantzenbach, Erhard, and Hermann H. Kalfass, Das Konzept des funktionsfähigen Wettbewerbs – workable competition, in: Cox et al. (eds.) Handbuch des Wettbewerbs, op. cit., pp. 103–127, 107.

34 Clark, Competition As A Dynamic Process, op. cit., IX: "And I have become increasingly impressed that the kind of competition we have, with all its defects – and these are serious – is better than the 'pure and perfect' norm, because it makes for progress. Some departures from 'pure and perfect' competition are not only inseparable from progress, but necessary to it. The theory of effective competition is **dynamic theory**." (emphasis added).

35 Cf. Hopmann, Erich, Workable Competition als wettbewerbspolitisches Konzept, in: Besters, Hans (ed.), Theoretische und institutionelle Grundlagen der Wirtschaftspolitik, Berlin 1967, pp. 145–197, 154; Schmidt, Wettbewerbspolitik und Kartellrecht, op. cit., 12.

works resulted in innumerable publications on workable competition, many of which were in substantial disagreement with one another.³⁶

Whereas the main disagreement between promoters of workable competition centered around the question of which norms or standards in what combination would make competition effective³⁷, a number of economists rejected the model as such.³⁸

We will deal with the problem of standardization of the competitive process in the following.

36 For an excellent survey on the most important publications within the field cf. Poeche (ed.), op.cit; and for a critical review of the literature cf. Sosnick, A Critique ..., supra. For a classification of the numerous concepts of workable competition cf. Hoppmann, Workable Competition ..., op. cit., 146-148.

Whereas Clark formulated his approach with regard to the economic performance of the individual firm, attempts have been made to shift the emphasis to industry performance, cf. Markham, Jesse W., An Alternative Approach to the Concept of Workable Competition, 40 AER (1950), pp. 349-362, or to the performance of an economy as a whole, cf. Ferguson, Charles E., A Macroeconomic Theory of Workable Competition, Durham 1964.

37 For an indepth evaluation of standards proposed by different models of workable competition cf. Sosnick, A Critique ..., supra. 389-391.

"To determine whether any industry is workably competitive, therefore, simply have a good graduate student write his dissertation on the industry and render a verdict. It is crucial to this test, of course, that no second graduate student be allowed to study the industry.", Stigler, George J., Report on Antitrust Policy-Discussion, 46 AER (1956), p. 505.

38 Cf., e.g., Bartling, Leitbilder ..., op. cit., 36-40; Schmidchen, Dieter, Wettbewerbspolitik als Aufgabe. Methodologische und systemtheoretische Grundlagen für eine Neuorientierung, Baden-Baden 1978, esp. pp. 82-110; Posner, The Chicago School of Antitrust Analysis, supra, 930 f.

Hoppmann, for example, criticizes that the workable competition model is as static as the neo-classical model since it excludes the aspect that constitutes competition: the freedom to compete, cf. Hoppmann, Zum Problem ..., op. cit., 28. Further, the criticism states that it is impossible to determine a set of standards in general in order to evaluate the effectiveness of competition.

It has to be noted critically, however, that the history of models of competition has always been a search for such standards, cf. Kaufer, Nochmals ..., supra. 97; even if the prevention of undue restrictions of freedom to compete was the sole purpose of antitrust policy, one would have to find a standard in order to determine at what point such undue restriction would start.

b. The Structure-, Conduct-, Performance-Paradigm, and the Competitive Process

As has already been noted, the standardization of the competitive process and, therefore, the evaluation of desirability of competition in a particular market, is carried out by setting up norms, the combination of which determines the intensity of competition. These norms or standards can be grouped into three categories: structure, conduct and performance.³⁹

Market structure comprises those elements that tend to exert a long-run influence on the nature of competition and on the pricing within an industry:⁴⁰

"'Market structure' we use to mean those conditions external to the firm which are relatively permanent or which change only slowly, and which affect, if they do not determine, the way the firm operates."

Among the variables of market structure are the number of sellers and buyers, their size distribution, the degree of product differentiation, the conditions of entry, the stage in market maturity, the underlying cost structures, scale economies, the degree of vertical integration et al.⁴¹

Market conduct or behavior is concerned with the strategic and tactic options which are at an enterprise's disposal in specific markets. It comprises "aspects of a market which are the result of specific decisions of firms and

39 Structure, in turn is shaped by so-called basic conditions or determinants of a particular market: "The basic conditions may be thought of as characteristics that are either inherent to the product (as is largely true of price elasticity of demand, purchase method, and product durability) or relatively impervious to easy manipulation by policy (as is largely true of growth rate, technology, and historical background).", Greer, Industrial Organization ..., op. cit., 9; cf. as well Koch, Industrial Organization ..., op. cit., 5; and Shepherd, Public Policies ..., op. cit., 7.

40 Kaysen/Turner, Antitrust Policy ..., op. cit., 59; cf. as well Bain, Industrial Organization, op. cit., 7, 9, 295.

41 Numerous variables of market structure can be discerned cf., e.g., the surveys in Schmidt, US-amerikanische ..., op. cit., 55; and Sosnick, A Critique ..., supra, 389-391. Our emphasis will be placed on the number of sellers and buyers, their size distribution, the degree of product differentiation, and the conditions of entry, since these factors play a crucial role with regard to Chicago School analysis. The relation of these structural variables to performance in general and to efficiency in particular will be analyzed in Parts 2, 3 and 4 of the contribution.

which are, at least conceivably, alterable in relatively short periods of time... Crudely put, conduct is subject to alteration by injunction ...".⁴²

This category primarily contains the instruments an enterprise uses with regard to marketing its goods and services, such as, for instance, price strategies, production strategies, promotion strategies, product quality.⁴³ 'Conduct' or 'behavior' is taken to mean the actual use of competitive parameters, the aspect of cooperation with competitors, and the forms of rivalry chosen.⁴⁴

Market performance, as a third category for the standardization of market processes, is a concept referring to the economic and noneconomic results that a market process is supposed to bring about. These can be seen with regard to different dimensions, such as economic efficiency, product quality, costs, technological progress, output, dispersion of economic power, and the like.⁴⁵

These three categories by which a market process can usually be standardized, are closely interrelated and determine each other to a certain degree. This interrelation has been named "structure-conduct-performance paradigm". It emphasizes the causal links between structure, conduct, and performance, thereby holding that "market structure is important because the structure determines the behavior of firms in the industry and that behavior in turn determines the quality of the industry's performance":⁴⁶

42 Kaysen/Turner, Antitrust Policy ..., op. cit., 59; cf. as well Bain, Industrial Organization, op. cit., 9 f.; and Sosnick, A Critique ..., supra, 386 f.

43 Cf. Greer, Industrial Organization ..., op. cit., 10.

44 Cf. Poeche, Workable Competition als wettbewerbspolitisches Leitbild, op. cit., 18; and Schmidt, Wettbewerbspolitik und Kartellrecht, op. cit., 58 f.; 62, 64.

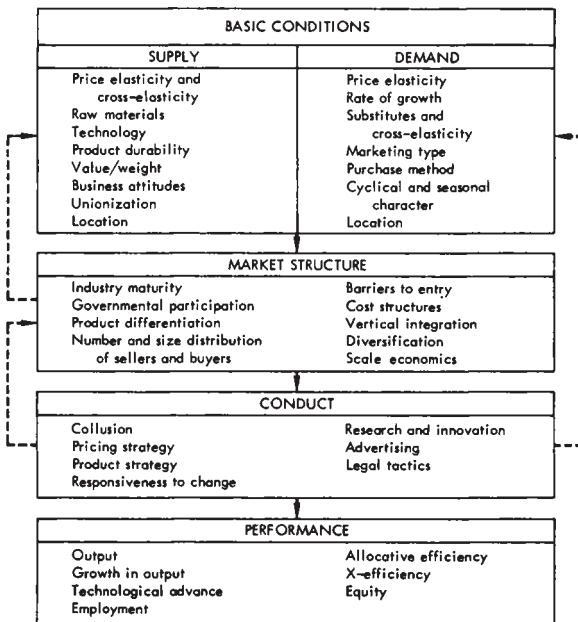
45 Cf. Bain, Industrial Organization, op. cit., 10; Greer, Industrial Organization ..., op. cit., 10; and Kaysen/Turner, Antitrust Policy ..., op. cit., 62-70. It has been noted already that the performance category can be regarded on different levels of aggregation.

Some authors only include economic performance values: "'Performance' will refer to dimensions which represent the realization of normatively significant 'economic results'.", Sosnick, A Critique ..., supra, 387.

46 Caves, Richard E., American Industry: Structure, Conduct, Performance, 6th ed., Englewood Cliffs, N.J. 1987, p. 17.

This traditional analytical model of industrial organization became the dominant methodology soon after having been introduced by Edward S. Mason, cf. Mason, Edward S., Price and Production Policies of Large-Scale Enterprise, 29 AER (1939), pp. 61-74. Cf. as well Kantzenbach/Kalfass, Das Konzept des funktionsfähigen Wettbewerbs ..., op. cit., 116.

Fig. 1: Circular Interdependence of Structure, Conduct, and Performance as the Traditional Framework for Industrial Organization Analysis



Source: Koch, James V., *Industrial Organization and Prices*, 2nd ed., Englewood Cliffs, N.J., 1980, p. 91.

A crucial question is whether structure or conduct is essential to the development of an operational theory of industrial organization. The issue is still disputed since some economists emphasize structure (e.g., *Bain, Shepherd*), whereas others emphasize conduct (e.g., *Scherer*).⁴⁷

A further point is that there is no one way chain of causation between structure, conduct, and performance, as was formerly assumed by traditional

47 Cf. Scherer, *Industrial market structure ...*, op. cit., 6 f.; and Singleton, Ross C., *Industrial Organization and Antitrust: A Survey of Alternative Perspectives*, Columbus, Ohio 1986, pp. 3-5.

promoters of this approach⁴⁸, nor is the relationship between these market characteristics deterministic in nature.⁴⁹ Rather, these market categories show a circular interdependence on one another:⁵⁰

"Whereas price theory and empirical evidence support the contention that there is some sort of causal relationship in which structure determines performance, the same tools may be utilized to demonstrate possible causation in the reverse direction. Conduct and performance do alter market structure. Tactics such as predatory pricing and frequent product style changes may drive competing firms out of the market and alter market structure. The direction of causation is therefore often two-way."

The main critical issues with regard to the structure-conduct-performance model can be summarized as follows:

- it is controversial which norms should be included in the categories⁵¹;

48 Cf. Sosnick, A Critique ..., supra, 387; and Koch, Industrial Organization ..., op. cit., 92.

There have been attempts to find optimal intensities of competition by combining structural characteristics, such as the number of competitors, the degree of product heterogeneity et al., cf. Kantzenbach, Die Funktionsfähigkeit ..., op. cit., 39-49, referring to Phillips, Almarin, Market Structure, Organization, and Performance, Cambridge, Mass. 1962. These attempts, however, have failed and thus have to be rejected, cf. Witkowski, Helmut, Zur Mißbrauchsaufsicht über Preise marktbeherrschender Unternehmen, Frankfurt a.M., Bern 1981, p. 210.

49 Cf. Kantzenbach/Kallfass, Das Konzept des funktionsfähigen Wettbewerbs ..., op. cit., 118; Schmidt, Wettbewerbspolitik und Kartellrecht, op. cit., 59 f.; and Schröter, Klaus, Die wettbewerbspolitische Behandlung von Ausnahmebereichen - dargestellt am Beispiel der Fernwärmewirtschaft in der BRD, Frankfurt a.M. et al. 1986, pp. 14 and 25.

It is crucial to acknowledge that this approach is basically pragmatic, largely judgmental, and can only result in pattern predictions: "Such an approach is not satisfactory to anyone who either believes that it is possible to achieve absolute certainty or who is driven into an attempt to achieve it as a matter of his personal emotional make-up.", Liebhafsky, American Government and Business, op. cit., 261.

For a detailed inquiry into this issue cf. McKie, Market Structure and Function: Performance versus Behavior, in: Markham, Jesse, W., and Gustav G. Papanek (eds.), Industrial Organization and Economic Development: Essays in Honor of E. S. Mason, Boston 1970, pp. 3-25.

50 Koch, Industrial Organization ..., op. cit., 92. For this circular interdependence cf. Fig. 1.

51 Cf. Greer, Industrial Organization ..., op. cit., 41; Sosnick, A Critique ..., supra, 389-391; and Scherer, Industrial market structure ..., op. cit., 43.

- it has to be determined how many norms should be included and which weight should be given to each of them⁵²;
- it has to be made explicit whether the three categories should be separated from each other⁵³;
- it has to be determined to what degree the norms can be made operational⁵⁴; and
- conflicts among norms have to be made explicit.⁵⁵

Even if we neglected these considerations "(t)he ultimate virtue of the traditional structure-conduct-performance approach, is crucially dependent upon the empirical evidence that can be marshalled in its support".⁵⁶

Due to this question of empirical proof, the basic tenet of the paradigm has been weakened by some authors⁵⁷ and has been rejected by others.⁵⁸

As has been emphasized, the interrelations among the categories which standardize the competitive process are complex, and there is a lack of secure knowledge.⁵⁹ Nevertheless, evidence for structural predominance can be

52 Cf. Bain, Industrial Organization, op. cit., 300; Bartling, Leitbilder der Wettbewerbspolitik, op. cit., 23; and Schmidt, US-amerikanische ..., op. cit., 56 f.

53 Cf. Gay Fortman, op. cit., 88; Kantzenbach/Kalfass, Das Konzept des funktionsfähigen Wettbewerbs ..., op. cit., 113 f.; for a somewhat different view Koch, Industrial Organization ..., op. cit., 93: "Except for possible increased clarity of nomenclature, there seems to be little to be gained from arguments about what features of industrial markets are to be termed basic conditions and which should be labeled elements of market structure."

54 Cf. Lange et al., Konzentrationspolitik in den USA, op. cit., 13.

55 Cf. Sosnick, A Critique ..., supra, 393.

56 Koch, Industrial Organization ..., op. cit., 93.

57 Cf., e.g., Hoppmann, Zum Problem ..., op. cit., 39; Kaysen/Turner, Antitrust Policy ..., op. cit., 60 f.: "... we can neither predict market performance from market structure, nor can we tell from structure **alone** how competitive the processes of the market are" (emphasis added).

58 Cf. Armentano, Antitrust and Monopoly, op. cit., 33; Posner, The Chicago School of Antitrust Analysis, supra, 928: "..., industrial organization, the field of economics that studies monopoly questions, tended to be untheoretical, descriptive, 'institutional', and even metaphorical."

59 Cf. Gay Fortman, op. cit., 89 f.; and Ruppelt, Hansjürgen, Wettbewerbspolitik und wirtschaftliche Konzentration, Tübingen 1978, p. 24.

confirmed⁶⁰ which makes the paradigm an auxiliary means with regard to judging competition intensity. Therefore, the fulfilment of the paradigm's norms becomes a necessary condition, although not a sufficient one.⁶¹

c. Effective Competition and Competition Impairment

In order to standardize the competitive process unequivocally, there is a necessity for mutually consistent norms for structure, conduct, and performance as market characteristics, the constellation of which determines the degree of effectiveness of competition with regard to predefined objectives.⁶²

Even if we do not follow the contention that there is no necessary relationship between structure and performance⁶³, the paradigm is neither rigidly deterministic, nor does it show a one way chain of causation. There is evidence for structural predominance, but if market structure constantly changes over time, the real causal relationship is difficult if not impossible to

60 Cf. Adams, Walter, The Case for Structural Tests, in: Weston, J. Fred, and Sam Peltzman (eds.), *Public Policies Toward Mergers*, Pacific Palisades 1969, pp. 13-26; Bain, Industrial Organization, op. cit., chs. 4-7; Blair, John M., *Economic Concentration, Structure, Behavior and Public Policy*, New York 1972, ch. 4; and Weston, J. Fred, *Structure, Performance and Behavior*, in: Weston/Peltzman, *Public Policies ...*, op. cit., pp. 67-78. Clark, *Competition As A Dynamic Process*, op. cit., 421: "It is not true, as contended by some lawyers engaged in antitrust practice, that structure is irrelevant and behavior is the only thing that counts - especially that two firms are sufficient if they behave competitively" (emphasis added).

61 For further criticism of the paradigm cf. Herdzina, Klaus, *Marktstruktur und Wettbewerb*, 3 ZfWUS (1973), pp. 267-284; and Phillips, Almarin, *Structure, Conduct and Performance - and Performance, Conduct and Structure*, in: Markham/Papanek, *Industrial Organization ...*, op. cit., pp. 26-37.

On the empirical problems of the approach cf. Caves, Richard E., *The Determinants of Market Structure: Design for Research*, in: Jacquemin, Alexis P., and Henk W. de Jong (eds.), *Markets, Corporate Behavior and the State*, The Hague 1976, pp. 3-7.

62 Whereas the kind and strength of the relationship between market characteristics and their norms is a positive issue, the question of which objectives to pursue, is a normative one, cf. Kantzenbach/Kalfass, *Das Konzept des funktionsfähigen Wettbewerbs ...*, op. cit., 115.

63 Asserted as early as 1938, cf. Nourse, Edwin G., and Horace B. Drury, *Industrial Price Policies and Economic Progress*, Washington, D.C., 1938. "... market structures, or market structure changes, reveal nothing a priori concerning competition or welfare", Armentano, *Antitrust and Monopoly ...*, op. cit., 33.

trace.⁶⁴ In addition to these problems and to the ones already pointed out, structure, conduct, and performance are not only shaped by the competitive process but also by other economic, social and legal conditions.⁶⁵

Finally, it should be pointed out that present knowledge on the relationship between structure, conduct, and performance allows no policy implications to be drawn which are uncontradictory.⁶⁶ Although a "positive" standardization of the competitive process seems to be impossible for the time being, however, specific norms can serve as necessary conditions for effective competition and certain structures may endanger the workability of the competitive mechanism.⁶⁷

These uncertainties can partly be circumvented by taking into account the freedom to compete as an extra criterion.⁶⁸ It can be used as a preliminary sufficient condition or criterion to separate competitive from noncompetitive behavior by asking whether the freedom to compete is restricted in an actual situation.⁶⁹

The basic notion thereby holds that - as a rule - good performance and the attainment of objectives is reached most likely when freedom to compete is

64 Cf. Bain, Joe S., The Comparative Stability of Market Structure, in: Marshall/Papanek, Industrial Organization and Economic Development, op. cit., 38-46. Policy implications solely based on the paradigm have to be considered a "presumption of knowledge"; only pattern predictions can be derived, cf. Hayek, Friedrich A. v., Die Anmaßung von Wissen, 26 ORDO (1975), pp. 12-21; cf. as well Herdzina, Klaus, Wettbewerbspolitik, 2nd ed., Stuttgart 1987, p. 112.

65 Cf. Schmidt, Wettbewerbspolitik und Kartellrecht, op. cit., 60.

66 Cf. Herdzina, Wettbewerbspolitik, op. cit., 71-75; Möschel, Recht der Wettbewerbsbeschränkungen, op. cit., 50; Scherer, Industrial market structure ..., op. cit., 44; Schmidt, Wettbewerbspolitik und Kartellrecht, op. cit., 59 f., and 77; and Zohlnhöfer, Werner, Wettbewerb - Modell und Wirklichkeit, in: Andreea, Clemens-August, and Werner Benisch (eds.), Wettbewerbsordnung und Wettbewerbsrealität, Köln, et. al., pp. 15-36, 24 f.

67 Cf. Herdzina, Wettbewerbspolitik, op. cit., 81-85, who refers to degrees of concentration, the exceeding of which will lead to an increased risk of anticompetitive behavior.

68 This seems rather to be a 'must' because otherwise only economic features are emphasized and, in addition, the aspect of 'social control of industry' would be neglected, cf. Gay Fortman, Theory of Competition Policy, op. cit., 89. The social control of industry is often termed 'dispersion of economic power', cf. Schmidt, Wettbewerbspolitik und Kartellrecht, op. cit., 35; we will treat this issue below.

69 Cf. Hoppmann, Workable Competition ..., op. cit., 169.

unrestricted.⁷⁰ Freedom to compete, therefore, is considered a basic condition for effective competition as well as one of its objectives.⁷¹

Freedom in this context cannot be stated as a positive norm because it cannot be executed by competitors using their freedom to compete according to a prescript.⁷² It has to be comprehended, therefore, by the determination of the restriction of that freedom in an actual situation; by identifying competition impairment, as it were, we arrive at a sort of "negative" standardization.

Freedom to compete consists of two components. Formal freedom of action, which actually means equal treatment through jurisdiction and protection from political arbitrariness, and the material freedom of choice which is considered the ability to attain predefined objectives by choosing one's own course of action.⁷³ Material freedom of decision can be defined, therefore, by the absence of economic power.

A competitor's freedom to compete has to be related to the freedom of other competitors to compete.⁷⁴ It is for this reason that not every restriction of such freedom is considered an impairment of competition. Only "undue" restrictions of the freedom to compete will be considered an impairment of competition. The theory of effective competition therefore becomes a theory of competition impairment.⁷⁵

70 This does not necessarily lead to favorable results, cf. Aberle, Gerd, *Wettbewerbstheorie und Wettbewerbspolitik*, Stuttgart et al. 1980, pp. 63-68, who mentions market failure and cutthroat competition as an example of bad performance despite the freedom to compete.

71 As has been mentioned, goal conflicts can occur between freedom to compete and good economic performance. Since no generalization can be made, however, they have to be treated on a case by case basis.

72 A positive definition of freedom is as hard to formulate, as a definition of what competition means, cf. Giersch, *Grundlagen ...*, op. cit., 73 f.; In such a positive economic interpretation it would mean autarky and autonomy in the sense of economic freedom of action and choice, cf. Herdzina, *Wettbewerbspolitik*, op. cit., 11, and Hoppmann, Erich, *Das Konzept der optimalen Wettbewerbsintensität*, 179 JNST (1966), pp. 286-323, 289.

73 Cf. Giersch, *Grundlagen ...*, op. cit., 73.

74 In this sense, it is relative freedom, cf. Giersch, Herbert, *Aufgaben der Strukturpolitik*, 9 HJWG (1964), pp. 61-90, 75; Herdzina, *Wettbewerbspolitik*, op. cit., 12; and Möschel, *Recht der Wettbewerbsbeschränkungen*, op. cit., 48 f.

75 Cf. Möschel, *Recht der Wettbewerbsbeschränkungen*, op. cit., 48-50; and Schmidt, *Wettbewerbspolitik und Kartellrecht*, op. cit., 79.

In addition to this more individualistic aspect of freedom to compete, the issue also contains an institutional aspect, namely, the dispersion of economic power.⁷⁶

Dispersion of economic power is seen as an appropriate complementary part a decentralization among competing decision makers. Such a decentralized structure among competitors will not be formulated in positive terms; rather, any structure will be accepted that has been reached without undue restriction of freedom to compete.⁷⁷ The individualistic aspect is most closely furthered by this procedure as well.

What is considered "undue" in this context, is not a matter of positive economics, but a question of normative judgment. This judgment will be performed on a case by case basis, with reference to market characteristics such as structure and conduct that raise the probability of the appearance of competition impairment.⁷⁸

Not every impairment of competition can be viewed as relevant, especially with regard to the scope chosen in this contribution. We are able to classify natural and artificial causes of impairments of competition.

Natural causes are due to anomalies of market characteristics, such as undesirable market structures, economic externalities, and the like.⁷⁹ They are not very often removable by means of antitrust policy.

76 Cf. Schmidt, Wettbewerbspolitik und Kartellrecht, op. cit., 35 f.; Bain, Industrial Organization, op. cit., 37: "The policy conclusion drawn from this line of theorizing is that concentration of the control of economic affairs, through concentrated big business or other similar concentrations should be opposed per se as a matter of political principle."

77 Cf. Willeke, Franz-Ulrich, Wettbewerbspolitik, Tübingen 1980, p. 8, noting that remedial action (e.g., abuse control) would nonetheless be taken if this constellation led to bad performance.

78 Attempts have been made to determine schedules of competitive and non-competitive action, cf. Herdzina, Klaus, Marktentwicklung und Wettbewerbsverhalten, in: Bombach, Gottfried, et al. (eds.), Industrieökonomik: Theorie und Empirie, Tübingen 1985, pp. 105-120, 108.

79 Cf. Koch, Industrial Organization ..., op. cit., 436 f. Commonly this discussion is conducted under the heading of 'market failure'. For some treatment of the issue cf. Bator, Francis M., The Anatomy of Market Failure 72 QJE (1958), pp. 351-379; Broadway, Richard, and David E. Wildasin, Public Sector Economics, 2nd ed., Boston, Toronto 1984, pp. 60-66; Eickhof, Norbert, Wettbewerbspolitische Ausnahmebereiche und staatliche Regulierung, 36 JS (1985), pp. 63-79; and Schmidt, Wettbewerbspolitik und Kartellrecht, op. cit., 42-48.

In the following, we will deal with artificial causes⁸⁰ of competition impairment, which are due to the action of competitors or institutions; we will put our emphasis on action by competitors.⁸¹

Impairment of competition, in this context, will be viewed as a legal or actual restriction of relevant formal and/or material alternatives of choice in using competitive parameters. There are numerous ways of classifying such impairments. They can either be classified according to their impact on different levels in the chain of production and distribution⁸², or by their causes that is to say by the means by which they are brought about.⁸³ We will distinguish according to their causes between

- strategies which impair competition by contract or concerted action of legally independent enterprises (**negotiation strategies**);
- strategies which impede competitors by contract, e.g., tying arrangements or exclusionary practices, or actual conduct, e.g., discrimination and refusal to sell (**strategies of restrictive practices**); and
- strategies which reduce the number of economic agents as decision makers by external or overproportionate internal corporate growth (**concentration strategies**).⁸⁴

80 There is not really a clear distinction between these causes, and not even an unambiguous classification; cf. Hopmann, *Workable Competition* ..., op. cit., 172-174, who has termed sectors in which competition will not operate 'naturally exempted areas', and politically exempted areas sectors in which competition is not desirable. For comparable classifications cf. Bartling, *Leitbilder* ..., op. cit., 46; Herdzina, *Wettbewerbspolitik*, op. cit., 88-91.

81 Cf. Herdzina, *Wettbewerbspolitik*, op. cit., 89; and Willeke, *Wettbewerbspolitik*, op. cit., 66.

82 Cf. Schmidt, *Wettbewerbspolitik und Kartellrecht*, op. cit., 109, who mentions

- horizontal impairments among side-by-side competitors within a single relevant market;
- vertical impairments among economic agents that are linked to each other by a supplier-user relationship; and
- diagonal impairments among economic agents that are neither side-by-side competitors within a relevant market, nor linked to each other by a supplier-user relationship.

83 Cf. for the commonly used classification Zohlnhöfer, *Wettbewerbspolitik im Oligopol*, op. cit., 26-39 who identifies strategies of monopolizing, cooperation and integration.

84 Cf. Schmidt, *US-amerikanische* ..., op. cit., 79, and idem, *Wettbewerbspolitik und Kartellrecht*, op. cit., 109.

Our emphasis, as has been mentioned above, will be on the evaluation of the third category. Within this framework, impairments of competition have to be comprehended and evaluated. This is done by applying certain tests.

d. Intensity of Competition and the Adequate Test

The evaluation of the degree of effectiveness of competition in an actual situation is performed by competition tests which are based on the market characteristics and standards mentioned above.⁸⁵ The tests are intended to determine the tolerable degree of deviation from ideal standards. These standards have to be relevant empirically.

Whether economic or noneconomic standards are to be evaluated is a matter of normative judgment.⁸⁶ According to the three categories of market characteristics, we can apply tests of market structure, market conduct, and market performance⁸⁷, complemented by a test of market power that is to say, freedom to compete.⁸⁸ It seems necessary to include such a test since freedom to compete is not only an objective but a basic condition of effective competition.⁸⁹

An evaluation of these tests shows that our purpose is best served by adopting a market process test, which refers to structure and conduct.⁹⁰ This will be tested according to the question of whether freedom to compete

⁸⁵ Cf. Cox/Hübener, *Wettbewerbspolitik* ..., op. cit., 16; Herdzina, *Wettbewerbspolitik*, op. cit., 49; and Schuster, Helmut, *Wettbewerbspolitik*, München 1973, pp. 50-57 for a survey.

⁸⁶ Whereas some authors rely predominantly on the test of economic criteria, cf., e.g., Kantzenbach/Kalfass, *Das Konzept des funktionsfähigen Wettbewerbs*, op. cit., 113-115, others reject a test of economic criteria, holding that only the change in the extent and relative distribution of economic freedom is the crucial issue, cf., e.g., Hoppmann, *Zum Problem* ..., op. cit., 38 f. and 45.

⁸⁷ Cf. Klauss, op. cit., 24-30; Kaysen/Turner, *Antitrust Policy* ..., op. cit., 59; Schmidt, *Wettbewerbspolitik und Kartellrecht*, op. cit., 75-80, who lists types of tests (p. 75); and Schuster, *Wettbewerbspolitik*, op. cit., 50 and 53.

⁸⁸ Cf. Herdzina, *Wettbewerbspolitik*, op. cit., 86-99; and Schmidt, *Wettbewerbspolitik und Kartellrecht*, op. cit., 78-80.

⁸⁹ Cf. Herdzina, *Wettbewerbspolitik* ..., op. cit., 86.

⁹⁰ Cf. Herdzina, *Wettbewerbspolitik* ..., op. cit., 99; Kaysen/Turner, *Antitrust Policy* ..., op. cit., 60; and Schmidt, *Wettbewerbspolitik und Kartellrecht*, op. cit., 50 f.

is impaired unduly, since the latter is a sufficient condition of effectiveness.⁹¹

The authors who actually reject the tests of structure, conduct, and performance⁹² propose a market power test with regard to competitors, or a test of the bargaining process with regard to the economic agents involved in the direct line of the chain of production and distribution⁹³; or they do measure the effectiveness but solely by performance criteria.⁹⁴ It has to be noted, however, that this neglects the fact that these tests are used implicitly at any rate.⁹⁵

Performance tests as the sole basis for the evaluation of effectiveness have to be rejected since "formulating performance norms entails inelegant comparisons and subjective judgments of distributionally different nonoptimum alternatives".⁹⁶

91 For a critical evaluation of the tests cf. Herdzina, *Wettbewerbspolitik*, op. cit., 50, 60, 69 and 81 f.; Hoppmann, *Zum Problem ...*, op. cit., 38 and 45; as well as Schuster, *Wettbewerbspolitik*, op. cit., 51 f. and 54-56.

92 Cf. Hoppmann, *Zum Problem ...*, op. cit., 38 f. and 45; but see as well proponents of the Chicago School, cf., e.g., Posner, *The Chicago School ...*, supra, 928.

93 Cf. Edwards, Corwin D., *Maintaining Competition*, New York, 1964, pp. 9 f.: "... competition consists in access by buyers and sellers to a substantial number of alternatives and in their ability to reject those which are relatively unsatisfactory." Cf. as well Adelman, Maurice A., *Business Size and Public Policy*, 24 JB (1951), pp. 272-279; and Hoppmann, *Zum Problem ...*, op. cit., 39 and 45. These tests are specious, however, for the notion of adequate alternatives is actually a structural criterion, cf. Sosnick, *A Critique ...*, supra, 388.

94 Such as the proponents of Chicago antitrust, cf. Schmidt/Rittaler, *Die Chicago School ...*, op. cit., 44-53. In addition, performance-oriented approaches were suggested by Griffin, Clare E., *An Economic Approach to Antitrust Problems*, New York 1951; and Smith, Blackwell, *Effective Competition: Hypotheses for Modernizing the Antitrust Laws*, 26 NYULR (1951), pp. 405-450.

95 Cf. Herdzina, *Wettbewerbspolitik*, op. cit., 91 f.

96 Sosnick, *A Critique ...*, supra, 394. Cf. Kaysen/Turner, *Antitrust Policy ...*, op. cit., 53 f., 61 and 82: "..., we view any over-all evaluation of performance as impossible and therefore delusive as a basic standard of what workable competition is."; as well as Stegemann, Klaus, *Workable Competition nach zwanzig Jahren: Bemerkungen zu einem Buch von John Maurice Clark*, 9 HJWG (1964), pp. 237-255.

In addition to a general lack of operability of performance norms for such purpose,⁹⁷ there exists a lack of consistency regarding the free enterprise and the democratic political system. Tests are, therefore, preferred

"... that foster and maintain impersonal market processes as the main direct regulators of enterprise activity ..., (I)t may be argued substantively that impersonal regulations by the market is preferable to extensive bureaucratic regulation by men, and more consistent with our democratic political system."⁹⁸

Good and bad performance can have the character of indicia, however, pointing towards different intensities of competition and, therefore, to structural or behavioral deficiencies, or the boundaries of the relevant market.⁹⁹

3. The Treatment of Competition Impairment and Public Policy Alternatives

Public policy has to be viewed as a reversal of the theoretical analysis of the chain of causation, taking as a starting point the prerequisites or conditions of competition and not from its effects.¹⁰⁰

Public policy measures have to be taken if competition is impaired, the competitive process deviates from its ideal setting and antitrust objectives remain as a result unfulfilled.¹⁰¹ There are various approaches and rules that may be discerned in this context.¹⁰²

97 Cf. Kaysen/Turner, Antitrust Policy ..., op. cit., 53 f.; Schmidt, Wettbewerbspolitik und Kartellrecht, op. cit., 76; and Sosnick, A Critique ..., supra, 393 f.

98 Bain, Industrial Organization, op. cit., 498 f.; cf. as well Kantzenbach/Kallfass, Das Konzept des funktionsfähigen Wettbewerbs, op. cit., 115.

99 Cf. Schmidt, Wettbewerbspolitik und Kartellrecht, op. cit., 51; and Schuster, Wettbewerbspolitik, op. cit., 57, who takes the market process as his starting point and then evaluates the performance.

100 Cf. Möschel, Recht der Wettbewerbsbeschränkungen, op. cit., 53. For the comprehension of public policy as a part of an approach cf. Bartling, Leitbilder ..., op. cit., 59.

101 Cf. Scherer, Industrial market structure ..., op. cit., 491; Schmidt, Wettbewerbspolitik und Kartellrecht, op. cit., 141; and Schuster, Wettbewerbspolitik, op. cit., 132.

102 We will neither treat procedures, nor institutions in depth. These can be found in Möschel, Recht der Wettbewerbsbeschränkungen, op. cit., ch. 13; and Schmidt, Wettbewerbspolitik und Kartellrecht, op. cit., 162 f. for the Federal Republic of Germany; for the United States these can be found in Sullivan/Hovenkamp, Antitrust Law ..., op. cit., ch. 3; and Neale/Goyder, The Antitrust Laws ..., op. cit., chs. 12-14, all of them including further reference.

a. Approaches

The various approaches can be crossclassified by

- the degree of constraint that is put on the firm (e.g., laissez-faire vs. regulation), and
- the form of ownership (e.g., totally private vs. totally public).¹⁰³

Public policy approaches can overlap each other, are partly substitutable for each other and might even be complementary over wide areas.

Within this context we will neither consider a laissez-faire approach to anti-trust, since this would lead to a destruction of the competitive system,¹⁰⁴ nor will we take into account public ownership since this is not seen as a policy appropriate to the functioning of a free enterprise system.¹⁰⁵

Points of departure are once again the market characteristics structure, conduct, and performance which is in accordance with the quest for a policy which is appropriate to the functioning of a free enterprise system.¹⁰⁶

Actual public policy is characterized by two types. On the one hand, competitive market structure can be upheld or renewed (structure approach). On the other hand, if impairment of competition has already taken place, con-

103 Cf. Shepherd, Public Policies ..., op. cit., 12; for some additional classifications of public policies cf. Bartling, Leitbilder ..., op. cit., 60 f.; Greer, Industrial Organization ..., op. cit., 14-16; Scherer, Industrial market structure ..., op. cit., 475-496; and Schmidt, Wettbewerbspolitik und Kartellrecht, op. cit., 141-145.

104 Cf. as well, Rittaler, Jan B., Industriekonzentration und Macht - Notwendigkeit einer Neuorientierung?, 28 liberal (1986), pp. 29-36, 29; Schmidt, Wettbewerbspolitik und Kartellrecht, op. cit., 141 f.; and Hayek, Friedrich A. von, The Road to Serfdom, Chicago 1956, p. 58: "Liberalism teaches us that we should make the best use of the forces of competition in order to harmonize economic activities of individuals, it does not teach us to leave things to themselves."

105 Cf. Shepherd, Public Policies ..., op. cit., 9; and Schmidt, Wettbewerbspolitik und Kartellrecht, op. cit., 143 f. The same applies to regulation, which will be excluded from our inquiry because price regulations as a means of abuse control will not be treated. For some recent treatment of the issue cf. Pascher, op. cit.

106 For this position cf. as well Kantzenbach/Kalifass, Das Konzept des funktionsfähigen Wettbewerbs, op. cit., 115 and 121; and Schuster, Wettbewerbspolitik, op. cit., 134-138. For the meaning of 'adequacy' cf. Röpke, Wilhelm, Die Gesellschaftskrisis der Gegenwart, Erlenbach, Zürich 1942, p. 253.

duct and performance have to be corrected ex post (regulation approach).¹⁰⁷ There is a distinct preference for the structure approach:

"Where it" (i.e. competition) "does not work satisfactorily, preference is regularly given to attempting to improve the conditions of its operation, as against abandoning it and resorting to direct controls. The areas in which free and competitive market adjustments have been displaced by direct controls ... do not offer such conspicuous examples of success as to make us eager to increase their number unnecessarily."¹⁰⁸

Since neither approach by itself is considered to be a safeguard for the maintenance of effective competition, a combination of elements of structural and conduct control will be considered as the appropriate solution in the following.¹⁰⁹

b. Rules

In addition to the combination of structure and regulation approach, rules and/or principles are necessary for the shaping of a well-founded approach to antitrust. Three categories are important. These are established according to the criterion of what kind of impact a competitor's action is likely to have:¹¹⁰

- per se-rules vs. rules of reason,
- ex ante- vs. ex post-controls, and
- burden of proof with the public vs. burden of proof with the enterprise.

Competitors' actions are prohibited per se if they impair competition beyond all doubt. This means that under this condition competitors cannot plead certain circumstances or the reasonableness of their activity.¹¹¹

107 Cf. Bartling, *Leltbilder ...*, op. cit., 60 f.; Herdzina, *Wettbewerbspolitik*, op. cit., 114 f., 116-118 and 120; Scherer, *Industrial market structure ...*, op. cit., 491; and Schmidt, *Wettbewerbspolitik und Kartellrecht*, op. cit., 142-144, stating the case for concentrated industries showing undesirable performance (abuse control).

108 Clark, *Competition As A Dynamic Process*, op. cit., 486; and Schmidt, *Wettbewerbspolitik und Kartellrecht*, op. cit., 144 f.

109 Cf. OECD (ed.), *Market Power and the Law: A Study of the Restrictive Business Laws of the OECD Member Countries and of the EEC and ECSC dealing with Market Power*, Paris 1970, pp. 15 f. and 196 f.

110 Cf. Schmidt, *Wettbewerbspolitik und Kartellrecht*, op. cit., 145-148; for an additional survey cf. Möschel, *Recht der Wettbewerbsbeschränkungen*, op. cit., 55 f.

111 Cf. Koch, *Industrial Organization*, op. cit., 480.

A rule of reason is applied if the impact of competitors' actions is ambiguous. In such a case the parties are permitted to make their case as to the reasonableness of their actions. This means that competing evidence, probabilities, tendencies, and circumstances are weighed.¹¹² This can be done through judicial or administrative procedure.

Per se-rules can also be combined with exemptions for actions which have minor effects on competition. This actually has the effect of raising the level for public interference.

Per se rules with exemptions as well as rules of reason can be shaped by applying an ex post- or ex ante-control.¹¹³ Ex post-control is applied if - as a rule - the competitor's action is beneficial to competition, whereas ex ante-control will be chosen if competition - again, as a rule - is impaired by the competitor's action.

Crucial to the shaping of the per se-rule with exemptions and the rule of reason is the question of whether the burden of proof lies with the public or with the competitor.¹¹⁴

¹¹² The rule of reason in the United States originates in Standard Oil Company of New Jersey v. United States in 1911.

Per se rules have the advantage of clearly informing the competitors what is or is not permissible. They are therefore preferred, cf. Möschel, Recht der Wettbewerbsbeschränkungen, op. cit., 54 f.; or per se rules are seen as the only viable solution, cf. Hopmann, Erich, Fusionskontrolle, Tübingen 1972.

¹¹³ Cf. Schmidt, Wettbewerbspolitik und Kartellrecht, op. cit., 146 f. In this sense the rule of reason can be viewed as a substitute to the per se rule with exemptions.

¹¹⁴ With regard to public enforcement, the German as well as the U.S. bodies of law are characterized largely by a burden of proof which lies with the public.

III. Competition and Industrial Concentration

In the following, we will try to reveal principles governing the behavior of concentrated industries, and find out their implications for public policy.¹ Our emphasis will be on economic concentration but especially on the effects of industrial concentration on competition and the attainment of its objectives. The use of public policy objectives as guideposts is necessary in order to separate desirable outcomes of economic concentration from undesirable ones and in order to determine at what point public policy has to interfere.²

1. Concentration and Economic Theory

Since the appearance of Keynes' general theory in 1936, the interest of economists has mainly been on macroeconomic issues. In assuming that the model of perfectly competitive structures was irrelevant to real industry structure, economists took quite some time to realize that concentrated industry sectors did work under principles not only different, but often exactly the reverse of those applicable to competitive industry structures.³

a. Nature and Meaning of Economic Concentration

Concentration in economic theory has largely been an ambiguous phenomenon. For the field of industrial concentration at least this is true from the point in time when economists left the path of belief, asserting that industrial concentration was unpreventable due to a sort of technological impe-

1 Again, we have to emphasize that the free enterprise system does not possess a kind of natural protection but has to be protected by measures of public policy, cf. Schneider, Hans K., Beeinflussung der Konzentration als Ziel und Mittel der Wirtschaftspolitik, in: Arndt, Helmut (ed.), *Die Konzentration in der Wirtschaft: On Economic Concentration*, 2nd ed., vol. 1, Berlin 1971, pp. 437-457, 437. It is a question whether these principles governing concentrated industries are objective in nature or are the results of ideological premises, i.e. the belief in a distinct economic system, cf. Arndt, Helmut, and Günter Ollenburg, *Begriff und Arten der Konzentration*, in: Arndt (ed.), *Die Konzentration in der Wirtschaft...* op. cit., pp. 3-39, 17 f.

2 Cf. Giesel, *Unternehmungswachstum und Wettbewerb*, Baden-Baden 1975, p. 193; and Müller, Jürgen, and Rolf Hochreiter, *Stand und Entwicklungstendenzen der Konzentration in der Bundesrepublik Deutschland*, Göttingen 1975, p. 6.

3 Cf. Blair, *Economic Concentration ...*, op. cit., 1 f.

rative.⁴ Although there is strong evidence that no such imperative exists, tendencies to concentration are inherent to economic systems to a certain degree. So the question of evaluating concentration becomes a question of judging different economic systems with regard to their attitude towards industrial concentration and the objectives to be attained.⁵

A certain contradiction or dilemma results from the fact that free enterprise systems need a certain extent of decentralization of the structure of their economic decision units in order to function properly; on the other hand a minimal level of industrial concentration seems necessary as well, in order to reap economic advantages.⁶ However, too much concentration is associated with negative non-economic consequences for a society.⁷

Concentration can therefore be neither preferred nor condemned in an a priori sense. What we need in order to arrive at a sound economic evaluation is rather a theoretical basis - confirmed by empirical evidence - upon which we can determine the economic and non-economic outcomes at different

4 Cf. Arndt, Helmut, *Wettbewerbsprozesse, horizontale Konzentration und wirtschaftliche Entwicklung*, in: Arndt (ed.), *Die Konzentration ...*, op. cit., 185-199, 197; Eucken, Walter, *Technik, Konzentration und Ordnung der Wirtschaft*, in: Barnikel, Hans-Helnrich (ed.), *Probleme der wirtschaftlichen Konzentration*, Darmstadt 1975, pp. 43-59, 43 f.; Robert, Rüdiger, *Konzentrationspolitik in der Bundesrepublik Deutschland: Das Beispiel der Entstehung des Gesetzes gegen Wettbewerbsbeschränkungen*, Berlin 1976, p. 17.

5 Cf. Arndt/ Ollenburg, op. cit., 18.; Haussmann, Fritz, *Konzentrationsgründe: Theorien und wirtschaftspolitische Beurteilung der Konzentration*, in: Barnikel (ed.), *Probleme ...*, op. cit., pp. 1-42, 18.

6 Cf. Grosser, Dieter, *Einführung*, in: Grosser, Dieter (ed.), *Konzentration ohne Kontrolle*, 3rd ed., Opladen 1974, pp. 9-22, 11; Kantzenbach, Erhard, *Konzentration als Problem der Konkurrenzirtschaft*, in: Arndt (ed.), *Die Konzentration ...*, op. cit., 159-183, 162 and 167; and Schneider, *Beeinflussung der Konzentration als Ziel und Mittel der Wirtschaftspolitik*, in: Arndt (ed.), *Die Konzentration ...*, op. cit., 440 f.

7 Cf. Giesel, *Unternehmungswachstum und Wettbewerb*, op. cit., 193-195; Koch, *Industrial Organization ...*, op. cit., 182.

"Mergers (being a form of concentration, added by the author), like price fixing agreements, eliminate competition among the parties and do so permanently. But antitrust law has always been more hospitable to mergers than to cartels, perhaps because a merger might accomplish socially beneficial objectives without significantly affecting market prices; the integration of production, for example, may permit genuine economic efficiencies without any offsetting disadvantages when the merging parties have little market power" (emphasis added), Areeda, Phillip, *Antitrust Analysis: Problems, Text, Cases*, 2nd ed., Boston and Toronto 1974, p. 657.

stages or levels of concentration.⁸ Only on such a basis is it possible for public policy to optimize the objectives to be attained.

The term 'concentration' has a variety of meanings.⁹ If it is considered on a high level of abstraction it is hard to handle in economic analysis and, therefore, inoperational. It is for this reason that definitions are formulated with regard to the field actually under inquiry, such as, concentration of income, of property, of industries.¹⁰

Defined in general terms, economic concentration can be viewed as an accumulation of economically relevant quantities including discretionary disposition over means of production.¹¹

Different aspects of concentration can be discerned by cross-classification:

- The degree of concentration can be examined at an actual point in time, or concentration can be viewed as a process over time.
- There can be an even distribution of the concentration variable (e.g., sales) among the population units (e.g., firms) or an uneven distribution

8 Cf. Müller/ Hochreiter, Stand und Entwicklungstendenzen der Konzentration in der Bundesrepublik Deutschland, op. cit., 6 f.

9 Cf. Matschuk, Hans-Joachim, Arten und Messung der wirtschaftlichen Konzentration, in: Barnikel (ed.), Probleme ..., op. cit., pp. 584-612, 584. For some examples cf. Adelman, Maurice A., The Measurement of Industrial Concentration, 33 RESt (1951), pp. 269-296, 269; Arndt/ Ollenburg, op. cit., 7; Blair, John M., Statistical Measures of Concentration in Business, 8 BOIS (1956), pp. 351-372, 351; and Eucken, Technik, Konzentration ..., op. cit., 43 f.

10 Cf. Robert, Konzentrationspolitik ..., op. cit., 14; and Willeke, Franz-Ulrich, Wettbewerbspolitik, Tübingen 1980, p. 193.

11 Cf. Pohmer, Dieter, and Franz X. Bea, "Konzentration", in: HWB, 4th, rev. ed., Stuttgart 1975, cols. 2220-2234, 2221. It has to be noted that in Anglo-American literature attempts to define economic concentration have always been oriented towards empirically relevant facts, cf., e.g., Blair, John M., Seeds of Destruction, New York 1938, p. 237; Lintner, John, and J. Keith Butters, Effect of Mergers on Industrial Concentration, 1940-1947, 32 RESt (1950), pp. 30-48, 46; and Rosenbluth, Gideon, Concentration in Canadian Manufacturing Industries, Princeton 1957, for whom concentration means "the degree to which a small number of firms account for a large proportion of an industry's output.", p. 11.

of the concentration variable among the population units (absolute concentration versus disparity).¹²

- Qualitative issues can only be examined to a certain extent by the measurement of concentration variables. Qualitative outcomes, such as, for instance, power can often be clarified via soft research (e.g., hearings).¹³

b. Economic Concentration and Power

In traditional price theory the phenomenon of power has been a non-problem, since power has not been considered a relevant variable for the explanation of the economic process and was, therefore, considered an exogenous factor, which was held constant during economic inquiries by means of the *ceteris paribus* clause.¹⁴

It was not before the emergence of the German Historical School during the second half of the nineteenth century¹⁵ that this view was explicitly criticized by Gustav Schmoller, then one of the leading economists; it was only

12 Cf. Arndt/ Ollenburg, op. cit., 7; Piesch, Walter, and Ingo Schmidt, The suitability of concentration measures for EEC competition policy. Commission of the European Communities Studies Collection. Competition - Approximation of legislation series No. 35, p. 20; Schmidt, *Wettbewerbspolitik und Kartellrecht*, op. cit., 126 f.; and Willeke, *Wettbewerbspolitik*, op. cit., 194.

13 Cf. Arndt/ Ollenburg, op. cit., 7; Seraphim, Hans-Jürgen, *Theorie der Allgemeinen Volkswirtschaftspolitik*, 2nd ed., Göttingen 1963, p. 81 we will give this issue a closer look in the sections on economic power and concentration measures.

14 "If we look at the main run of economic theory ... we find that it is characterized by a strange lack of power considerations. More or less homogeneous units - firms and households - move in more or less given technological and market conditions and try to improve their economic lot within the constraints of these conditions. This model has been explored in great detail by modern economic science and very important insights of the market mechanism have been gained. But that people use power to alter the mechanism itself; that people may strive for economic power as much as for economic wealth; these facts have largely been neglected.", Rothschild, Kurt, *Power in Economics*, London 1971, p. 7; and idem, Macht: Die Lücke in der Preistheorie, in: Schneider/ Watrin (eds.), *Macht und ökonomisches Gesetz*, vol. 2, op. cit., pp. 1097-1111.

Arndt notes that the only form of economic power which existed for the neoclassicists was monopoly power, cf. Arndt, Helmut, *Wirtschaftliche Macht*, München 1974, 2nd ed. 1977, p. 129.

On this inclusion of power in traditional and modern price theory cf. Sohmen, Egon, *Machttheorie oder Preistheorie*, in: Schneider, Hans K., and Christian Watrin (eds.), *Macht und ökonomisches Gesetz*, vol. 2, Berlin 1973, pp. 1137-1153.

15 Cf. Hutchison, Thomas W., *The Politics and Philosophy of Economics: Marxians, Keynesians and Austrians*, New York, London 1981, p. 176.

then that traditional economics departed from the myth that in economic inquiries contracting parties involved with each other were of equal education, comparable knowledge and equally urgent needs.¹⁶

This can be viewed as the first attempt to inquire into the relationship between economics or competition and power. From this point in time, power has been widely accepted as a relevant endogenous variable within the economic process.

Until recently, the need to inquire further into this multidimensional relationship was commonly accepted. The current streams of antitrust policy, however, again tend to consider economic power as a variable external to the economic process and not having any influence on it. The political economy of power is largely neglected, therefore, and the assumption is made that the free market regulates economic activity and that therefore corporate size and power can be ignored.¹⁷

At least two reasons can be discerned for which power considerations are inevitably inherent in antitrust matters.¹⁸ For one, power does exist, although it may appear in many guises as economic or political, personal or organizational, private or public power. To paraphrase Justice Louis D. Brandeis, power may be exerted upon rivals, buyers, sellers, upon employers or upon employed by different and often changing means. The essence of this power is dominance which might simply arise from disproportionate size.¹⁹

Secondly, power is basically rooted in the organizational structure of an industry which, on the one hand, has decisive influence on industrial perfor-

16 Cf. Schmoller, Gustav, Über Bestrafung des Arbeitsvertragsbruches, in: *Schriften des Vereins für Socialpolitik* 1874, vol. 7, p. 93. The first in-depth inquiry into power as a dominant factor influencing the economic process and, thus, denying a sort of self-perpetuating economic process, was done by Böhm-Bawerk, Eugen v., *Macht oder ökonomisches Gesetz?*, 23 ZVSVw (1914), pp. 205-271.

17 "Unlike the political economists who founded our discipline, we largely ignore the power element in economic statecraft; and, lacking a theory of power, we seek to minimize the use of power in matters affecting the production and distribution of wealth.", Adams, Walter, and James W. Brock, *The Bigness Complex: Industry, Labor, and Government in the American Economy*, New York 1986, pp. 14 f.

18 Cf. Adams/Brock, *The Bigness Complex* ..., op. cit., 7-9; and Sohn, Karl-Heinz, Zur Phänomenologie der wirtschaftlichen Konzentration, in: Barnikel (ed.), *Probleme* ..., op. cit., pp. 103-141, 122 f.

19 Cf. the statements of Justice Brandeis in *American Column & Lumber Co. v. U.S.*, 257 U.S. (1921), p. 377.

mance, but, on the other hand, has also social consequences and, therefore, entails social costs.²⁰

If we want to analyze the anatomy of power, its physiology, and its consequences for the competitive process, we need a sound definition, or at least a description, of the phenomenon.

The essence of economic power is the firm's ability to insulate itself from the discipline imposed by the market or by the government or by both.²¹ Stated in positive terms, the firm is able to influence the operating conditions of the market and the judgments and evaluations of other economic agents, which would otherwise be fixed data for every one participating in the competitive process. In a generally encompassing formulation this means that economic power entails the option to change fixed data into variables or variables into fixed data, respectively.²²

Economic power is positively correlated to economic concentration in the sense that any kind of economic concentration tends to confer economic power.²³ Economic power may also exist without economic concentration but its degree might become unacceptable if economic concentration increases.

In the context of industrial concentration, the number and size distribution of firms are important determinants of market power. There are many ways of measuring this power.²⁴ The same applies to the interrelatedness of corporate size and market power or overall economic power.²⁵

20 Adams/Brock, *The Bigness Complex ...*, op. cit., 7 f.

21 Cf. Adams, Walter, *Antitrust, Laissez-Faire, and Economic Power*, in: Neumark, Fritz, et al. (eds.), *Wettbewerb, Konzentration und wirtschaftliche Macht*, Berlin 1976, pp. 11-17, 11. Power is the firm's actual capacity to avoid market or political sanctions for poor performance in the sense of predefined objectives.

22 Cf. Arndt, Helmut, *Ökonomische Theorie der Macht*, in: Arndt (ed.), *Die Konzentration ...*, op. cit., pp. 99-135, 105 f.

23 Cf. Sohn, *Zur Phänomenologie der wirtschaftlichen Konzentration ...*, op. cit., 122; and for industrial concentration and market power cf. Schmidbauer, *Allokation, technischer Fortschritt und Wettbewerbspolitik*, Tübingen 1974, p. 169 who states the commonly accepted hypothesis that concentration within an industry and market power as measured by proxy variables are positively correlated.

24 Cf. Greer, *Industrial Organization ...*, op. cit., 96; and Schmidbauer, *Allokation, ...*, op. cit., 161.

25 Cf. Adams/Brock, *The Bigness Complex ...*, op. cit., 7; and Nagel, Bernhard, *Fusion und Fusionskontrolle*, in: Cox et al. (eds.), *Handbuch des Wettbewerbs*, München 1981, pp. 331-365, 336.

The emergence of economic power and its extent depend on a variety of economic and non-economic conditions²⁶ which determine the power potential of economic units. Although they lack a final enumeration, these conditions can be grouped into the four categories Income and property, individual qualification, organizational structure, and the efficiency potential of economic units.²⁷

The power potential of economic units that is determined by these conditions results in the units' ability to change economic conditions and use their competitive parameters more freely than they would be able to do if power was distributed more evenly. Such power comprises the broad discretion to determine how society's resources are to be utilized. This, in fact, covers more than the ability to influence prices in a particular market. It also comprises the power to exploit mutual interdependencies, to erect barriers against new competition and thus stifle the emergence of new sources of supply.²⁸

Nevertheless, economic power can have the function of a market imperfection which initiates competitive moves; in this sense it is the factor which makes competition possible at all. In this function, power unleashes what Joseph A. Schumpeter called "the gales of creative destruction that control monopoly and neutralize the exercise of monopoly power".²⁹ It depends on whether power has a transient character or whether it becomes a permanent market characteristic due to strategies which restrain competition.³⁰

26 The emphasis lies on economic conditions, however, cf. Robert, Konzentrationspolitik ..., op. cit., 13 f.

27 Cf. Nicolini, Hans-J., Untersuchungen zu Erfassungen unternehmerischer Marktmacht, Göttingen 1978, pp. 42-52, referring to the sociological bases of power, heavily drawing on French, John R., and Bertram Raven, The Bases of Social Power, in: Cartwright, Dorwin (ed.), Studies in Social Power, Ann Arbor 1959, pp. 150-167, 155-164; and Seraphim, Theorie ..., op. cit., 81-103.

28 Cf. Adams, Antitrust, Laissez-Faire, and Economic Power, op. cit., 11.

29 Adams/Brock, The Bigness Complex ..., op. cit., 21; cf. as well Arndt, Wirtschaftliche Macht, op. cit., 9 f.

30 Cf. Adams, Antitrust, Laissez-Faire, and Economic Power, op. cit., 11; Hözlner, Heinrich, and Wolfgang Winkler, Wirtschaftliche Macht als Störfaktor von Wettbewerbsprozessen, in: Neumark, Fritz et al. (eds.), Wettbewerb, Konzentration und wirtschaftliche Macht, op. cit., pp. 71-93, 76; and Robert, Konzentrationspolitik ..., op. cit., 12.

Therefore, it is crucial whether power is used to stimulate the competitive process or whether it is abused to restrain competition. The permanence of undue power, as a rule, leads to a further restriction of competition or even to its elimination.

c. Features of Industrial Concentration

The current orientation of U.S. antitrust policy ascribes a minor role to the perils flowing from industry concentration. As is the case with economic concentration, which we have just dealt with, industrial concentration is *a priori* neither good nor bad; it simply has to be evaluated with regard to its underlying features, which is supposed to allow insights into the quality of its economic consequences.

aa. Significance

Under certain conditions industrial concentration can have undesirable economic and non-economic effects. In addition to this, further aspects seem crucial in justifying the dedication of research resources to the problem of industrial mergers.

Firstly, mergers are a significant factor among all formal components contributing to industrial concentration. In this context we will follow the line of reasoning of the German Monopolies Commission, which distinguishes between internal growth, mergers, entries of new firms and exit of existing firms as formal components determining the level of industry concentration.³¹

Secondly, mergers contribute to a significant extent to overall or aggregate concentration in an economy in general and in the German economy in particular.³² This is a valid aspect since our research conclusions concern the German Act Against Restraints of Competition.³³ German circumstances have

31 Cf. Monopolkommission, Hauptgutachten der Monopolkommission IV: Fortschritte bei der Konzentrationserfassung, Baden-Baden 1982, para. 706 f.

32 The terms overall concentration and aggregate concentration will be used as synonyms hereafter; there will not be a distinction between different sectors.

33 It is mentioned that the merger statutes play a crucial role in the anti-trust laws of the Federal Republic and the U.S. This can be viewed as an indication of the significance, cf., e.g., Markert, Kurt, Stand und Entwicklungstendenzen des US-Antitrustrecht 1987 aus der Sicht eines deutschen Kartellrechtsanwenders, in: FIW (ed.), Schwerpunkte des Kartellrechts 1985/86. Verwaltungs- und Rechtsprechungspraxis Bundesrepublik Deutschland, EG und USA, Köln et al., 1987, pp. 201-224, 218.

to be considered, therefore.

The extent of external concentration in the form of mergers is closely linked to the functioning of our economic system. The reason for this is that the system needs a certain level of decentralization among its economic decision units, as has been noted *supra*.³⁴ It therefore seems necessary to inquire into the question of whether such a level is determinable or what the line of reasoning should be for public policy if this is not the case (cf. Part 5 of this contribution).

First, we will try to answer the question of to what extent an increase in industry concentration is due to mergers, and **second**, we will characterize the connection between industry concentration and aggregate concentration.³⁵

The basic hypothesis is that industry concentration is due to a significant extent to mergers and that - as a consequence - market power as well as general economic power are essentially determined by mergers.³⁶

A variety of studies for different countries has been performed on this hypothesis. The studies have primarily been based on a concept that has been developed by Weiss for the separation of different components determining industry concentration. This analytical tool is also used by the German Monopolies Commission.³⁷ For the Federal Republic the studies using this analytical tool show that observed changes in industry concentration were

34 Cf. on this point again, e.g., Giesel, *Unternehmungswachstum und Wettbewerb*, op. cit., 167.

35 We will not be able to look closely at the merger pattern in the Federal Republic and the U.S. On the development cf. Adams/Brock, *The Bigness Complex ...*, op. cit., 152; Hughes, Alan, et al., *Hypotheses about Mergers*, in: Mueller, Dennis C. (ed.), *The Determinants and Effects of Mergers: An International Comparison*, Königstein/Ts., pp. 27-66, 17 and 22; Nelson, Ralph L., *Merger Movements in American Industry, 1895-1956*, Princeton 1959; and Scherer, *Industrial market structure ...*, op. cit., 70-73 and 124-126.

36 Cf. Giesel, *Unternehmungswachstum und Wettbewerb*, op. cit., 220. For a similar opinion Stigler, George J., 69 *Fortune*, May 1953, p. 162: "If big businesses are not more efficient, how did they get so big? The answer is that most giant firms arose out of mergers.", which implies a significant contribution to concentration by mergers.

37 Cf. *Monopolkommission, Hauptgutachten IV ...*, op. cit., para. 718.

initiated to a large extent by mergers.³⁸

As in Germany, industry concentration in the United States is also strongly determined by the merger component. But this is true to a lesser degree in comparison to the Federal Republic. This is attributed to the fact that the U.S. has a higher percentage of conglomerate mergers, which leads to a somewhat lower impact of market level concentration. This might be taken as evidence that merger control and its enforcement were very effective in terms of horizontal and vertical mergers in the U.S. before the Reagan Administration. An increase in the number and percentage has just recently been observed in the Federal Republic as well.³⁹

In summary, despite possible differences in methodology, emphasis, or particular features in the studies⁴⁰ mergers have an impact on industry concentration which justifies a closer inquiry from the view of empirical importance.

Two basic hypotheses may be postulated with regard to the interrelation of industry concentration and aggregate concentration:⁴¹

- enterprises that possess significant shares of the economy are often dominant in particular markets as well, and

38 Cf. the main studies Müller/ Hochreiter, Stand und Entwicklungstendenzen der Konzentration in der Bundesrepublik Deutschland, op. cit., 241 f.; Müller, Jürgen, The Impact of Mergers on Concentration: A Study of Eleven West German Industries, 25 JIE (1976), pp. 113-132. The same applies to the United Kingdom, cf. Hannah, Leslie, and J. A. Kay, Concentration in Modern Industry, London 1977, as well as Hart, Peter E., et al., Mergers and Concentration in British Industry, Cambridge 1973.

For the analytical tool used, cf. Weiss, Leonard W., An Evaluation of Mergers in Six Industries, 47 RES (1965), pp. 172-181; and Müller/ Hochreiter, Stand und Entwicklungstendenzen der Konzentration in der Bundesrepublik Deutschland, op. cit., 228-235.

39 Cf. Hughes et al., Hypotheses about Mergers, op. cit., 19.

For the U.S. studies cf. Federal Trade Commission, Economic Report on Mergers, Washington, D.C. 1969; McGowan, John J., The Effect of Alternative Anti-Merger Policies on the Size Distribution of Firms, 5 YEE (1965), pp. 423-474, esp. 455-459; and Preston, L. E., Giant Firms, Large Mergers and Concentration, Patterns and Policy and Policy Alternatives, 1954-1968, 1 IOR (1973), pp. 35-46.

40 For the problems of such studies in trying to separate the merger component from others affecting industry concentration, cf. Prais, S. J., The Evolution of Giant Firms in Britain, Cambridge 1976, pp. 16-24; Singh, Ajit, and Geoffrey Whittington, The Size and Growth of Firms, 42 RES (1975), pp. 15-26, 24 f.

41 Cf. Utton, Michael A., Aggregate versus Market Concentration: A Note, 84 EJ (1974), pp. 150-155.

- aggregate dominance may augment the enterprise's power within a specific market.⁴²

Aggregate or economy-wide concentration encompasses the share of total economic activity accounted for by the largest enterprises in that economy, regardless of their specific markets or the economic sector (e.g., manufacturing, mining, transportation, services) they are in.⁴³ The interrelation of industry concentration and overall or aggregate concentration is quite easy to compute, although the generation of the underlying data is a serious problem. With regard to the foregoing factors its implications are difficult to assess.⁴⁴

For the U.S. it can be shown that overall concentration within the entire private economy has not changed significantly during the past two decades. Overall concentration has rather declined slightly in recent years if measured, for instance, by non-financial assets:⁴⁵

Tab. 4: Overall Industry Concentration and Aggregate Concentration*

	1958	1963	1967	1972	1977	1982
Top 50	23,9	24,2	24,5	23,2	22,7	21,8
Top 100	31,6	31,3	31,9	30,5	29,7	28,2
Top 200	40,0	39,9	41,0	39,7	38,3	36,1

* Percent of total non-financial corporate assets held by the 50, 100, and 200 largest non-financial corporations: 1958-1982

Source: Memorandum of the Bureau of Economics of the Federal Trade Commission,
Washington, D.C., 1986

42 Cf. Greer, Industrial Organization ..., op. cit., 123.

43 Cf. Hughes et al., Hypotheses about Mergers, op. cit., 13 f., also on the reasons for a predominant role of aggregate concentration in the economy; for a somewhat imprecise definition cf. Greer, Industrial Organization ..., op. cit., 122, who speaks of "relatively small groups of enterprises". Aggregate concentration is often used to describe the share of total economic activity accounted for by the largest firms in the **specific economic sectors**.

44 Cf. Shepherd, William G., Public Policies Toward Business, 7th ed., Homewood, Ill. 1985, p. 219. Cf. as well Tab. 4.

45 Cf. White, Lawrence J., What Has Been Happening to Aggregate Concentration in the United States?, 29 JIE (1981), pp. 223-230; and idem, Mergers and Aggregate Concentration, in: Keenan, Michael, and Lawrence J. White (ed.), Mergers and Acquisitions, Lexington, Mass. and Toronto 1982, pp. 97-111, 107.

For some authors it has not increased since the 1930s, Hughes et al., Hypotheses about Mergers, op. cit., 17.

Aggregate economic concentration being largely constant, there has been a steady turnover among the leading companies. In addition, the structure of aggregate concentration has changed in the sense that low concentration sectors of the U.S. economy such as services, trade, finance, enjoyed a rather rapid growth in comparison to high concentration sectors such as, for instance, transportation, communications, and public utilities.⁴⁶ This development was also influenced by the different sizes of the sectors:

Tab. 5: Structural Change of Aggregate Concentration in the U.S.*

	1968	1970	1972	1974
All Industries				
Top 50	20,8	21,4	21,4	23,1
Top 200	34,3	35,5	35,3	36,9
Top 500	45,9	47,3	47,1	48,6
Manufacturing				
Top 50	36,6	37,7	37,5	38,0
Top 200	57,2	59,8	59,7	60,5
Top 500	68,6	71,6	71,9	73,2
Trade				
Top 50	20,0	21,1	20,6	21,7
Top 200	28,2	30,0	29,4	30,9
Top 500	33,6	35,6	35,2	37,1
Services				
Top 50	21,3	20,1	20,6	20,2
Top 200	31,8	31,0	32,0	33,5
Top 500	n.a.	38,4	39,8	41,2

* Percent of total corporate assets held by the 50, 200, and 500 largest corporations in various sectors: 1968-1974

Source: Shenefield, John H., Statement in the Hearings on Mergers and Economic Concentration, Part 1, U.S. Senate Subcommittee on the Antitrust, Monopoly, and Business Rights, Washington, D.C. 1979, pp. 86-92.

46 Cf. on the turnover Stonebraker, Robert J., Turnover and Mobility among the 100 Largest Firms: An Update, 69 AER (1979), pp. 968-973; and on the structure of aggregate concentration, Greer, Industrial Organization ..., op. cit., 124 f.

While overall concentration has not changed significantly, industry concentration has greatly increased in the U.S. and, with it the chances that undesirable effects might occur.⁴⁷

For the Federal Republic it has been shown that aggregate concentration steadily increased in the period during 1954 and 1971, coming nearly to a standstill between 1971 and 1973⁴⁸; since then it has slightly decreased, as shown by the Main Reports of the German Monopolies Commission.⁴⁹

With regard to industry level concentration, the MC has begun measuring the levels and trends of concentration on the basis of production statistics (so-called commodity groups) which comes close to the concept of the relevant market.⁵⁰ Although official regulations on classified statistical information made substantial modifications necessary, it has been made obvious that there is a predominance of commodity groups characterized by rising concentration (93 groups) over commodity groups falling in concentration (64 groups) in a medium-term analysis.⁵¹

bb. Causes

The clarification of the causes of concentration is impeded by the fact that these causes are multivariate in nature and interwoven with each other.⁵² This makes it difficult to separate single causes from each other and to determine their individual importance. In addition, methodological problems contribute to the difficulty as well.⁵³

The crucial finding in dealing with the causes of concentration is that no concentration imperative exists in the sense that concentration is an inevi-

47 Cf. Hughes et al., *Hypotheses about Mergers*, op. cit., 15-17

48 Cf. Hughes et al., *Hypotheses about Mergers*, op. cit., 17; Müller/ Hochreiter, *Stand und Entwicklungstendenzen der Konzentration in der Bundesrepublik Deutschland*, op. cit., 118 f.

49 Cf., e.g., Monopolkommission, *Hauptgutachten V: Ökonomische Kriterien für die Rechtsanwendung*, Baden-Baden 1984, para. 56; and Monopolkommission, *Hauptgutachten VI: Gesamtwirtschaftliche Chancen und Risiken wachsender Unternehmensgrößen*, Baden-Baden 1986, para. 66.

50 Cf. Monopolkommission, *Hauptgutachten IV* ..., op. cit., para. 33.

51 Cf. Monopolkommission, *Hauptgutachten VI* ..., op. cit., paras. 39-41. This tendency is not as distinct if measured by the developments in industry branches (para. 56).

52 Cf., Eucken, Walter, *Grundsätze der Wirtschaftspolitik*, 5th ed., Tübingen 1975, p. 235.

53 Cf. Lenel, Hans O., *Ursachen der Konzentration*, 2nd ed., Tübingen 1968, pp. 42 f., and 51-53.

table industrial process as Karl Marx has stated.⁵⁴ This does not disprove the hypothesis that two categories of concentration causes exist. There is one category in which the causes are more or less objective in nature such as technological developments and capital market imperfections, and a second category of causes rather subjective in nature, such as speculation motives of economic agents and aggrandizing (empire building).⁵⁵

Numerous possibilities for the classification of concentration causes exist in the economic literature. It is rather a matter of actual practicability for a special purpose than a matter of justification or falsification of single classifications that determines our choice.⁵⁶

In its Fourth Main Report, the German Monopolies Commission (MC) has introduced a classification which distinguishes so-called first-line and second-line causes of concentration. Whereas the second-line causes are simply the actual visible outcomes of the concentration process, namely internal growth, external growth, market entry and market exit, the first-line causes are the underlying determinants of the visible outcomes. The MC discerns the following first-line causes though it may not be claimed that the list is exhaustive:⁵⁷

- **public legal framework**, encompassing legal rules such as, certain corporate or personal tax laws;
- **capital market imperfections**, as a result of unequal access to capital markets due to corporate size;

54 Cf. Jöhr, Adolf, Konzentration als Problem der Theorie der Wirtschaftspolitik, in: Arndt (ed.), Die Konzentration ..., op. cit., pp. 459–512, 475 f.

The thesis that industrial concentration is an inevitable phenomenon was later also adopted by some modern economists, cf., e.g., Salin, Edgar, Kartellverbot und Konzentration, 16 Kyklos (1963), pp. 178–200, 195.

55 Cf. Haussmann, Konzentrationsgründe ..., op. cit., 1; for this reason we often find a rough classification in the Anglo-American literature which differentiates between real changes in demand or cost conditions and speculative or managerial motives, cf., e.g., Shepherd, Public Policies ..., op. cit., 217 f.

56 For some of the common classifications cf. Hughes et al., Hypotheses about Mergers, op. cit., 29–38; Jöhr, Konzentration als Problem ..., op. cit., pp. 470 f.; Kantzenbach, Konzentration als Problem der Konkurrenzwirtschaft ..., op. cit., 168; Shepherd, Public Policies ..., op. cit., 217 f.; and Sohn, Zur Phänomenologie der wirtschaftlichen Konzentration ..., op. cit., 110–112

57 Cf. Monopolkommission, Hauptgutachten IV ..., op. cit., ch. VI, esp. para. 705–715; Schmidt, Wettbewerbspolitik und Kartellrecht, op. cit., 127; and similar Greer, Industrial Organization ..., op. cit., 113 f.

- **economies of large size**, due to cost savings in production, distribution or administration;
- **restrictive practices**, possibly decreasing the number of firms in a market or possibly stimulating competition;
- **patents**, banning entry of newcomers or protecting newcomers;
- **research and development**, due to economies of size in R & D and financing; and
- **advertisement**, due to economies of size in advertising.

Two causes deserve special attention. Firstly, there is the hypothesis that in addition to systematic determinants of concentration processes, chance plays a significant role in determining the degree of concentration (*Gibrat's Law*).⁵⁸ The large extent of systematic variations in similar markets across different nations, however, shows that chance is responsible for some degree of concentration in every industry but nonetheless plays a relatively minor role in determining industry concentration levels.⁵⁹

Second, public policy in the fields of antitrust, government procurement, regulation, and the setting of the institutional framework (e.g., rules and laws) have to be considered as major determinants of industrial concentration. The hypothesis holds that the government can heavily influence industry concentration by the setting of the framework, which comprises the setting of particular tariffs, quotas, licenses, franchises, and patents.⁶⁰ This is of particular importance since public policy which is restricted simply to changing of the framework is unlikely to impair the freedom to compete. This kind of public policy therefore seems to be appropriate to our approach, therefore.

58 Cf. Greer, Industrial Organization ..., op. cit., 114-116; for one of the most prominent findings cf. Marcus, Matityahu, A Note on the Determinants of the Growth of Firms and Gibrat's Law, 3 CJE (1969), pp. 580-589.

59 Cf. Pryor, Frederic L., An International Comparison of Concentration Ratios, 54 REST (1972), pp. 130-140, 138 f.

60 Cf. for the most prominent authors, Adams, Walter, and Horace Gray, Monopoly in America: The Government as Promoter, 2nd ed., New York 1957; and Machlup, Fritz, Political Economy of Monopoly, Baltimore 1952, p. 182: "Governments, apparently, have never been able to make up their minds as to which they dislike more, competition or monopoly."

For some recent findings with regard to corporate and personal taxation policy in the Federal Republic, cf. Monopolkommission, Hauptgutachten IV ..., op. cit., para. 740-774.

The economic rationality assumption is the basis of most empirical studies on merger motives.⁶¹ This assumption is reflected by objective variables or proxies, such as size, growth, economies of scale, market share, profits etc. Although the separation of individual merger motives poses empirical problems because of possible fake-motives, a lack of consistency in the motives, the problem of operationalization etc., the multivariate nature of merger motives has been documented by a variety of empirical studies; this was noted *supra*.⁶² In addition, there is the theoretical problem of whether causes and effects can be separated from each other accurately. Very often it is the interdependence that dominates the field. For instance, economies of size cause concentration, whereas concentration can then be a major cause of restrictive practices which - in turn - can be a major cause of increased industrial concentration again.

If we take a closer look at the question of which motives are decisive in determining the various levels of concentration or merger activity, we very quickly discover that there are only surmises and no hard and reliable findings. For instance, it is assumed that economies of size and speculation dominated the first merger wave from 1897 until 1904 in the U.S., whereas it was thought to be speculation during the second wave (1920-1931) and speculation and diversification in the conglomerate movement of the recent past.⁶³

The German Monopolies Commission has stated that the only reasonable hypothesis that can be held currently is that mergers determine industrial concentration to a large extent and that the framework of public and private

61 Cf. Goldberg, Walter H., *Mergers: Motives, Modes, Methods*, New York 1983, p. 9, who notes (p. 12) that motives inconsistent with this rationality assumption (e.g., empire building) are often only available via "soft research", i.e., personal questioning.

62 Cf., e.g., Aldrich, Howard E., *Organizations and Environment*, Englewood Cliffs, N.J. 1979; Ansoff, Igor H. et al., *Acquisition Behavior of U.S. Manufacturing Firms, 1946-1965*, Nashville, Tenn. 1971; *Economic Concentration*, Hearings before the Subcommittee on Antitrust and Monopoly of the Committee on the Judiciary, United States Senate, Washington 1964-1969, vol. 1-8a; and Steiner, Peter O., *Mergers: Motives, Effects, Policies*, Ann Arbor 1975, esp. pp. 31 ff., who classifies merger motives into broader categories.

63 Cf. Kantzenbach, Erhard, *Konzentration als Problem der Konkurrenzwirtschaft* ..., op. cit., 169.

law plays a major role in determining the level of concentration. Further inquiries are still to be carried out.⁶⁴

cc. Effects

We have pointed out supra that industrial concentration can have undesirable economic and non-economic effects. The significance for antitrust issues results from the stochastic character of the interrelatedness between different levels of concentration, competitive conduct and performance criteria, the latter serving as operationalizations of predefined antitrust objectives. We will try to specify these effects in the following by presenting possible effects on our objectives which have the function of standards.⁶⁵

The effects of concentration are ambiguous since concentration neither indicates an inevitable decrease in the effectiveness or the vigor of competition - as can be shown, for instance, in relation to the world economy during the last two decades - nor a lower degree in the attainment of the predefined objectives chosen, although this can be the case.⁶⁶

With regard to general economic consequences of mergers, the effects can be grouped into three categories: effects on competition, effects on perfor-

64 Cf. Monopolkommission, Hauptgutachten IV ..., op. cit., para. 715 and 730.

65 This has been stated concisely by Sullivan, Lawrence A., Handbook of the Law of Antitrust, St. Paul, Minn. 1977, p. 576, who emphasizes the significance of particular levels of concentration and the need for additional empirical data for the purpose of assessing the possible consequences of mergers, making possible reliable predictions about competitive effects, and developing useful generalizations that will reduce the need for case by case analysis.

Effects that are due to the different forms of mergers will be presented in the second part of Part 2 of this contribution when the different forms are analyzed with regard to the special problems they pose for antitrust.

66 Cf. Schmidt, Wettbewerbspolitik und Kartellrecht, op. cit., 82; Schuster, Helmut, Wettbewerbspolitik, München 1973, p. 112; as well as Hughes et al., Hypotheses about Mergers, op. cit., 20 and esp. 48 f.: "Thus, merger-induced increases in firm size, in addition to the consequences mentioned ..., may also have important threshold effects and enable successful exporting and innovative activity to occur. Mergers may also lead to rapid plant rationalization in response to industrial change and can have similar effects to certain kinds of interfirm cooperation agreements in reducing uncertainty and promoting higher levels of investment and of product and process innovation than might otherwise be the case."

mance, and effects on global aggregate concentration.⁶⁷

If the vigor of competition is reduced this leads to a reduction in economic performance by an impairment of efficiency and a slowing down of innovation, although there is no precise quantification of the underlying correlation.⁶⁸ There have been attempts to measure the allocational efficiency losses due to industrial concentration by a welfare model introduced by Harberger. These attempts have come to ambiguous results, however, either seeming to understate or to overstate the losses actually occurring in allocative efficiency and posing serious methodological problems, to which we will recur infra.⁶⁹

However, efficiency might on balance be raised if economies of scale, economies due to vertical integration (transaction cost economies) and other benefits or synergisms (e.g., economies of scope) outweigh the above mentioned efficiency losses.⁷⁰ These are difficult to assess, however. This consideration shows that even in terms of a rough analysis we are in an area of uncertainty for the time being. We will therefore inquire further into this issue in Part 3 of our contribution.

With regard to the freedom to compete - which is the non-economic objective we will consider - the crucial question is whether a systematic interdependency between concentration and the actual degree of freedom of the competitors can be found in the sense of a general rule (per se-rule) or whether a case by case evaluation has to be applied (rule of reason). For the time being all that can be said is that rising industry concentration increases the possibility of the freedom to compete to be impaired, just was mentioned

67 Cf. Shepherd, Public Policies ..., op. cit., 219 f. The effects on competition will be treated infra and the relation to aggregate concentration has already been sketched supra. We will therefore look at performance in the following.

68 Cf. Kantzenbach, Konzentration als Problem der Konkurrenzirtschaft ..., op. cit., 179; and Shepherd, Public Policies ..., op. cit., 220.

69 Cf. for a survey Kaufer, Industrieökonomik, op. cit., 287-295; Böbel, Wettbewerb und Industriestruktur, op. cit., pp. 177-192; and for the studies, Harberger, Arnold C., Monopoly and Resource Allocation, 44 AER (1954), pp. 77-87; Kamerschen, David R., An Estimation of the "Welfare Losses" from Monopoly in the American Economy, 4 WEJ (1966), pp. 221-236; and Worcester, Dean A., New Estimates of the Welfare Loss to Monopoly: 1956-1969, 40 SEJ (1973/74), pp. 234-245.

70 Cf. Shepherd, Public Policies ..., op. cit., 222.

above with regard to restraints of competition.⁷¹ At what level of concentration this becomes 'undue' in the sense of the yardstick of our approach of effective competition still has to be determined.

d. Forms of Industrial Concentration

We are able to distinguish a variety of different forms in examining industry concentration, depending on the criteria we use for classification.⁷² If the criterion of geographic delineation is chosen, for example, we are able to discern regional, national, and international concentration. Choosing the criterion of productivity, we have to distinguish between concentration which increases productivity and concentration which decreases it.

Within the scope of industry concentration, market power is determined mainly by the market share the firm holds, the barriers to entry to this market, the level of market concentration, and the financial potential of the market participants. In the context of industrial concentration it is the market share criterion which is the one primarily referred to.

The process of industrial concentration can be cross-classified by the different ways of growth, whether it is achieved by internal growth or external growth⁷³, and with regard to the direction of the concentration process, whether it occurs in a horizontal, vertical, or diagonal direction.⁷⁴

Internal as well as external growth are distinguished by the techniques that are chosen by the firms in order to increase their capacity in a market. These techniques encompass internal growth strategies of existing companies,

71 Cf. as well Kantzenbach, Konzentration als Problem der Konkurrenzwirtschaft ..., op. cit., 172 f. and 178; and similar Robert, Konzentrationspolitik ..., op. cit., 20.

72 Cf. Arndt, Helmut, et al., in: Enzyklopädie, col. 905 ff.

73 Cf. Willeke, Wettbewerbspolitik, op. cit., 189, 195 and 198; Neiser, Jens, Die Praxis der deutschen Fusionskontrolle, Berlin 1981, p. 72; Schuster, Wettbewerbspolitik, op. cit., 103.

74 Cf. Blair, Economic Concentration ... op. cit., 2; Schmidt, Wettbewerbspolitik und Kartellrecht, op. cit., 130-134; and Shepherd, Public Policies ..., op. cit., 216.

the building of horizontal, vertical, or diagonal concerns by the existing firms, and joint ventures.⁷⁵

aa. Internal Growth

Internal growth is characterized by an increase in production capacity by a firm through the building of new capacity that has not been in that market before.⁷⁶ Only if internal growth is overproportionate is concentration raised within a market.⁷⁷

bb. External Growth

External growth integrates capacity which has already been in the market and which, therefore, is not additionally built up by the growing firm.⁷⁸

The most common form of external growth is mergers. Putting our emphasis on mergers in the following, we will use the term "to describe a permanent union of previously separate enterprises ... generally irrelevant whether either or both corporations survive as a matter of corporate law".⁷⁹ As has been noted above, growth and, therefore, mergers as well - as the most im-

75 Cf. Willeke, *Wettbewerbspolitik*, op. cit., 195-198, who adds new entries of firms, the owners of which have not been entrepreneurs before. We will treat this as new entry, instead. For consideration of joint ventures as an external form of growth, cf. Neiser, *Die Praxis der deutschen Fusionskontrolle*, op. cit., 74.

76 Cf. Schuster, *Wettbewerbspolitik*, op. cit., p. 103; Schmidt, *Wettbewerbspolitik und Kartellrecht*, op. cit., 135; Willeke, *Wettbewerbspolitik*, op. cit., 189.

It is possible to discern different directions of the concentration process within internal growth as well, but it does not seem useful to pursue them further since internal growth as a rule is horizontal growth.

77 This is not quite right since the degree of concentration - as has been mentioned *supra* - is formally determined by internal growth, external growth, exits of firms as well as new entries, cf. Monopolkommission, *Hauptgutachten IV* ..., op. cit., para. 706 f., and p. 196.

78 Cf. Willeke, *Wettbewerbspolitik*, op. cit., 198; and Schmidbauer, *Allokation*, ..., op. cit., 238 f.

79 Areeda, *Antitrust Analysis* ..., op. cit., 657. The corporate law definition is judged to be too narrow for antitrust applicability "since the consequences for competition on the market may be the same if an enterprise directly or indirectly adds resources of another enterprise to its own.", Hopt, Klaus J., *Merger Control in Germany: Philosophies, Experiences, Reforms*, in: Hopt, Klaus J. (ed.), *European Merger Control: Legal and Economic Analyses on Multinational Enterprises*, vol. 1, Berlin and New York 1982, pp. 71-99, 83. The specification of the criteria (such as, percentage of stock or assets) 'union' or of the term 'corporate influence' is carried out by the legislator according to relevant circumstances (e.g., laws).

portant form of external growth - can be distinguished by the direction which the economic integration process takes: i.e. horizontal, vertical, and diagonal (conglomerate) mergers.

(1) Horizontal Mergers

Horizontal market concentration is the form of concentration which has received the most attention in the past. With regard to the supply side, it embodies the control of a given industry or market by a rather small number of producers that are totally or at least significantly engaged in that industry.⁸⁰ In this context, a horizontal merger is the union of two or more direct competitors that have the emphasis of their activities within the same relevant market and, therefore, at the same stage within the chain of production and distribution.⁸¹

(2) Vertical Mergers

Vertical mergers are characterized by the fact that the acquiring firm and the acquired firm produce different economic goods. In order to be judged a vertical integration, these products, however, have to be within the same stream of production and distribution process, although at different levels.⁸² There is either the possibility that the acquiring firm engages in a later stage of the production process (forward integration) or that it engages in an earlier stage of the production-distribution process (backward integration).⁸³

80 Cf. Blair, Economic Concentration ..., op. cit., 2; and Willeke, *Wettbewerbspolitik*, op. cit., 189.

81 Cf. Greer, Industrial Organization ..., op. cit., 127; Schmidt, *Wettbewerbspolitik und Kartellrecht*, op. cit., 130; and Shepherd, Public Policies ..., op. cit., 216.

82 Cf. Greer, Industrial Organization ..., op. cit., 127 f.; Schmidt, *Wettbewerbspolitik und Kartellrecht*, op. cit., 131; and Shepherd, Public Policies ..., op. cit., 216.

83 Cf. Blair, Economic Concentration... op. cit., 2 and 25: "Vertical concentration refers to operations by a company in 2 or more industries representing successive stages in the flow of materials or products from an earlier to a later stage of production or vice versa. The degree of an industry's vertical concentration is the share of its output produced by companies primarily engaged in an earlier or later stage in the flow of materials or products."; and Willeke, *Wettbewerbspolitik*, op. cit., 189 f.

(3) Conglomerate Mergers

Diagonal concentration which leads to the conglomeration of firms can be defined either in negative or in positive terms. Negatively defined, "conglomerate mergers are all those that are neither horizontal nor vertical"⁸⁴ (emphasis in the original). Since conglomerate mergers, in turn, cover different forms and, as a rule, pose special problems in actual merger cases, as has to be shown infra, it is necessary to subdivide them into different classes.⁸⁵

Four classes have been developed and commonly accepted in the antitrust literature:⁸⁶

- **market extension mergers** link companies that act in different geographic areas but produce within the same relevant market;
- **product extension mergers** are characterized by the fact that the acquiring firm adds to its product line products which are related in terms of the uses, the distribution channel etc.;
- **reciprocal mergers**, which enable the parties to perform reciprocal dealings by being situated indirectly along the same line of production and distribution (e.g., a dealer merging with a producer squeezing the wholesaler);⁸⁷

84 Greer, Industrial Organization ..., op. cit., 128; cf. also Blair, Economic Concentration ..., op. cit., 2 and esp. 41: "Conglomerate concentration may be defined as the possession of a share of a given industry's resources or activity by companies that are primarily engaged in other industries but are not suppliers or users of the given industry's products."

85 "Because it is so hard to grapple with this 'all-other' conglomerate category, elaborate efforts are sometimes made to define quasi-horizontal or quasi-vertical subcategories or even to escape the problem by insisting that anticompetitive mergers are not really conglomerate. But the essential question is not one of definition but of the merger's competitive consequences.", Areeda, Antitrust Analysis ... , op. cit., 780.

86 Cf., e.g., Neiser, Die Praxis der deutschen Fusionskontrolle ..., op. cit., 73; Shepherd, Public Policies ..., op. cit., 216. From a slightly different point of view, Schmidt, Wettbewerbspolitik und Kartellrecht, op. cit., 132 f.; and Greer, Industrial Organization ..., op. cit., 128; the latter does not include reciprocal dealings. With a certain extent of justification, the German Federal Cartel Office (Bundeskartellamt) judges product extension mergers within the category of horizontal mergers, cf. Bundeskartellamt, Tätigkeitsbericht 1977, p. 118.

87 This is often characterized by the expression "I will buy from you if you buy from me", and may exclude rivals from the affected markets; it is close to a vertical merger, cf. Greer, Industrial Organization ..., op. cit., 134; and Neiser, Die Praxis der deutschen Fusionskontrolle ..., op. cit., 74.

- **pure conglomerate mergers**, involving merging parties who do not have anything in common with regard to the features of their economic output as is true the case for example with, say, a retail grocer and a furniture manufacturer.

We will henceforth emphasize horizontal and vertical mergers and provide a thorough treatment of them in Parts 3 and 4 of this contribution by an analysis of their economic bases as well as of former and present public policy towards these forms of mergers.

2. Measurement of Economic Concentration

a. Analysis of Economic Concentration

An analysis of concentration in a group of commodities, in an industry and/or in an economy can be performed in two ways. Firstly, there can be a quantitative analysis of interdependencies among economic variables which characterize the market process. This sort of formal analysis is performed as a rule by statistical methods.

Secondly, the primary shortcoming of this kind of analysis (e.g., the possible neglect of other economic factors influencing market power) leads to the necessity of a complementary qualitative analysis emphasizing the dependent variable. In the context of the analysis of industrial concentration this would mean that the consequences of rising industrial concentration on power cannot always be made comprehensible by statistical instruments because power might change without affecting statistically relevant variables. This can be compensated for by hearings in which experts on the issue at stake are being questioned on the qualitative interdependencies of these variables.

Changes in economic quantities such as sales and market share, however, can be fairly good indicators or proxies for qualitative outcome changes.⁸⁸

The analysis of industrial concentration mainly relies on the market as a basis quantity. However, this can lead to deficiencies measuring other forms

88 Cf. Schmidbauer, Allokation, ..., op. cit., 163.

of industrial concentration than horizontal.⁸⁹

Market power can be considered as only one aspect of the total socio-economic phenomenon of power. Additional criteria for the judgment of economic power have to be considered, therefore, which are external to the scope of markets, such as the impact of the firm's financial abilities or its political influence.⁹⁰

b. Defining the Relevant Market

Some further specification of the term 'market' seems necessary if it is to serve for antitrust purposes.⁹¹ This is the case because an actual analysis of competition can only be performed in the context of markets. Therefore, the area of competitive interaction within which monopoly power as a counterpart to competition is exercised has to be determined.⁹² If these actual market conditions are to be precisely characterized by statistical measures, the relevant market does serve as a basis for measurement as well.⁹³ The need for further specification has also risen from the wording of the rele-

89 "This purpose supplies an answer to our earlier question of how to measure the size of firm: two firms are equal in a market if they sell or buy equal quantities in that market. Hence measure a firm's size by sales, in a product market";, Stigler, George J., *The Organization of Industry*, Homewood, Ill. 1968, p. 30.

There is a lack of adequacy, for instance, in attempts to comprehend conglomerate concentration or mergers by the traditional market concept, cf. Schmidt, *Wettbewerbspolitik und Kartellrecht*, op. cit., 55. As in the case of material concentration analysis, other approaches have to be developed for this purpose.

90 Cf. Freitag, Dieter, *Wirksamer Wettbewerb und potentielle Konkurrenz*, 21 WuW (1971), pp. 294-305; Matschuk, Arten und Messung ..., op. cit., 594.

91 For an introductory survey, cf. Turner, Donald F., *The Role of the "Market Concept" in Antitrust Law*, 49 ALJ (1980), pp. 1145-1153.

92 Cf. Kaufer, Erich, *Die Bestimmung von Marktmacht: Dargestellt am Problem des relevanten Marktes in der amerikanischen Antitrustpolitik*, Bern and Stuttgart 1967, p. 89; Klaus, Gerd, *Die Bestimmung von Marktmacht*, Berlin 1975, p. 111, and Sullivan, *Antitrust Law* ..., op. cit., 41 and 605.

93 Cf. Greer, *Industrial Organization* ..., op. cit., 102; Schmidbauer, *Allokation*, ..., op. cit., 175.

vant sections of the German and U.S. American antitrust laws.⁹⁴ If this need were taken to its logical extreme and the chain of reasoning thus reversed, a market would be considered relevant only if effective competition according to our approach, could be diagnosed within its boundaries.⁹⁵

A market in antitrust is termed relevant if its boundaries are chosen in a way that all firms⁹⁶, or, more precisely products that compete with each other, are within these boundaries:⁹⁷

"A 'relevant market,' then, is the narrowest market which is wide enough so that products from adjacent areas or from other producers in the same area cannot compete on substantial parity with those included in the market."

Different aspects of a relevant market have to be distinguished. The market has to be defined with regard to its product scope, its geographic extension as well as to its time dimension.⁹⁸ Whereas the geographic dimension is mainly relevant in cases where transportation costs amount to a significant part of the product's price or value or in cases of selling services, the time

94 Cf. Monopolkommission, Hauptgutachten V ..., op. cit., para. 606.

"A monopoly involves the power to raise prices or to exclude competition, when the monopolist desires to do so... Since by definition monopoly involves the power to eliminate competition it is clearly relevant in the determination of the existence of a tendency to monopoly in ... any ... line of business the area or areas of existing effective competition in which monopoly power might be exercised must first be determined" (emphasis added), Transamerica Corp. v. Board of Governors, 1953 CCH Trade Cases § 67,536 at p. 68,600.

95 Cf. Schmidt, Wettbewerbspolitik und Kartellrecht, op. cit., 54, as well as Sullivan, Antitrust Law ..., op. cit., 74. For a similar position, cf. Lanzillotti, Robert F., Market Structure and Antitrust Vulnerability, 8 AB (1963), 853-871, 859. This criteria cannot be considered operational, however, although it is analytically precise.

96 Cf. Greer, Industrial Organization ..., op. cit., 103.

97 Sullivan, Antitrust Laws ..., op. cit., 41.

98 Cf. Greer, Industrial Organization ..., op. cit., 103; Müller/Hochreiter, Stand und Entwicklungstendenzen ..., op. cit., 41; and Schmidt, Wettbewerbspolitik und Kartellrecht, op. cit., 49.

Some authors add a personal dimension, cf. Lampe, Hans-Eckhard, Wettbewerb, Wettbewerbsbeziehungen, Wettbewerbsintensität, Baden-Baden 1979, p. 67. Whether this is theoretically correct, can be disputed since it can be considered a part of consumers' preferences. At any rate, it is an impractical dimension for antitrust purposes.

dimension is relevant if the economic exchange is restricted to certain periods of time.⁹⁹

The product scope, i.e. the question of what products with regard to their actual features are to be included in the relevant market poses the most serious problems.

Different approaches to the definition of product scope can be distinguished.¹⁰⁰ All the approaches that have been considered viable in defining the relevant market are comparable with each other because they have the substitution possibilities in consumption as a common basis.¹⁰¹ They should therefore lead to similar results if applied in an actual case of definition. If the products are held to belong to the same relevant market this means that in the view of the consumer the products should be substitutable for each other with regard to the consumers' needs. Some authors are of the opinion that products should be included in the relevant market as well if a high flexibility in the producer's production facilities and equipment exists.¹⁰²

This basic idea of substitution or production flexibilities has led to the attempt to measure these flexibilities by cross-price elasticities of demand and supply. On the demand side the concept holds that goods belong to the

99 Cf. Monopolkommission, Hauptgutachten der Monopolkommission III: Fusionkontrolle bleibt vorrangig, Baden-Baden 1980, ch. 5; Müller/Hochreiter, Stand und Entwicklungstendenzen ..., op. cit., 44; Schmidt, Wettbewerbspolitik und Kartellrecht, op. cit., 54; and Sullivan, Antitrust Laws ..., op. cit., 42.

100 For a survey cf. Schmidt, Wettbewerbspolitik und Kartellrecht, op. cit., 49-54.

101 Cf. Monopolkommission, Hauptgutachten V ..., op. cit., para. 611 f.; Müller/Hochreiter, Stand und Entwicklungstendenzen..., op. cit., 41 f.; Scherer, Industrial market structure ..., op. cit., 60; and Schmidt, Wettbewerbspolitik und Kartellrecht, op. cit., 52.

102 Cf. Kaufer, Die Bestimmung ..., op. cit., 11 f.; Kaysen, Carl, and Donald F. Turner, Antitrust Policy: An Economic and Legal Analysis, Cambridge, Mass. 1959, p. 295: "In order to define a market we attempt to obtain information on cross-elasticities of both demand **and supply**. Such information is rarely available directly, but must be approximated by evidence on consumer behavior ... and on the degree of specialization of equipment ..." (emphasis added).

same relevant market if they show significant cross-price elasticities.¹⁰³ It has to be noted critically, however, that the measure is manipulable because suppliers have an interest in deliberately determining the boundaries of the relevant market:¹⁰⁴

"In these cases, defendants may argue for a narrow market so that the merger contemplated or affected would be one between firms not competing in the same market, or they may seek to broaden it so that any combination would generate a firm that has only a small market share."

Therefore, the measure is the outcome rather than the determinant of the competitive process. The concept must therefore be rejected or restricted to special cases.¹⁰⁵

In order to determine whether substitute products should be included in the market, the concept of reasonable interchangeability¹⁰⁶ has been developed. The concept is a paraphrase of the basic idea of product substitutability. According to the concept of reasonable interchangeability, all goods belong to a relevant market that - in the consumers' view - are interchangeable for

103 Cf. Kaufer, Die Bestimmung ..., op. cit., 6-8; Klauss, Die Bestimmung ..., op. cit., 114-118; Schmidt, Wettbewerbspolitik und Kartellrecht, op. cit., 51; Sosnick, Stephen A., A Critique of Concepts of Workable Competition, 72 QJE (1958), pp. 380-423, 401.

This does not mean that attempts are made to extract precise numerical values. Rather a 'soft' evaluation of the substitution possibilities is carried out, cf. for the difficulties Boyer, Kenneth D., Degrees of Differentiation and Industry Boundaries, In: Calvani, Terry, and John Siegfried (eds.), Economic Analysis of Antitrust Law, Boston 1979, pp. 88-106; and Stegemann, Klaus, Cross Elasticity and the Relevant Market, 130 JITE (1974), pp. 151-165.

104 Karsh, Bruce A., The Role of Supply Substitutability in Defining the Relevant Product Market, 65 VLR (1979), pp. 129-151, 129 note 1.

105 Cf. Klauss, Die Bestimmung ..., op. cit., 115; and Schmidt, Wettbewerbspolitik und Kartellrecht, op. cit., 51.

106 Cf. Henrichs, H., Die Abgrenzung des relevanten Marktes im Licht der neueren Rechtsprechung zum Antitrustrecht, 17 WuW (1967), pp. 255-273, 262-264; and Singer, Eugene M., Antitrust Economics: Selected Legal Cases and Economic Models, Englewood Cliffs, N.J., 1968, pp. 56-61.

United States v. E.I. du Pont de Nemours & Co., op. cit., at p. 71,593: "In considering what is the relevant market for determining the control of price and competition, no more definite rule can be declared than that commodities **reasonably Interchangeable** by consumers for the same purposes make up 'part of the trade or commerce,' monopolization of which may be illegal.", (emphasis added).

a specific purpose.¹⁰⁷ It differs from the idea of cross-price elasticity in that it tries to include competitive parameters in addition to the price, such as the quality of the product and product features.¹⁰⁸ Its theoretical accuracy is widely accepted nowadays, although it is characterized by a number of practical difficulties.¹⁰⁹ These can be found not only within the field of data collection but are also involved in the question of how to consider imports and exports for the definition of the relevant market.¹¹⁰

The concept is refined by two additional criteria (peculiar characteristics and uses).¹¹¹ Firstly, goods are interchangeable with regard to their basic function if they serve an identical or at least a similar purpose with regard to their actual features. Primarily this means a comparison of their chemical and physical characteristics.¹¹² Secondly, this functional interchangeability has to be verified by the actual choice of the consumer. The actual interchangeability is determined by the price and the quality of the product as well as by the consumers' preferences.¹¹³

The actual procedure takes the form of questioning dealers and/or consumers by means of panels or related methods.¹¹⁴

¹⁰⁷ Cf. Kaufer, *Die Bestimmung ...*, op. cit., 21; Neiser, *Die Praxis der deutschen Fusionskontrolle*, op. cit., 55.

¹⁰⁸ Cf. Singer, *Antitrust Economics ...*, op. cit., 56-58.

¹⁰⁹ Cf. Monopolkommission, *Hauptgutachten V ...*, op. cit., para. 616; for a similar evaluation cf. Schmidt, *Wettbewerbspolitik und Kartellrecht*, op. cit., 51.

¹¹⁰ Cf. Greer, *Industrial Organization ...*, op. cit., 104 f.; Müller/Hochreiter, *Stand und Entwicklungstendenzen...*, op. cit., 43; and Schmidbauer, *Allokation ...*, op. cit., 176.

It has to be noted, however, that the U.S. Bureau of Census attaches great importance to similarity of production processes as well as of product uses by using four digit industries in its standard Industrial classification (SIC). The same applies to the German Monopolies Commission, which has enlarged its index in its Fourth Main Report from the Industry concept to a concept acknowledging product classes, so-called groups of commodities, cf. Monopolkommission, *Hauptgutachten IV ...*, op. cit., para. 33. These so-called four digit numbers represent definitions of about the right amount of detail for the purpose of delineating the relevant market, cf. Greer, *Industrial Organization ...*, op. cit., 104.

¹¹¹ Cf. Kaufer, *Die Bestimmung ...*, op. cit., 91 f.

¹¹² Cf. Klauss, *Die Bestimmung ...*, op. cit., 128.

¹¹³ Cf. Kaufer, *Die Bestimmung ...*, op. cit., 24 f.

¹¹⁴ Cf. Schmidt, Ingo, *US-amerikanische und deutsche Wettbewerbspolitik gegenüber Marktmacht*, Berlin 1973, p. 49; and Klauss, *Die Bestimmung ...*, op. cit., 129. For a similar opinion cf. Monopolkommission, *Hauptgutachten V ...*, op. cit., para. 618.

An additional issue is whether and to what extent potential competition has to be considered for proper delineation of the relevant market. On the one hand, this seems relevant from the consumers' view since potential competition might include substitution possibilities, whereas on the other hand, potential competition is closely related to the question of supply flexibility of short run and/or long run alternatives of existing products.¹¹⁵

Mainly for the reason that the consideration of such additional criteria poses practical judgmental problems, potential competition should only be taken into account by the concept of barriers to entry.¹¹⁶

c. Measures of Industrial Concentration

The attempt to measure economic concentration originates in the field of income distribution where it has been elaborated on and developed especially considering questions of interpersonal income distribution. These attempts considered largely the extent of deviation from an even income distribution using fairly simple statistical techniques.¹¹⁷

For a profound analysis of industrial concentration, there is a need for a variety of statistical preconditions, such as the selection of the population units (e.g., firms), the determination of the population (e.g., sales), the population value, or the distribution of the population total over the units, and the period of time being considered.¹¹⁸

115 Cf. on this question Monopolkommission, Hauptgutachten V ..., op. cit., para. 631–633; and Karsh, The Role of Supply Substitutability ..., supra, 131: "Supply substitutability occurs when a firm engaged in the production of one good can shift its operations quickly and inexpensively to producing another good."

116 Cf. for this opinion Klauss, Die Bestimmung ..., op. cit., 143; Monopolkommission, Hauptgutachten V ..., op. cit., para. 654 and 657; Schmidt, Wettbewerbspolitik und Kartellrecht, op. cit., 53, who points out that the neglect of potential competitors in the context of the delineation of the relevant market is in accordance with the legal wording of Sec. 22 para. 1 ARC; cf. however, Scherer, Industrial market structure ..., op. cit., 61: "At the risk of being somewhat arbitrary, we should probably draw the line to include as substitutes on the production side only existing capacity that can be shifted in the short run, i.e. without significant new investment in plant, equipment, and worker training."

117 Cf. Matschuk, Arten und Messung ..., op. cit., 594 f.

118 Cf. Schuster, Wettbewerbspolitik, op. cit., p. 100; for the terminology cf. Piesch/Schmidt, The suitability of concentration measures ..., op. cit., 20 f.

The intention behind measuring industry concentration is somewhat different in comparison to other fields of economic concentration. Effective competition is associated with the attainment of predefined antitrust objectives. Power as a counterpart to effective competition is associated with a lesser degree of goal attainment. Within the field of industry concentration, therefore, the need arises to determine market power and thereby identify potentials for the abuse of power.¹¹⁹

The choice of the actual statistical index is determined by the basic understanding of the competitive process underlying the inquiry. This, however, may make such inquiries arbitrary and limit their explanatory power.¹²⁰ The choice of measurement is therefore closely connected with the underlying theoretical model:¹²¹

"Ideally, the choice should be based upon how well an index accords with relevant underlying economic theory. Certain theories do support a definite preference. **Nevertheless, theory provides conflicting guidance**" (emphasis added).

There are two main approaches in measuring industrial concentration and monopoly power, a performance approach and a structural approach. With regard to the structural dominance within our approach to effective competition, we prefer the latter as it focuses on observable dimensions of market structure. The measurement of industrial concentration then becomes the

119 Cf. Müller/Hochreiter, Stand und Entwicklungstendenzen ..., op. cit., 29. Stigler instead gives a formal definition of the purpose consistent with a performance orientated measurement: "The *purpose* of a measure of concentration is to predict the extent of the departure of price (or, alternatively, of rate of return) from the competitive level." (italics in original), Stigler, The Organization of Industry, op. cit., 30.

120 Cf. Arndt, Wirtschaftliche Macht, op. cit., 46; Müller/ Hochreiter, Stand und Entwicklungstendenzen ..., op. cit., 31 f.; cf. as well Greer, Industrial Organization ..., op. cit., 97, for whom indices for the measurement of concentration and power are structural indices in nature and in order to be effective they must provide fairly accurate predictions of market conduct and performance.

Piesch/Schmidt, The suitability of concentration measures ..., op. cit., 39: "The conventional statistical approach to measuring concentration starts from the idea of a firm holding a dominant position on the market, ... When statistical concentration increases, the intensity of competition can then be presumed to decrease and market power to increase."

121 Scherer, Industrial market structure ..., op. cit., 58.

measurement of the relationship between changes in structural dimensions as independent variables and performance criteria as dependent variables.¹²²

Attempts have been made to postulate sets of criteria which serve as theoretically accurate yardsticks in choosing measurement indices of industrial concentration. As a consequence, adequate statistical indexes of concentration should be congruent with reality and should provide a descriptive illustration of the phenomenon to be measured. The choice of the actual index determines the requirements that the quality and quantity of the data have to fulfill.¹²³ This leads to the fact that no one index by itself is an ideal index since individual indices contain advantages and disadvantages depending on the actual circumstances of the inquiry, i.e. its immediate purpose. The same applies to most of the summarical indexes that try to take account of different aspects of concentration. The disadvantages can only be got around by combining individual indices and thus minimizing their individual shortcomings.¹²⁴

122 The main performance-oriented measure is the so-called Lerner-index which is defined as (price - marginal cost) divided by price and directly reflects the allocatively inefficient departure of price from marginal cost associated with monopoly, cf. Scherer, Industrial market structure ..., op. cit., 56; and for the original source cf. Lerner, Abba P., The Concept of Monopoly and the Measurement of Monopoly Power, 1 RES (1934), pp. 157-175.

123 Cf. Hannah/ Kay, Concentration in Modern Industry, op. cit.; Monopol-kommission, Hauptgutachten IV ..., op. cit., para. 716 f. Greer proposes a more pragmatic approach, postulating three requirements. Indexes must be (1) easy to calculate, (2) sensitive to major structural changes over time, and (3) indicative of structural power across diverse markets and firms, cf. Greer, Industrial Organization ..., op. cit., 97.

124 Cf. Scherer, Industrial market structure ..., op. cit., 64; and Shepherd, Public Policies ..., op. cit., 388.

The most commonly accepted and used indices are the concentration ratios and the *Hirschman-Herfindahl* index.¹²⁵ The concentration ratio is an index which combines the absolute numbers of the population units (e.g., firms) and the fractions of the population total that each population unit holds. It presents the percentage of revenues or sales accounted for by an absolute number of the largest firms in the market. Usually the 4, 8 or 20 largest firms are considered (CR₄, CR₈ or CR₂₀). Nevertheless, this method has several shortcomings.¹²⁶ Only one slice out of all firms is described, no information about the size distribution within the slice is provided and structural factors other than market share are neglected.

The *Hirschman-Herfindahl* index is the sum of the squares of the size shares that the firms have in a particular market. The size shares are expressed by the firm's proportion of total market revenues or sales.¹²⁷ In mathematical notation this can be represented as:

$$HHI = \sum_{i=1}^n \left[\frac{X_i}{T} \right]^2$$

where T represents total market sales, X_i stands for the sales of individual firm i, and n is the number of the firms in the market. The main shortcoming of the index is the lack of data available. For this reason, mostly concentration ratios are used.

125 Cf. Schmidt, Ingo, and Wolfgang Ries, Der Hirschman-Herfindahl-Index (HHI) als wettbewerbspolitisches Instrument in den neuen US-Fusionsrichtlinien, 33 WuW (1983), pp. 525-534.

For some comparative studies on the suitability of concentration measures cf. Kilpatrick, Robert W., The Choice Among Alternative Measures of Industrial Concentration, 49 RESt (1967), pp. 258-260; Marfels, Christian, A Bird's Eye View to Measures of Concentration, 20 AB (1975), pp. 485-501; Kwoka, John E. Jr., Does the Choice of Concentration Measure Really Matter?, 29 JIE (1981), pp. 445-453; and Plesch/ Schmidt, The suitability of concentration measures ..., op. cit., 33-37, and 40, who also present the Linda index for the determination of further details of an oligopolistic group structure.

126 Cf. Greer, Industrial Organization ..., op. cit., 99-101.

127 Cf. Scherer, Industrial market structure ..., op. cit., 58; and Schmidt/ Ries, Der Hirschman-Herfindahl-Index ..., supra. The Herfindahl measure decreases as the number of firms increases, and increases as the dispersion of firm market shares from the industry average increases.

IV. Concluding Remarks

In Part 1 of the contribution submitted we have presented the theoretical foundation of our approach. In subpart I we have started with the premise that competition is the most adequate instrument for the coordination of economic activities and securing an economic order because of its nature and because of its preferable effects on predefined economic objectives.

We have found competition to be a dynamic process which is characterized by initiatory moves and imitative responses. Within this process, market imperfections are viewed as the result of initiatory competitive action and, at the same time, prerequisites for imitative competitive action. The anonymous pressure on prices and costs that is exerted by competition, and that cannot be influenced by the market participants, tends to contribute to the realization of goals by forcing on the market participants an economically rational behavior.

It has been found that competition as a control and steering instrument is not self-maintaining. There is a "construction default" in the free enterprise system which will inevitably lead to the destruction of this system if it is not protected by public policy because competitors will try to impair the socioeconomic instrument of competition by noncompetitive action since this will bear individual advantages. We have concluded this issue by juxtaposing the U.S. American and German policy approaches to antitrust violations.

In subpart II we suggested three levels of objectives for the purpose of a rational policy approach. Level one comprised commonly accepted values which can be viewed as ethical premises. A set of functions was stated on a second level, the fulfilment of which furthered the attainment of the more basic aims and underlying values. Furthermore, on a third level, norms within the market categories structure, conduct and performance were seen as operationalizations of these functions. As a result, conflicts among these functions can possibly occur but do not have to occur.

Hereafter, we evaluated the possibility of finding operational criteria for the purpose of separating competitive from noncompetitive conduct. We emphasized that the interrelations among the structure of an industry, the conduct of firms in the industry, and the industry's performance which standardize the competitive process are complex, and there is a lack of secure

knowledge. An evidence for a structural predominance was confirmed, nevertheless, which makes the paradigm an auxilliary means with regard to judging competition Intensity. Therefore, the fulfilment of actual norms within the paradigm became a necessary condition, although not a sufficient one.

For this reason, freedom to compete as a preliminary sufficient condition resp. criterion was introduced in order to separate competitive from noncompetitive behavior. This was done by asking whether the freedom to compete would be restricted **unduly** in an actual situation. For the purpose of determining the intensity of competition, we have found our purpose to be served best by adopting a market process test, defined by structure and conduct. Rejecting a laissez-faire approach to antitrust just as well as public ownership since they were not seen as policies adequate to the functioning of a free enterprise system, we stated a distinct preference for a structure approach of public policy in a following step.

Within the economic treatment of concentration in subpart III, industrial concentration was seen a priori as neither preferable nor condemnable. In order to reach a sound economic evaluation, we testified a need for a theoretical basis confirmed by empirical evidence for the determination of economic and non-economic outcomes at different levels of concentration.

The current tenet of antitrust theory was presented as to consider economic power only a variable external to the economic process and not having any influence on it. The political economy of power was seen as being largely neglected, assuming that the free market would regulate economic activity and, therefore, corporate size and power could be ignored.

We found mergers to contribute to aggregate concentration significantly. The underlying causes for mergers were seen as multidimensional, just as well as the forms of internal and external corporate growth.

We have completed the treatment of industrial concentration by evaluating options for measurement. We stated a distinct preference for concentration ratios and the Hirschman-Herfindahl Index. The adequate delineation of the relevant market within this scope was done on the basis of the concept of reasonable interchangeability.

In the following **Part 2** of the contribution submitted, we will now try to analyze the essential hypotheses and assumptions underlying the current theoretical edifice. This will be completed in **Parts 3 and 4** with special regard to horizontal and vertical mergers.

Part 2: The Central Elements of the Current Theoretical Edifice

Particularly, as far as the economic subject of industrial concentration is concerned, the current tenet in antitrust theory in the United States, associated with the Chicago School, is based on the belief that given a particular structure of an industry large-sized companies in concentrated industries have achieved their size only because of distinct efficiency advantages over smaller competitors.

This is compounded by the belief that the various factors of the particular industrial structure play only a minor role in determining performance levels in specific industries, and that therefore solely business conduct should be of importance.

We will, therefore, analyze the central elements of the current theoretical edifice with regard to:

- whether or not efficiency considerations were and are the exclusive concern of antitrust in the United States, comparing the results to the concerns and goals of the Act against Restraints of Competition (ARC) of the Federal Republic of Germany;
- the adequacy and usefulness of neoclassical price theory and the static partial equilibrium model used by adherents to the current tenet in their analyses of antitrust problems; and
- the impact of market share, degree of industrial concentration, and impediments to new competition as the most important factors of industrial structure influencing economic efficiency and the interrelations among each of these factors.¹

I. The Current Debate on The Goals of Antitrust: Economics or Socio-politics?

We have already emphasized the importance of an explicit system of antitrust goals to provide a link between antitrust theory and policy on the level of positive economics. Antitrust policy cannot be understood, implemented, and evaluated until the ends are defined that such policy should pursue. There

1 In this Part of the contribution we will restrict our analysis to the role that impediments to new competition play and their interrelation with economic efficiency. The Impact of the degree of Industry concentration and different market shares on efficiency will be treated in Part 3.

are no policy objectives which are generally valid. Therefore, the setting of antitrust policy goals reflects a choice of normative character.²

The importance of a precise definition of goals becomes obvious in the following remarks by former Professor, now Judge, Robert H. Bork:

"Antitrust policy cannot be made rational until we are able to give a firm answer to one question: What is the point of the law - what are its goals? Everything else follows from the answer we give. Is the antitrust judge to be guided by one value or by several. If by several, how is he to decide cases where a conflict in value arises? Only when the issue of goals has been settled is it possible to frame a coherent body of substantive rules."³

Although the term 'competition' that the law is to preserve has not been clearly defined in the sense of what goals are supposed to be pursued through this competition and which of these goals are meant to prevail in situations where they conflict, the U.S. Federal Supreme Court has stated on several occasions that the object to be protected is competition itself, and that the antitrust laws have a variety of goals within this overall object of protection.⁴ It was held that "under the existing antitrust statutes the courts may properly implement a variety of mutually inconsistent goals, most notably the goals of consumer welfare and small business welfare".⁵

This view was challenged some time ago by proponents of the Chicago School. This challenge led to a considerable dispute over the ultimate goal(s) the various U.S. Congresses had in mind when they passed the antitrust statutes. The controversy arose largely because the antitrust statutes are

2 For the reasoning along this line cf. Fox, Eleanor M., The Modernization of Antitrust: A New Equilibrium, 66 *CornLR* (1981), pp. 1140-1192, 1155; Kauper, Thomas E., The Goals of United States Antitrust Policy: The Current Debate, 136 *JITE* (1980), pp. 408-434, 408 and 416; Möschel, Wernhard, Recht der Wettbewerbsbeschränkungen, Köln et al. 1983, p. 74; and Schmidt, Ingo, *Wettbewerbspolitik und Kartellrecht: Eine Einführung*, 2nd ed., Stuttgart 1987, p. 33.

3 Bork, Robert H., *The Antitrust Paradox: A Policy at War with Itself*, New York 1978, p. 50.

4 Cf. Lande, Robert H., Wealth Transfers as the Original and Primary Concern of Antitrust: The Efficiency Interpretation Challenged, 34 *HastLJ* (1982), pp. 67-151, 67 note 2.

5 Bork, Robert H., *Antitrust and Monopoly: The Goals of Antitrust*, 57 *AER* (1967), pp. 242-253, 242 (emphasis added); and Hovenkamp, Herbert H., Distributive Justice and the Antitrust Laws, 51 *GWLR* (1982), pp. 1-31, 20.

rather vague. Their wording is frequently ambiguous, and therefore needs interpretation with regard to legislative history and intent, especially in cases of individual application.⁶

In the following, we will characterize the current single-goal efficiency orientation in the U.S. and its anti-posture as documented by scholarly commentary. We will then analyze the legislative history of the antitrust statutes, the adjudicative development on the Supreme Court level and critically add some plausibility considerations, all of these referring to Sec. 7 of the Clayton Act. In addition, we will present a recent "rent-seeking" explanatory attempt. Finally, we will analyze the German circumstances with regard to the legislator's motives in introducing antitrust laws and a merger control system by the Second Amendment to the Act against Restraints of Competition.

1. The Current Efficiency-Orientation

Whereas the economists adhering to the traditional tenet were not able to discover a singular congressional intent with regard to antitrust legislation, proponents of the Chicago School hold that all policy making by the government and the enforcement agencies - especially in the field of antitrust - should be exclusively concerned with the notion of consumer welfare which

6 "(W)hen the words are free from doubt they must be taken as the final expression of the legislative intent, and are not to be added to or subtracted from by considerations drawn ... from any extraneous source.", *Caminetti v. United States*, 242 U.S. (1917), pp. 470 ff., 490. On the reliance of courts on legislative history cf. Posner, Richard A., *Economics, Politics, and the Reading of Statutes and the Constitution*, 49 UChILR (1982), pp. 262-291, esp. 272-280.

On the history of this debate cf. Blake, Harlan M., and William K. Jones, *In Defense of Antitrust*, 65 ColLR (1965), pp. 377-400, esp. 377-382; and for the original dispute cf. *Antitrust Jurisprudence: A Symposium of the Economic, Political and Social Goals of Antitrust Policy*, 125 UPLR (1977), pp. 1182 et seq.

finds its equivalent in the concept of efficiency.⁷ The term 'competition', the protection of which is unambiguously the official rationale of the antitrust statutes, is supposed to describe a specific state of the market in which consumer welfare cannot be increased by judicial decree.⁸

A primary criticism is that the U.S. Federal Courts - in over 80 years - have not been able to agree for any extended period of time upon a definitive statement of the law's goals, despite the fact that this should have been a matter of some importance. Accordingly, extensive confusion may have arisen that "is likely to leave the impression that antitrust is a cornucopia of social values, all of them rather vague and undefined but infinitely attractive".⁹

Proponents who claim that efficiency should be the primary concern of anti-trust policy attempt to find support in legislative history as well as in the interpretation of legislative and adjudication.¹⁰ Because of the difficulties in perceiving the ratio legis, they argue, not only legal wording should be taken into account, but also the intentions that are inherent in the application of the law. As a result, it is concluded that

"(t)he language of the antitrust statutes, their legislative histories, the major structural features of antitrust law, and considerations of the scope, nature, consistency, and ease of administration of the law all indicate that the law should be guided solely by the criterion of consumer welfare".¹¹

7 Cf., e.g., Bork, Antitrust and Monopoly ..., supra, 243 f., *idem*, The Antitrust Paradox, *op. cit.*, ch. 2; Bork, Robert H., and Ward S. Bowman, The Crisis in Antitrust, 65 *ColLR* (1965), pp. 363-376, 369; Posner, Richard A., The Economics of Justice, pp. 92-94; *idem*, The Ethical and Political Basis of the Efficiency Norm in Common Law Adjudication, 8 *HofLR* (1980), pp. 487-507; *Idem*, The Chicago School of Antitrust Analysis, 127 *UPLR* (1979), pp. 925-952, 933 f.; and Areeda, Phillip, and Donald F. Turner, Antitrust Law: An Analysis of Antitrust Principles and Their Application, Boston and Toronto 1978, vol. 1, §§ 111-113.

8 Cf. Bork, The Antitrust Paradox, *op. cit.*, 50 f.

9 Bork, The Antitrust Paradox, *op. cit.*, 50.

10 Cf. Fox, The Modernization of Antitrust ..., *supra*, 1146.

11 Bork, The Antitrust Paradox, *op. cit.*, 57, emphasis added. For the common interpretation, cf., e.g., Audretsch, David B., An Evaluation of Horizontal Merger Enforcement, in: Craven, John (ed.), Industrial Organization, Antitrust and Public Policy, Boston 1982, pp. 69-88, 71: "The goal of antitrust is apparently multidimensional. It includes the prevention and elimination of monopoly prices and restricted output, the redistribution of wealth away from monopolistic power, and the diffusion and decentralization of aggregate concentration of economic resources in society."

The necessity for reform is not primarily seen as a matter for Congress since from this point of view legislative intentions seem obvious. Rather, it is the U.S. Supreme Court and its adjudication that make the necessity for reform arise:¹²

"I am not suggesting a judicial coup d'etat. Rather, I intend to argue that an exclusive adherence to a consumer welfare test is the only legitimate policy for the Supreme Court under present statutes precisely because of the Court's elitist, unrepresentative nature."

In addition, there are attempts to justify the exclusiveness of the consumer welfare goal by claiming certain virtues for it. This can be characterized as a sort of plausibility approach. A single-goal orientation of consumer behavior is seen as being superior to a multiple-goal approach for at least five reasons.¹³

Firstly, the consumer welfare goal gives fair warning to business men affected by the antitrust laws by providing a small number of relatively simple rules, which allow firms to predict judicial opinions and legal decisions more accurately. It "makes changes in the law predictable and less likely to produce unfairness".¹⁴

Secondly, the approach offers a relatively precise and politically neutral set of standards, minimizing the fear of excessive judicial power. The approach documents the legislature's primary role in correctly enforcing the law in

12 Bork, Antitrust and Monopoly ..., *supra*, 243. For a similar opinion cf. Areeda/Turner, Antitrust Law: An Analysis of Antitrust Principles, op. cit., § 111 d; and Areeda, Phillip, Introduction to Antitrust Economics, 52 ALJ (1983), pp. 523-538, and esp. 536, emphasizing a discrepancy between consumer welfare and efficiency not acknowledged by Bork: "'Consumer welfare' embraces what individual consumers are entitled to expect from a competitive economy. If the efficiency extremists insist that only their definition of consumer welfare is recognized by economists, we would answer that ours is clearly recognized by the statutes. The legislative history of the Sherman Act is not clear on much, but it is clear on this."

13 Cf. Bork, The Antitrust Paradox, op. cit., 81-86.

14 Bork, The Antitrust Paradox, op. cit., 81.

comparison to the courts.¹⁵ This is actually a strict application of the per se-rule instead of the rule of reason, the latter allowing too much discretion to the courts as well as to the enforcement agencies:¹⁶

"Courts are the wrong institution for these unstructured interpersonal comparisons both because political choices of this nature should, ..., be made by elected and representative institutions, and because the courts do not have the facilities for fact-finding on a broad scale that are available to the legislature. The admission by a court of goals in conflict with consumer welfare into the adjudicative process, therefore, involves a serious usurpation of the legislative function by the judicial arm."

Thirdly, making consumer welfare the only antitrust goal is seen as a **viable means for courts to force legislature to face and to decide questions that had been left hitherto unanswered.** Therefore the consumer welfare is supposed to have the function of making the legislative institutions more responsible and not allowing them to leave important questions to the courts. This would maintain the integrity of the legislative process.

Fourthly, by using the basic principles of price theory as criteria for decision, **real rather than unreal economic distinctions can be made** with regard to the anticompetitive market conduct of competitors. The consumer welfare goal provides principles and concepts of assessment that allow the courts to determine deviations from the guiding concept of competition. In this context, the concept of 'efficiency' and the yardstick of 'output restriction' serve as central elements.

Avoiding arbitrary or anticonsumer rules is the fifth and final argument in favor of the consumer welfare goal as stated by Bork. It is contended that in a case-by-case approach courts are very unlikely to balance different

15 Cf. Kauper, The Goals of United States Antitrust Policy ..., *supra*, 409 and 421; and Fox, The Modernization of Antitrust ..., *supra*, 1146.

It is pointed out, however, that Congress did not have sufficient economic knowledge and therefore deliberately allowing the judiciary to wield a certain amount of discretionary power, cf. Pitofsky, Robert, The Political Content of Antitrust, 127 UPLR (1979), pp. 1051-1075, 1060.

Bork, Antitrust and Monopoly ..., *supra*, 253: "The kind of uncertainty which a legal system ought not to tolerate, particularly where statutes are involved, is that which arises because judges are making case-by-case and ex-post facto the political choices."

16 Bork, The Antitrust Paradox, *op. cit.*, 83.

values which are partly contrary to consumer welfare since "(t)hey are much more likely to arrive at rigid rules which will either be arbitrary or completely anti-consumer."¹⁷

The notion that public policy should be solely guided by consumer welfare and, therefore, according to these proponents, by efficiency considerations, has strongly influenced current government policy as well as courts' decisions.¹⁸

Although Supreme Court decisions have not given the term efficiency a specific interpretation, they have strengthened the claim that antitrust is only a means to promote efficiency. Thus, with Chief Justice *Burger* who headed the Supreme Court then

"majority opinions by some members of the Court began to reveal a strong undercurrent that business should be left presumptively free to do what it wishes, apparently on the theory that greater private business freedom is crucial to a free society".¹⁹

However, a variety of authors from both the economic and the legal profession disagree with the viewpoint that consumer welfare, as measured by a criterion of efficiency, should constitute the sole goal of antitrust. It is contended that with regard to antitrust policy it can be shown that legisla-

17 Bork, *The Antitrust Paradox*, op. cit., 86.

18 Cf. Gerhart, Peter M., *The Supreme Court and Antitrust Analysis: The (Near) Triumph of the Chicago School*, 10 SCR (1982), pp. 319-349; Schwartz, Louis B., *The New Merger Guidelines: Guide to Governmental Discretion or Propaganda for Revision of the Antitrust Laws?*, 71 CLR (1983), pp. 575-603, 575; and Fox, *The Modernization of Antitrust ...*, supra, 1152.

Former Assistant Attorney General and then head of the Antitrust Division, William F. Baxter: "The sole goal of antitrust is economic efficiency.", *The Wall Street Journal*, March 4, 1982 at p. 28; and: "The statutes talk in terms of competition and restraints on trade - which I take to mean restraints on output and therefore a reference to the economists' concept of efficiency - and that's a challenging undertaking in itself.", 'Today's Policies on Antitrust', *San Francisco Chronicle*, December 15, 1982, at A-6 and A-8, col. 1, respectively.

19 Fox, *The Modernization of Antitrust ...*, supra, 1152. For the cases cf. most notably U.S. v. General Dynamics Corp., 1974-1 CCH Trade Cases § 74,967; U.S. v. Marine Bancorporation, Inc., 1974-1 CCH Trade Cases § 75, 125; Continental T.V., Inc. v. GTE-Sylvania, Inc., 1977-1 CCH Trade Cases § 61,488, esp. at pp. 71,900 f.; National Society of Professional Engineers v. U.S., 1978-1 CCH Trade Cases § 61,990; U.S. v. United States Gypsum Co., 1978-1 CCH Trade Cases § 62,103; and Broadcast Music, Inc. v. Columbia Broadcasting System, Inc., 1979-1 CCH Trade Cases § 62,558.

tive history, the ratio legis, and the interpretation of the laws by the Federal Supreme Court contradict the assertion by the single-goal proponents that the basis of the American antitrust laws is **only** the promotion of efficiency. Rather, it comprises several goal complexes, all of which are interrelated.²⁰

There is no consensus among the scholars of anti-Chicago persuasion about the goal which originally predominated and about the goal that is supposed to predominate in cases where goals are in conflict with each other. The principle of a multiple goal approach is unequivocally emphasized, however, as is distinctly pointed out by Robert Pitofsky, a former Commissioner of the Federal Trade Commission, whose statement implies that several values other than efficiency should be regarded as axiomatic:²¹

"It is bad history, bad policy, and bad law to exclude certain political values in interpreting the antitrust laws. By 'political values', I mean, first, a fear that excessive concentrations of economic power will breed antidemocratic political pressures, and second, a desire to enhance individual and business freedom by reducing the range within which private discretion by a few in the economic sphere controls the welfare of all. A third and overriding political concern is that if the free-market sector of the economy is allowed to develop under antitrust rules that are blind to all but economic concerns, the likely result will be an economy so dominated by few corporate giants that it will be impossible for the state not to play a more intrusive role in economic affairs. (Fourth), an antitrust policy that failed to take political concerns into account would be unresponsive to the will of Congress and out of touch with the rough political consensus that has supported antitrust enforcement for almost a century."

20 Cf. Brodley, Joseph F., Limiting Conglomerate Mergers: The Need for Legislation, 40 OhioStLJ (1979), pp. 867-894; Dirlam, Joel, and Alfred E. Kahn, Fair Competition: The Law and Economics of Antitrust Policy, Westport, Ct. 1970, pp. 9 f. and 15 f.; Elzinga, Kenneth G., The Goals of Antitrust: Other than Competition and Efficiency, 125 UPLR (1977), pp. 1191-1213, 1191 and 1212 f.; Fox, The Modernization of Antitrust ..., supra, 1154; Hofstadter, Richard, The Paranoid Style in American Politics and other Essays, London 1966, p. 199; Hovenkamp, Distributive Justice and the Antitrust Laws, supra, 19; Kauper, The Goals of United States Antitrust Policy ..., supra, 414 and 416; Lande, Wealth Transfers as the Original and Primary Concern of Antitrust ..., supra, 68 f., 70, 128, 130, 135 f. and 140-142; Pitofsky, The Political Content of Antitrust, supra, 1055 f.; Sullivan, Lawrence A., Handbook of the Law of Antitrust, St. Paul 1977, p. 153; Thorelli, Hans B., The Federal Antitrust Policy: Origination of an American Tradition, Baltimore 1955, ch. 4.

21 Pitofsky, The Political Content of Antitrust, supra, 1051 f., emphasis added.

2. Evidence of the Goals of Antitrust

Evidence of the actual motives of the legislator in passing certain statutes can primarily be found not only in the legislative history of the body of antitrust laws as a whole but also in the legislative history of the individual statutes. Furthermore, the inquiry has to be guided by plausibility considerations which account for the logical background of the legal body, as it were, and by the tenets of Supreme Court adjudication, as it is the Supreme Court which is responsible for ruling along the lines of the statutes and which, in arriving at such rulings makes use of the range of discretion granted to it by Congress.

a. Legislative History of the Antitrust Statutes

The examination of the legislative history of the antitrust statutes shows that Congress followed a multiple-goal approach with a limited number of specific goals.²² The rationale underlying the American antitrust laws comprises welfare considerations (efficiency approach), the protection of freedom

22 Cf. Lande, *Wealth Transfers as the Original and Primary Concern of Antitrust ...*, *supra*, 150.

to compete, as well as the control of economic power (populist approach).²³ It was this second goal complex which was emphasized originally.

This contention is already documented by the remarks Senator *Sherman* made when the Act named after him, as the first of the antitrust statutes, was passed in 1890:²⁴

"If we will not endure a king as a political power we should not endure a king over the production, transportation, and sale of any of the necessities of life. If we would not submit to an emperor we should not submit to an autocrat of trade, with power to prevent competition and to fix the price of any commodity."

Especially with regard to Sec. 7 of the original Clayton Act, together with the Celler-Kefauver Antimerger Act as the new Sec. 7 of the Clayton Act,

23 Analogous to Neale, Alan D., and D.G. Goyder, *The Antitrust Laws of the U.S.A.: A Study of Competition Enforced by Law*, 3rd ed., Cambridge et al. 1980, pp. 439 ff., who have isolated three different motives behind American legislation:

- the so-called radical populist approach (ensuring the freedom to compete and the control of economic power),
- the small business approach, and
- the economic efficiency approach.

They view "the provision of legal checks to the exercise of power as the mainspring of antitrust", p. 339.

A variety of findings can be presented on the issue which resemble the one just described, cf. Elzinga, *The Goals of Antitrust*, *supra*, 1053-1057; Fox, *The Modernization of Antitrust ...*, *supra*, 1154; Hovenkamp, *Distributive Justice and the Antitrust Laws*, *supra*, 16 f.; Kauper, *The Goals of United States Antitrust Policy ...*, *supra*, 416-418; Pitofsky, *The Political Content of Antitrust*, *supra*, 1053-1057; and Hofstadter, *The Paranoid Style ...*, op. cit., 199 f.: **"The goals of antitrust were of three kinds. The first were economic; the classical model of competition confirmed the belief that the maximum of economic efficiency would be produced by competition, and at least some members of Congress must have been under the spell of this intellectually elegant model, insofar as they were able to formulate their economic intentions in abstract terms. The second class of goals was political; the antitrust principle was intended to block private accumulations of power and protect democratic government. The third was social and moral; the competitive process was believed to be a kind of disciplinary machinery for the development of character, and the competitiveness of the people - the fundamental stimulus to national morale - was believed to need protection"**, emphasis added.

24 Quoted from Scherer, Frederic M., *The Posnerian Harvest: Separating Wheat from Chaff*, 86 *Y LJ* (1977), pp. 974-1001, 980.

For an extensive survey of quotes regarding the legislative history of the antitrust statutes, and proving the contention presented submitted, cf. Fox, *The Modernization of Antitrust ...*, *supra*, 1148-1155.

legislative history indicates that improved efficiency was not a central goal and, moreover, that Congress did not mean to provide an efficiency defense in individual merger cases.²⁵ The legislative documents clearly and overwhelmingly emphasize the social evils of concentration, as is shown by the remarks of Senator Kefauver, one of the fathers of the Celler/Kefauver Amendment to Section 7 of the Clayton Act, who emphasized the links between economic and political order:²⁶

"Through monopolistic mergers the people are losing power to direct their own economic welfare. When they lose the power to direct their economic welfare they also lose the means to direct their political future. ... A point is eventually reached, ... where the public steps in to take over when concentration and monopoly gain to much power."

The assertion that so-called non- or metaeconomic goals were at the core of Congress' design in passing the Sherman as well as the Clayton Act has been repeatedly affirmed by the Federal Supreme Court. This has been vari-

25 Cf. Bok, Derek, Section 7 of the Clayton Act and the Merging of Law and Economics, 74 HLR (1960), pp. 226-335, 318: "There is little basis for concluding that the achievement of lower costs as such should give rise to favored treatment under Section 7. The possibility of lower costs was brushed aside in the legislative deliberations and there is every reason to believe that Congress preferred the noneconomic advantages of deconcentrated markets to limited reductions in the cost of operations."; cf. as well Lande, Wealth Transfers as the Original and Primary Concern of Antitrust ..., *supra*, 140-142.

This was adopted in *FTC v. Procter & Gamble Co.*, 1967 CCH Trade Cases § 72,061 asserting that efficiency gains cannot offset illegality that would lead to a lessening of competition. But cf. Areeda, Phillip, and Donald F. Turner, *Antitrust Law: An Analysis of Antitrust Principles and Their Application*, Boston and Toronto 1980, vol. 4, p. 151, who are of the opinion that Sec. 7 of the Clayton Act does not in principle compel the courts to reject a defense on the basis of economies of size or scale.

26 Quoted from Plotofsky, The Political Content of Antitrust, *supra*, 1051. Similar remarks were made by Representative Celler: "I want to point out the danger of this trend toward more and better combines. I read from a report filed with (the former Secretary of War) as to the history of the cartelization and concentration of industry in Germany: 'Germany under the Nazi set-up built up a great series of monopolies in steel, rubber, coal and other materials. The monopolies soon got control of Germany, brought Hitler to power and forced virtually the whole world into war.' ... I do not want to see my country go the way of Japan or the way of Italy or the way of Germany or even the way of England.", quoted from Fox, *The Modernization of Antitrust* ..., *supra*, 1151, note 56.

ously criticized as a simple deviation from the criterion of economic efficiency.²⁷

b. Adjudicative Development

Evidence for the actual goals of antitrust legislation can also be found in the verdicts of the courts. Adjudication before the 1970s was characterized by a strong reliance on sociopolitical goals, the pursuance of which was seen as Congress' primary objective in passing the antitrust statutes. In the Alcoa case, Judge Learned Hand declined to distinguish good from bad monopolies. This was justified by pointing to the sociopolitical goals of the Sherman Act:²⁸

"(C)ongress ... did not condone 'good trusts' and condemn 'bad' ones; it forbade all. Moreover, in so doing it was not necessarily actuated by economic motives alone. ... We have been speaking only of the economic reasons which forbid monopoly; but as we have already implied, there are others, based upon the belief that great industrial consolidations are inherently undesirable, regardless of their economic results. In the debates in Congress Senator Sherman himself ... showed that among the purposes of Congress in 1890 was a desire to put an end to great aggregations of capital because of the helplessness of individual before them."

In Northern Pacific and Brown Shoe the Federal Supreme Court refers to both sociopolitical and economic preferences on the part of the legislator for maintaining a large number of independent firms. The Supreme Court presented the following rationale in his attempt to justify the sociopolitical preferences of the legislator for a large number of independent firms:²⁹

27 Cf. Kauper, The Goals of United States Antitrust Policy ..., *supra*, 420, who critically comments on Bork's criticism of the adjudication as follows: "Whether they are 'wrong', or part of a 'deviant' theme (as Bork states), is ultimately a question of judgment."

Kauper, though, defends the view that the question of the size at which a firm gains too much political and social power cannot be an issue for judges but has to be decided ultimately by the legislature.

28 U.S. v. Alcoa, 1944-47 CCH Trade Cases § 57,342 at p. 57,682 f., emphasis added. This interpretation can be found in Elzinga, The Goals of Antitrust, *supra*, 1203; Pitofsky, The Political Content of Antitrust, *supra*, 1053; and Schmidt, Ingo, and Jan B. Rittaler, Die Chicago School of Antitrust Analysis: Wettbewerbstheoretische und -politische Analyse eines Credos, Baden-Baden 1986, p. 42.

29 Brown Shoe v. U.S., 1962 CCH Trade Cases § 70,366 at p. 76,500, emphasis added.

"(E)xpansion (of integrated chains) is not rendered unlawful by the mere fact that small independent stores may be adversely affected. It is competition, not competitors, which the Act protects. But we cannot fail to recognize Congress' desire to promote competition through the protection of viable, small, locally owned business. Congress appreciated that occasional higher costs and prices might result from the maintenance of fragmented industries and markets. It resolved these competing considerations in favor of decentralization. We must give effect to that decision."

In Northern Pacific Railway it also becomes apparent that the Sherman Act embraces sociopolitical as well as economic functions of competition in the interpretation of statutory intentions by the Supreme Court:³⁰

"The Sherman Act was designed to be a comprehensive charter of economic liberty aimed at preserving free and unfettered competition as the rule of trade. It rests on the premise that the unrestrained interaction of competitive forces will yield the best allocation of our economic resources, the lowest prices, the highest quality and the greatest material progress, while at the same time providing an environment conducive to the preservation of our democratic political and social institutions."

Both cases show that the Federal Supreme Court preferred less concentrated market structures in the 1950s and 1960s and they provide strong evidence that Congress was willing to accept this even in cases when such decentralized structures would imply possible efficiency losses.³¹

However, verdicts by the District Courts and the Courts of Appeals in the 1970s and 1980s are characterized by a stronger emphasis on economic analysis and efficiency, a fact which has not been pointed out nearly as emphatically as the original intent.

Efficiency considerations have been introduced into court cases in different ways, depending on the actual conduct of competitors dealt with in the pro-

³⁰ Northern Pacific Railway Co. v. U.S., 1958 CCH Trade Cases § 68,961 at p. 73,864, emphasis added.

³¹ Cf. Sullivan, Lawrence A., Antitrust, Microeconomics, and Politics: Reflections on Some Recent Relationships, 68 CLR (1980), pp. 1-12, 4.

ceedings.³² With regard to the first actual case, a merger of the third and sixth ranking retail grocery chains declared illegal for having a nine percent market share, Justice Stewart stated his dissenting opinion with regard to legislative history:³³

"(T)hrough a simple exercise in sums, it" (i.e., the court) "finds that the number of individual competitors in the market has decreased over the years, and, apparently on the theory that the degree of competition is invariably proportional to the number of competitors, it holds that this historic reduction in the number of units is enough under § 7 to invalidate a merger within the market... This startling *per se* rule is contrary not only to our previous decisions, but contrary to the language of § 7, contrary to the legislative history of the 1950 amendment, and contrary to economic reality", (italics in original, emphasis added).

With regard to unilateral action, efficiency considerations have been introduced by changing the *per se*-rule into a rule of reason.³⁴ Concerning collusive agreements, some of them are not held to violate the relevant statutes.³⁵ In most of the recent cases, however, the rulings of the courts do not refer to the legislative backup of such changed rulings by the Court which constitutes a serious shortcoming.

32 This was first documented by a dissenting opinion of Justices Harlan and Stewart in U.S. v. Von's Grocery, 1966 CCH Trade Cases, § 71, 780, p. 82, 601: "The Court makes no efforts to appraise the competitive effects of this acquisition *in terms of the contemporary economy* of the retail food industry in the Los Angeles area.", emphasis added. Sociopolitical considerations are obviously rejected or pushed back: "(T)he court's opinion is hardly more than a requiem for the so-called 'Mom and Pop' grocery stores ... that are now economically and technologically obsolete in many parts of the country."

33 U.S. v. Von's Grocery, op. cit., at 82,603.

34 Cf. Continental T.V., Inc. v. GTE-Sylvania, Inc., op. cit., at p. 71,900: "Vertical restrictions promote interbrand competition by allowing the manufacturer to achieve certain efficiencies in the distribution of his products. These 'redeeming virtues' are implicit in every decision sustaining vertical restrictions under the rule of reason. Economists have identified a number of ways in which manufacturers can use such restrictions to compete more effectively against other manufacturers."

35 With regard to the Sherman Act it is held in U.S. v. United States Gypsum Co., op. cit., at p. 74,860 that "(t)he exchange of price data and other information among competitors does not invariably have anti-competitive effects; indeed such practices can in certain circumstances increase economic efficiency and render markets more rather than less competitive. For this reason, we have held that such exchanges of information do not constitute a *per se* violation of the Sherman Act."

c. Plausibility Considerations

Several theoretical considerations support the view that Congress promoted a multiple-goal approach when passing the antitrust statutes.

First of all, the 'imprecise' wording of the statutes leads to the conclusion that legislators did not feel in a position to quantify social and political considerations, and therefore left the solution of possibly conflicting goals to the judiciary.³⁶

If Congress wanted business firms simply to achieve economic efficiency by their own individual action, a system of legal antitrust statutes would have been obsolete since anticompetitive practices according to that view would tend to correct themselves.³⁷ The original promoters of efficiency as the only legislative intent opposed all of the attempts to introduce multiple goal-oriented antitrust bills on the grounds that this would induce corrective public action that would interfere with efficient results of the free enterprise system. The fact that the opponents' opinion was obviously overthrown by the majority of legislation, can be seen as an indication of the hypothesis that efficiency was neither the sole aim of Congress, nor was it meant to prevail in cases of conflict. The same applies to laws which are related to antitrust statutes.³⁸

Whereas the effects of income distribution of monopolies were largely known by the time when fundamental antitrust legislation was passed, not much was known about economic efficiency. This also supports the hypothesis that one

36 Cf. Kauper, *The Goals of United States Antitrust Policy ...*, supra, 409 f.; and Schmidt/Rittaler, *Die Chicago School of Antitrust Analysis*, op. cit., 94.

37 Cf. McChesney, Fred S., *On the Economics of Antitrust Enforcement*, 68 *GeorgElJ* (1980), pp. 1103-1111, 1104.

38 Cf. Fox, *The Modernization of Antitrust ...*, supra, 1152 f.; Hovenkamp, *Antitrust Policy After Chicago*, 84 *MLR* (1985), pp. 213-284, 250; Schwartz, Louis B., 'Justice' and Other Non-Economic Goals of Antitrust, 127 *UPLR* (1979), pp. 1076-1081; and Blake, Harlan M., *Conglomerate Mergers and the Antitrust Laws*, 73 *ColLR* (1973), pp. 555-592, 577: "If anything, the tendency of the American Economic Association (in 1890) was to question the wisdom of any legislation directed against 'monopoly' in the economic sense, since the prevalent economists' view was that monopoly power, unbuttressed by legal supports such as patents, tariffs, licensing and the like, was by its nature rapidly eroded by market forces, and that legislative intervention would either impede that process or involve unnecessary social costs."

of the major goals of the antitrust laws was the prevention of welfare transfers from consumers to monopolists. This also applies to the resulting conclusion that "(t)he concept of net welfare loss was too technical to enter into the political debates over antitrust policy, and antitrust advocates generally believed that the goals ... were consistent with each other".³⁹

With regard to the interplay between legislature and legal practice, the single-goal, consumer welfare-oriented position has to admit an inconsistency within the chain of causation of its argumentation. All of the alleged non-efficiency goals of antitrust were given specific meaning during the period when the Supreme Court was headed by Chief Justice Warren, without Congress opposing. If, in the opinion of Congress, the courts had misinterpreted original legislative intent in that they deviated from the original will, new legislation could have been drafted containing precise wording and leaving no doubt as to the intended interpretation.⁴⁰

However, when the Antitrust Division tried to assist in overruling the per se-rule against resale price maintenance in order to impose the new efficiency-orientation in Monsanto by means of *amicus curiae*, the attempt was curtailed by Congress through budgetary regulations restraining the Department of Justice from using certain means in order to de facto abolish

³⁹ Hovenkamp, *Distributive Justice and the Antitrust Laws*, *supra*, 17; cf. *Idem*, *Antitrust Policy After Chicago*, *supra*, 250; Lande, *Wealth Transfers as the Original and Primary Concern of Antitrust ...*, *supra*, 65.

Pitofsky, *The Political Content of Antitrust*, *supra*, 1060: "This failure to address the efficiency/political effects trade-off is not hard to understand. Comprehensive antitrust regulation was a new concept to all legislators, and the most authoritative and exhaustive reviews of the legislative have detected a series of vague and not always consistent strands of legislative intent. As many have observed, **Congress elected generally to leave specific enforcement decisions to the judiciary**", emphasis added, citation omitted; and similarly Scherer, *The Posnerian Harvest ...*, *supra*, 977-979: "To be sure, Congress took exception to monopoly output restriction, elevated prices, and bloated profits, but it ... was concerned at least as much with income distribution effects (which were well understood in 1890) as with efficiency effects (which were not).", reviewing Posner, Richard A., *Antitrust Law: An Economic Perspective*, Chicago 1976.

⁴⁰ Cf. Fox, *The Modernization of Antitrust ...*, *supra*, 1155, note 77; Schmidt/Rittaler, *Die Chicago School of Antitrust Analysis*, *op. cit.*, 94; and Kauper, *The Goals of United States Antitrust Policy ...*, *supra*, 419: "The ultimate question, after all, is what Congress Intended. The courts have interpreted the Sherman Act for ninety years, and those interpretations carry great weight, if for no other reason than in large part the Congress has left their decisions intact."

the per se-rule.⁴¹ Even more drastically, the Committee on the Judiciary passed a resolution on the Vertical Restraints Guidelines issued by the Department of Justice, declaring the guidelines to be inconsistent with existing antitrust laws.⁴² This provides further evidence that the current single-goal enforcement orientation reflects an unlawful minority position on the part of the executive.

Were the efficiency argument to be accepted, it would mean that the public would have agreed to centralized government control of resource allocation, if this was seen to be more efficient than the private enterprise system. The free enterprise system is felt to protect business freedom by means of decentralization. This is primarily the reason why it is accepted, even though efficiency considerations may be pushed into the background occasionally.⁴³ Moreover, it can be argued that the achievement of efficiency is neither necessary nor sufficient as a criterion of ideal policy because

"the question of the means by which the social outcomes are achieved is more important than the social allocation outcome itself: for many, an allocation that is inefficient but arrived at in a spirit of voluntary co-operation under law is far better than an ideal allocation established by dictatorial decree".⁴⁴

In fact, this is the acceptance of 'political values'.

3. Antitrust Legislation and Rent-Seeking Behavior

Proponents of the current tenet have come up with an alternative to the sort of legislative history explanation as to why consumer welfare in the

41 Cf. TRR No. 767, July 28, 1986, at p. 4.

42 Cf. TRR No. 733, December 9, 1985, at p. 1. The National Association of Attorneys General (NAAG) has joined this resolution and have issued so-called Counter Vertical Restraints Guidelines, cf. 5 CCH TRRer § 50,478.

43 Cf. Lindblom, C., Politics and Markets, New York 1977; and Ward, B., The Ideal Worlds of Economics, New York 1979.

Cf. as well Fox, The Modernization of Antitrust ..., supra, 1153, note 70, who notes that "(t)he United States embraced a market system rather than government ownership of business or governmentally directed allocation of resources because freedom of private economic action and decentralized centers of decisionmaking were components of American democracy. (I)t seems likely that most Americans ... gladly have sacrificed ... increased efficiency for increased freedom."

44 Geroski, Paul, and Alexis P. Jacquemin, Dominant Firms and Their Alleged Decline, 2 IJIO (1984), pp. 1-22, 21 f.

form of efficiency-orientation should be the sole goal of antitrust.⁴⁵ It is argued in this context that two different kinds of legislation have to be distinguished. On the one hand, there are 'public interest statutes', which are considered to be efficient in that they create more social gains than losses and, therefore, are supposed to be interpreted broadly by the courts because they serve the goal of welfare maximization. Secondly, and in contrast, there are 'private interest statutes', which are characterized by the fact that interest groups purchase favorable legislation from Congress which decreases net welfare of society. These statutes are supposed to be interpreted narrowly by the courts since they do not contribute to consumer welfare.⁴⁶

This approach of explanation has serious shortcomings, however, and has to be rejected concerning the debate on the goals of antitrust, therefore. For one thing, any kind of legislation is by its nature 'private interest legislation', since private interest groups try to interfere with the legislative process and it "depends on the ability of Congress to listen to the arguments from all sides, 'net them out,' and then pass a statute that, on balance, does more good than harm to all affected interests".⁴⁷

Secondly, an insurmountable difficulty arises, if special interest legislation is supposed to be discerned from public interest legislation by judges. Propponents of this approach do not agree upon definitive criteria for such discrimination.⁴⁸ This strongly creates the impression that deciding which is

45 For a survey cf. Hovenkamp, Antitrust Policy After Chicago, *supra*, 252-255, and for the original sources, Posner, Economics, Politics, and the Reading of Statutes ..., *supra*, esp. 269; and Easterbrook, Frank H., Foreword: The Court and the Economic System, 98 HLR (1984), pp. 4-60, 15-17; and Sunstein, Cost-Benefit Analysis and the Separation of Powers, 23 ArizLR (1981), pp. 1267-1282.

46 Cf. Hovenkamp, Antitrust Policy After Chicago, *supra*, 252. Chicago scholars do apply a theoretical basis which is strongly consistent with the discussion along the lines of public choice considerations in the field of deregulation (capture theory); cf. Peltzman, Sam, Toward a More General Theory of Regulation, 19 JLE (1976), pp. 211-240; Posner, Richard A., The theory of economic regulation, 2 BJE (1971), pp. 3-21.

47 Hovenkamp, Antitrust Policy After Chicago, *supra*, 251, emphasis added.

48 Cf. Easterbrook, Foreword: The Court and the Economic System, *supra*, 16 f., who finds it difficult to distinguish the two different kinds of legislation at all, and Posner, Economics, Politics, and the Reading of Statutes ..., *supra*, 270 f., who tries to develop a scheme for classification in actual cases.

which is a rather subjective and arbitrary matter.

Thirdly, such vague discriminations can be used to deny considerations of Congress which were undoubtedly intended, although they were not formulated in statutory language, as in the case of protection of small competitors. The protection of small competitors could easily be brushed away by ascribing it to an interest group legislation, although for instance both the Robinson-Patman as well as the Celler-Kefauver Act show that it was precisely such protection that the legislature had in mind when the laws were passed.⁴⁹

4. The German Case

Sociopolitical as well as economic considerations underlay the original draft of the Act against Restraints of Competition.⁵⁰ The sociopolitical considerations encompass the protection of the freedom to compete as well as the protection of competition as a mechanism for the control of economic power and as an adequate equivalent to the democratic system. Encompassing optimization of economic welfare by the best possible supply of consumers is the actual intended aim of the economic considerations. These two rather broadly defined goals together form the nucleus and heart of the ARC.⁵¹ The same applies to European antitrust legislation documented by the Treaty of Rome.⁵²

The basic question is which goal complex should prevail in situations where different goals conflict. In particular situations of conflict, the prevailing theory holds that history, ratio legis, and the constitution show that the ultimate objective of the ARC is the protection of the freedom to compete, which is upheld by the verdicts of the German Federal Supreme Court as

49 Cf. Hovenkamp, Antitrust Policy After Chicago, *supra*, 254.

50 Cf. Säcker, Franz-Jürgen, *Zielkonflikte im deutschen und europäischen Kartellrecht*, Düsseldorf n.a., p. 17; and Schmidt, Ingo, *Wettbewerbspolitik und Kartellrecht ...*, op. cit., 151 f.

51 Cf. Gloy, Wolfgang, *Handbuch des Wettbewerbsrechts*, München 1986, p. 20; Säcker, *Zielkonflikte im deutschen und europäischen Kartellrecht*, op. cit., 15 f.; Schmidt, *Wettbewerbspolitik und Kartellrecht ...*, op. cit., 152; and Regierungs begründung zum Entwurf eines Gesetzes gegen Wettbewerbsbeschränkungen, BTDr. II/1158, pp. 21 ff., presenting the official government rationale.

52 Cf. the wording of Arts. 85 and 86 Treaty of Rome.

well.⁵³ The primary intent of the protection of the freedom to compete is found in the legislative history of the U.S. antitrust laws which served as a guiding star to the draft of the German ARC. In contrast to German legislation and adjudication, however, the U.S. courts have always completely denied taking market performance criteria into consideration for the purpose of relief from illegality, therefore, when judging whether a particular action was competitive or anticompetitive.⁵⁴

Emphasis has been put on economic considerations, in the case of the exemptions of Sec. 1 ARC (Secs. 2-8 ARC), in the case of the control of abuses of market dominating position, and in the case of mergers, even at the risk of sacrificing to a certain extent freedom to compete.⁵⁵ Depending on the current legal norm, there is predominance either of sociopolitical considerations or economic considerations, or a conflict between the two complexes of objectives.⁵⁶

53 Cf. Tätigkeitsbericht des Bundeskartellamts 1985/1986, BTDr. 11/554, p. III; Hoppmann, Erich, Zum Schutzobjekt des GWB, in: Mestmäcker, Ernst-Joachim (ed.), Wettbewerb als Aufgabe: Nach zehn Jahren Gesetz gegen Wettbewerbsbeschränkungen, Bad Homburg v.d.H. et al., pp. 61-104, 102-104; Möschel, Recht der Wettbewerbsbeschränkungen, op. cit., 23-25 and 77; Säcker, Zielkonflikte im deutschen und europäischen Kartellrecht, op. cit., 20-26, esp. 24; and for the cases, "Grote-Revers", BGHZ 38, 90, 102; and "Schleifscheiben und Schleifkörper", WuW/E BGH 1758, 1761.

54 Cf. Edwards, Corwin D., Big Business and the Policy of Competition, Westport Ct. 1956; Report of the Attorney General's National Committee to Study the Antitrust Laws, Washington 1955; and Säcker, Franz-Jürgen, Zielwandlungen und Zielkonflikte in der Wettbewerbspolitik: Von der Sicherung der Freiheit zur Organisation des Wohlstandes?, Diss., Köln 1971, p. 46.

55 Cf. Möschel, Recht der Wettbewerbsbeschränkungen, op. cit., 23-25 and 75, 77 f., 154, 606-608; Raiser, Ludwig, Antinomien im Recht der Wettbewerbsbeschränkungen, in: Festschrift für E. Fechner, 1973, pp. 57 ff.; and Säcker, Zielkonflikte im deutschen und europäischen Kartellrecht, op. cit., 27.

56 Cf. Schmidt, Wettbewerbspolitik und Kartellrecht ..., op. cit., 81 note 1, who asserts, e.g., that competition as well as competitors are supposed to be protected by Sec. 26 para. 2 ARC, whereas Sec. 18 para 1a and 1b primarily protect competitors, and Sec. 18 para. 1c primarily competition. For the original source on the issue whether competition or competitors are to be protected, cf. Würdinger, Hans, Freiheit der persönlichen Entfaltung - Kartell- und Wettbewerbsrecht, Karlsruhe 1953, p. 9, asserting that the U.S. American law is primarily oriented towards individual freedom, whereas the German law is supposed to be dominated by an overall economic rationale.

The dual goal complex has been maintained also by the Fourth Amendment to the Act against Restraints of Competition, although the amendment has put a far stronger emphasis on economic considerations, especially concerning mergers. The legislator has aimed directly at sociopolitical considerations, but has taken these considerations into account only indirectly by referring to the concept of power in a relevant market, and therefore using economic criteria.⁵⁷ The current *de lege lata* situation, as stated above, is still based on the predominance of the protection of the freedom to compete. Certain efficiency considerations have been introduced, however, by not prohibiting mergers *per se*, but basing a possible prohibition of a merger on refutable assumptions documented by market shares. These market shares represent a sort of borderline or limit, after which significant economic efficiencies can no longer be reaped, but freedom to compete is allegedly impaired or restricted unduly.

Recent large-sized company merger cases in the Federal Republic have revived the discussion about sociopolitical aspects of such mergers. In this context, the German Federal Cartel Office (FCO) has re-affirmed again that the legislator was concerned with the protection of the freedom to compete as well as the dispersion of economic power but that he restricted the actual design of the statutes to the protection of competition in actual markets. The refutable size assumption in Sec. 23a para. 1, lit. 2 ARC does not liberate the FCO to prove market dominance in every single case. Hence, large-sized mergers cannot be declared unlawful, just because of their size.⁵⁸

57 Cf. the official government rationale, *Regierungsbegründung zum Entwurf eines Vierten Gesetzes zur Änderung des Gesetzes gegen Wettbewerbsbeschränkungen*, BTDr. VIII/2136, p. 12; Immenga/Mestmäcker, Kommentar zum Gesetz gegen Wettbewerbsbeschränkungen, München 1981, p. 778; Säcker, Zielkonflikte im deutschen und europäischen Kartellrecht, op. cit., 17 and 30; and Möschel, Recht der Wettbewerbsbeschränkungen, op. cit., 452, who notes that a merger control policy that is oriented towards the protection of competition can only be viewed in the context of markets since economically based criteria cannot be deduced from metaeconomic objectives. Competition policy that is directly aimed at sociopolitical considerations therefore loses its economic basis.

58 Cf. Tätigkeitsbericht des Bundeskartellamts 1985/1986, op. cit., p. 12; for the official government rationale along this line, implementing a merger control system, cf. as well *Regierungsbegründung zum Entwurf eines Zweiten Gesetzes zur Änderung des Gesetzes gegen Wettbewerbsbeschränkungen*, BTDr. VI/2520, p. 16.

II. Methodology and Theoretical Model Underlying the Evaluation of the Competitiveness of Mergers

The current tenet bases its theoretical edifice on the belief that consumer welfare in the form of efficiency should be the only underlying value for antitrust policy. Since structural factors are perceived to be unimportant in determining an industry's performance, business conduct and the model for evaluating its effects on consumer welfare and hence efficiency become the central issues. This poses the question as to whether a certain antitrust goal implies or even requires a certain method of research. If representatives of the current tenet view consumer welfare as the sole antitrust goal, it has to be found out:

- whether they must accept neoclassical analysis as a method of research, simultaneously;
- whether neoclassical price theory can serve as an adequate instrument of analysis; and
- whether the partial equilibrium model used by the adherents of the current tenet offers an appropriate basis for policy decisions.

1. The General Methodology of Analysis

a. Neoclassical Price Theory as an Instrument of Analysis

In analyzing the links between economics and law, the substance of different approaches to antitrust theory can be reduced to two core issues. These are the goals or values the law may legitimately and profitably implement, and the validity of the law's vision of reality.¹

Since consumer welfare is accepted as the sole legislative objective of the antitrust statutes and, in essence, this consumer welfare is determined by the effects of business practices on economic efficiency, "(a) consumer-oriented law must employ basic economic theory to judge which market structures and practices are harmful and which are beneficial".² In this context,

1 Cf. Bork, *The Antitrust Paradox*, op. cit., 7.

2 Bork, *The Antitrust Paradox*, op. cit., 7. Cf. as well Hovenkamp, *Antitrust Policy After Chicago*, supra, 226, critically emphasizing the Chicago tenet: "(T)he best policy tool currently available for maximizing economic efficiency in the real world is the neoclassical price theory model".

neoclassical price theory is regarded as the only adequate instrument of analysis.

Consumer welfare is considered to be the result of economic behavior in general and of business conduct in particular. Productive and/or allocative efficiency are the measurable outcomes of business conduct, therefore, and these effects can in turn be analyzed by means of neoclassical price theory. In this context, the advantage of this kind of price theory is demonstrably in that it

"enables us to identify, with an acceptable degree of accuracy, those activities whose primary effect is output restricting, leading to the inference that all other activity is either efficiency creating or neutral".³

The primary question which has to be answered is by what standards an economic model is to be judged. In the context of the contribution submitted, it will be evaluated by its ability to explain reality and to make valuable prognoses.⁴ There are crucial objections to the belief, however, that neoclassical price theory is able to serve either purpose.⁵ Its assumpti-

3 Bork, The Antitrust Paradox, op. cit., 116; cf. as well Posner, Richard A., The Chicago School of Antitrust Analysis, 127 UPLR (1979), pp. 925-952, 928: "The Chicago School has largely prevailed with respect to its basic point: that the proper lens for viewing antitrust problems is price theory.", and with regard to the industrial organization approach of the Harvard School: "(I)ndustrial organization, the field of economics that studies monopoly questions, tended to be untheoretical, descriptive, 'institutional', and even metaphorical ... The result was that industrial organization regularly advanced propositions that contradicted economic theory.", p. 930.

4 Cf. Posner, Richard A., Economic Analysis of Law, 2nd ed., Boston and Toronto 1977, p. 13, noting that the true test of theory is its utility in predicting or explaining reality.

5 Cf., e.g., Harris, Robert G., and Thomas M. Jorde, Market Definition in the Merger Guidelines: Implications for Antitrust Enforcement, 71 CLR (1983), pp. 464-496, 468, who state that neoclassical price theory as used by the Chicago School cannot reflect reality because of the assumptions made: "Neoclassical price theory is a powerful theoretical construct because it simplifies reality. Assumptions such as perfect information, costless transactions, profit-maximizing firms, and utility-maximizing consumers can be entirely appropriate in some situations ... One should be wary, however, of drawing policy inferences from models founded on assumptions that are incongruent with reality."; Hovenkamp, Antitrust Policy After Chicago, supra, 256: "(T)he neoclassic efficiency model is not sophisticated enough to describe or predict the consequences of real world behavior."; cf. as well Schmidt/Rittaler, Die Chicago School of Antitrust Analysis, op. cit., 33-37.

ons far from correspond to conditions met in reality. This is not surprising, since the neoclassical price theory model tendentially reflected the business conditions prevailing during the Marshallian era. However, the limited scope of economics in general and price theory in particular was then and is nowadays clearly recognized, however.⁶

If this objection is accepted, a valid explanation has to be looked for, in order to explain why a number of developments in price theory have been dismissed. Such an explanation is lacking, however. In essence, these were developments which dealt with insufficiencies of neoclassical price theory.⁷ The main objection can be stated with regard to the selective use of price theory. Definitions, premises, and assumptions chosen by the antitrust tenet currently emphasized tend to protect the model against falsification.⁸ This can be documented for a variety of examples. The terms productive efficiency and allocative efficiency, for instance, are defined in a way that make any kind of business conduct efficiency-increasing. The definition tells what

6 Cf. Marshall, Alfred, *Principles of Economics*, 8th ed., London 1920, p. 37: "(E)very age and every country has its own problems; and every change in social conditions is likely to require a new development of economic doctrines."; cf. on this point as well, Rowe, Frank M., *The Decline of Antitrust and the Delusions of Models: The Faustian Pact of Law and Economics*, 72 *GeorgeLJ* (1984), pp. 1511-1570, 1547-1553, citing Kaldor and Knight, holding the identical tenet.

7 Cf. Markovits, Richard A., *Monopolistic Competition, Second Best, and the Antitrust Paradox: A Review Article*, 77 *MLR* (1979), pp. 567-640; for a summarizing survey of these developments, cf. Schmidt/Rittaler, *Die Chicago School of Antitrust Analysis*, op. cit., 36 f.

Wilber, Charles K., and Jon D. Wisman, *The Chicago School: Positivism or Ideal Type?*, in: Samuels, Warren J. (ed.), *The Chicago School of Political Economy*, East Lansing 1976, pp. 79-93, 87: "Only those phenomena which can be represented in its laissez-faire, capitalist model merit investigation. For example, most members of the Chicago School have ignored the question of monopoly, both empirically and theoretically. Theories of imperfect competition have been dismissed out of hand, and no real attempt has been made empirically to test noncompetitive theory", citations omitted.

8 Cf. Horwitz, Morton J., *Law and Economics: Science or Politics?*, 8 *HofLR* (1980), pp. 905-912, 909; Leff, Arthur A., *Economic Analysis of Law: Some Realism About Nominalism*, 60 *VLR* (1974), pp. 451-482, 478 f.; Rowe, *The Decline of Antitrust and the Delusions of Models*, supra, 1547-1549, 1947: "(T)he efficiency model is circular, and its curves fail to fit today's enterprise conditions."; Samuels, Warren J., *Further Limits to Chicago School Doctrine*, in: Samuels, Warren J. (ed.), *The Chicago School of Political Economy*, East Lansing 1976, pp. 397-455, 413; Wilber/ Wisman, *The Chicago School: Positivism or Ideal Type?*, op. cit., 85-89.

is efficient but it never tells what conditions have to be fulfilled:⁹

"Productive efficiency, like allocative efficiency, is a normative concept and is defined and measured in terms of consumer welfare. Since a free market system assumes that consumers define their own welfare, it follows that productive efficiency consists in offering anything whether products or services, that consumers are willing to pay for."

The term efficiency and the assumption that business conduct strives for the maximization of efficiency serve as a sort of black-box, therefore, and as a basis for justifying all sorts of restrictions of competition.

The same applies to allocative efficiency as the second component of consumer welfare, since firms are allocatively efficient if they prevail in the end.¹⁰

The underlying assumptions lead to propositions which are not falsifiable. The basic assumption that man is a rational maximizer of his ends in life and business and, therefore, is guided by self-interest, leads to the conclusion that any business conduct is efficiency-enhancing and hence consumer welfare increasing, since otherwise it would not have been performed by the

⁹ Bork, *The Antitrust Paradox*, op. cit., 104 f.; and Rowe, *The Decline of Antitrust and the Delusions of Models*, supra, 1549, stating that any solution the market generates becomes beneficial on the basis of this definition, thus arguing conclusively: "Since nothing succeeds like success, that truism yields neither operational criteria nor predictive norms, for its circularities bless what prevails in the end."

Cf. as well Posner, *Economic Analysis of Law*, op. cit., 4: "Efficiency is a technical term: It means exploiting economic resources in such a way that human satisfaction as measured by aggregate consumer willingness to pay for goods and services is maximized. Value too is defined by willingness to pay."

¹⁰ Cf. Armentano, Dominick T., *Antitrust and Monopoly: Anatomy of a Policy Failure*, New York et al. 1982, pp. 30 and 162; Bork, *The Antitrust Paradox*, op. cit., 221 f., 226 f., 248; Brozen, Yale, *Mergers in Perspective*, New York and London 1982, p. 17, who holds that "(c)oncentrated industries are concentrated because that is the efficient way to organize them. Unconcentrated industries are unconcentrated because that is the efficient way to organize them."; and Rowe, *The Decline of Antitrust and the Delusions of Models*, supra, 1549: "How can this be? Per the truisms of axioms and circular logic, the market ensures efficiency and cures inefficiency if meddling governments keep out."

economic agent.¹¹ This can be characterized as a sort of revealed preference approach from which efficiency is concluded, whatever the resulting economic performance.

b. Price/Quantity-Interrelations as Indicators of Consumer Welfare

Another central assumption is that social welfare in general and consumer welfare in particular can be exclusively and sufficiently documented by price/quantity-interrelations of markets, using perfect competition and monopoly as standards of reference. The assumption is based on the premise that people document everything, they assign economic value to their purchase decisions in the marketplace.¹² However, in the sense of economic order and decentralization of economic power, public policy in the field of antitrust has to be viewed as a kind of public good, the beneficial outcome of which people cannot avoid paying for. In essence, this is a pure free-rider problem that is neglected in this context.¹³ Whereas it is neglected in the context of the consideration of noneconomic goals through antitrust, it is heavily emphasized by adherents of the current orientation in theory in the

11 Cf. Posner, Economic Analysis of Law, op. cit., 1; and Leff, Economic Analysis of Law ..., supra, 456 f., showing once more the circularity of the reasoning: "Nothing merely empirical could get in the way of such a structure because it is definitional. That is why the assumption can predict how people behave: in *these terms* there is no either way they can behave. If, for instance, a society dentist raises his prices and thereby increases his gross volume of business, it is no violation of the principle of inverse relation between price and quantity. It only proves that the buyers now perceive that they are buying something else which they now value more highly, 'society dentistry,' say, rather than 'mere' dentistry', italics in original.

12 Cf., e.g., Bork, The Antitrust Paradox, op. cit., 50-56; and Posner, Richard A., Antitrust Law: An Economic Perspective, Chicago 1976, pp. 19 f.; and Armentano, Antitrust and Monopoly, op. cit., 32: "Importantly, (supply and demand) adjustments are not limited to price and output, as in the standard model, but may encompass any aspect of exchange that consumers believe to be relevant.", qualifications in parentheses added; and for the evaluation, Böbel, Ingo, Marktmacht versus Effizienz: Ein wirtschaftspolitisches Dilemma, 14 LiFo (1987/88), pp. 40-56, 50; and Hovenkamp, Antitrust Policy After Chicago, supra, 242.

13 Cf. Samuels, Further Limits to Chicago School Doctrine, op. cit., 400; Schwartz, 'Justice' and Other Non-Economic Goals of Antitrust, supra, for a number of statutes concerned with values not traded in the market place, such as small business protection; and for the conclusion, Leff, Economic Analysis of Law ..., supra, 467: "Remember, the issue is not, for every consumer/citizen, what he gets out of 'the market' or what he gets out of 'politics,' but what he gets out of the society which is the product of both of these grand systems together."

context of the discussion on the pros and cons of resale price maintenance, however. Therefore, the assumption that price/quantity-interrelations sufficiently document consumer welfare is at least open to question.

A broader measure of consumer welfare including further aspects of life quality such as performance criteria can be affected by a particular industry structure as well. The preservation of local shopping facilities, for example, might lead to a (hardly measureable) increase in consumer welfare though there may be a (quantitatively measureable) decrease in productive efficiency; furthermore, undue concentration is avoided and sufficient competitive pressure thereby maintained in the long run.

The selective omission of the free-rider problem also leads to results in the deficiency that power considerations are not quantifiable in terms of price/quantity-interrelations being more or less excluded from the observation. This makes for a contradiction in the underlying reasoning, since the protection of free choice is a central pillar in the current theoretical edifice. However, the assumption that power factors outside the market do not exist, or at least have no bearings on economic matters, makes the creation of meaningful changes in social institutions impossible, and rules out any explanation of such changes on a proper theoretical basis.¹⁴ Closely connected to this is the issue of economic order which we addressed in Part 1 of the thesis submitted. Weight is primarily assigned to market and market-like adjustments as the central mode of order, whereas the institutional setting and other constituting elements of markets are neglected.¹⁵

The same applies to the economic issue of external consumer effects. External effects are said to exist when an activity undertaken by an individual or firm benefits or imposes costs on other individuals or firms in addition to the benefits or costs accruing to the acting party. These results are typically "nonexcludable" which means that the acting party is not reimbursed

¹⁴ Cf. Wilber/ Wisman, *The Chicago School: Positivism or Ideal Type?*, op. cit., 90, who view this strictly as a "rationalized justification for social manipulation."

¹⁵ Cf. Samuels, *Further Limits to Chicago School Doctrine*, op. cit., 400, and 405: "It is simply not true that scarce resources are allocated among alternative uses by the market. The real determinant of whatever allocation occurs in any society is the organizational structure of that society - in short, its institutions. At most, the market only gives effect to prevailing institutions."

or charged for the external benefits or costs generated. Because of this characteristic, externalities are passed on outside the price system. There is no inducement to take that benefit or cost into consideration when deciding upon the level of economic activity to undertake and hence what level of costs to be attained. This means that the individual or firm chooses a level of activity at which the private marginal benefits from the activity just equal the private marginal costs of undertaking this activity and ignores the marginal benefits or costs which simultaneously accrue to other parties. Therefore, the overall marginal costs are higher than the private marginal costs - in the case of negative externalities - the latter being a source of orientation for the acting party. Hence the level of activity lies above the optimal level, which leads to a misallocation of resources. The Pareto optimum is not achieved.¹⁶

These external effects are dismissed although it is conceded that they do exist and pose an economic problem. Markets are, therefore, relied upon to achieve efficiency by themselves.¹⁷ Externalities, however, can be seen as inefficiencies decreasing consumer welfare. Nevertheless, it is held that policy instruments designed to bring about increased (allocative) efficiency could contribute to the increase of 'pure' consumer welfare; this, however, would unambiguously bring about other welfare losses for society. Since antitrust legislation did originally concentrate on consumer welfare in the sense of productive and allocative efficiency, according to the current tenet, it lies within the scope of legislation also to include externalities that influence other goals such as the distribution of income.¹⁸

16 Cf. Broadway, Robin, and David E. Wildasin, *Public Sector Economics*, 2nd ed., Boston, Toronto 1984, pp. 105-118.

17 Cf. Bork, *The Antitrust Paradox*, op. cit., 109, and 114, conceding that "(e)conomic activity creates social costs in the form of externalities that, by definition, are not taken into account through the price mechanism."; Polinsky, A. Mitchell, *Economic Analysis as a Potentially Defective Product: A Buyer's Guide to Posner's Economic Analysis of Law*, 87 HLR (1974), pp. 1655-1681, 1671; for a survey of the basic problem of externalities of consumption and production, cf. Broadway/Wildasin, *Public Sector Economics*, op. cit., 60-62 and 105-118.

18 Cf. Bork, *The Antitrust Paradox*, op. cit., 114. In the thesis submitted, we have argued, however, that consumer welfare, in Chicago words that is to say, increases in efficiency, are not the sole purpose of the legislator. Besides, external effects do affect resource allocation since either less than the competitive quantity is supplied or more than it.

Under standard economic theory, utility functions of consumers are at least partly interdependent. In the case of the relative income hypothesis¹⁹, quantity of demand is also influenced by factors not directly taken into account by the market. In terms of consumer welfare, this means that less value is placed by consumers on allocative improvements than on redistribution:²⁰

"People may continue, of course, to struggle to improve their position relative to others but clearly, in the limiting case in which individual welfare depends only on relative income, it would no longer be possible to make everyone better off: only redistribution possibilities would remain open to society."

Through the narrow selection of assumptions, the problem of externalities is defined away.²¹

The most essential problem of the neoclassical price theory and the model of perfect competition, even if only used as a standard of reference, are its strict underlying assumptions which never apply in reality.²² One can draw the conclusion that neoclassical price theory cannot serve as a framework for welfare economics whose task is to provide an answer to the remaining question how consumer welfare and economic efficiency are affected by actions which aim at influencing market structure and market conduct. Mainly for this reason the theory of second best has been developed. It takes into

19 The hypothesis holds that "the higher the level of 'real' per capita income the more does a person's well-being depend, not on his absolute income but on his income relative to those of others, ...", Mishan, Ezra J., *The Folklore of the Market: An Inquiry into the Economic Doctrines of the Chicago School*, in: Samuels, Warren J. (ed.), *The Chicago School of Political Economy*, East Lansing 1976, pp. 95-166, 106. For the original source cf. Duesenberry, James, *Income, Saving and the Theory of Consumer Behavior*, Cambridge, Mass. 1949; for elaborations cf., e.g., Daly, George, and Fred Giertz, *Welfare Economics and Welfare Reform*, 62 AER (1972), pp. 131-138; and Hochman, Harold, and James Rogers, *Pareto Optimal Redistribution*, 59 AER (1969), pp. 542-557.

20 Cf. Mishan, *The Folklore of the Market* ..., op. cit., 106.

21 Cf. Samuels, *Further Limits to Chicago School Doctrine*, op. cit., 400, and 414; Wilber/ Wisman, *The Chicago School: Positivism or Ideal Type?*, op. cit., 89.

22 Cf. again Sullivan, Lawrence A., *Handbook of the Law of Antitrust*, St. Paul, Minn. 1977, p. 3.

consideration that the assumptions of the model of perfect competition are only partly realized.²³ The core issue of the theory is that

"given that one of the Paretian optimum conditions cannot be fulfilled, then an optimum situation can be reached only by departing from all other Paretian conditions. The optimum situation finally attained may be termed a second best optimum because it is achieved subject to a constraint which, by definition, prevents the attainment of a Paretian optimum".²⁴

The omission of the theory of second best by the Chicago School is viewed as a major deficiency to the use of neoclassical price theory.²⁵ The same applies to the neglect of the dynamic aspects of competition which is brought about through the use of a static method of analysis.²⁶

Another major assumption is the auto-correction of the market in the long run which would lead to the maximization of consumer welfare.²⁷ For one thing, it can be doubted that the disciplining function of the market works

23 This theory "should be disregarded and antitrust should concern itself solely with allocative and productive efficiency.", Bork, *The Antitrust Paradox*, op. cit., 109.

24 Lipsey, Richard G., and Kelvin Lancaster, *The General Theory of Second Best*, 24 REST (1956), pp. 11-20, 11.

25 Cf. Armentano, *Antitrust and Monopoly*, op. cit., 22; Markovits, *Monopolistic Competition* ..., *supra*, 583, who regards the neglection of second best considerations as the main theoretical error, noting that second-best considerations do not preclude an allocative efficiency rationale for antitrust, p. 587; Polinsky, *Economic Analysis as a Potentially Defective Product* ..., *supra*, 1680; and Mishan, *The Folklore of the Market* ..., op. cit., 102 f.: "There it was demonstrated that the extension of marginal cost pricing in an economy in which some sectors were constrained to realize other pricing rules would not itself increase social welfare and could, indeed, reduce it."

26 "When we speak of competition, we do not just mean competition through prices and product quality. Indeed, standardized staple goods are of lesser importance in our economies. We mean above all competition through innovation, through the development of new products and new processes. This kind of dynamic view is the only realistic way of looking at competition", cf. Caspary, Manfred, *Joint Ventures Under EEC Law and Policy*, unpublished paper, presented at the Fordham Corporate Law Institute, New York, October 23, 1987, p. 4. This dynamic view is almost completely ignored by the underlying mode of analysis.

27 Cf. Markovits, Richard A., *A Basis Structure for Microeconomic Policy Analysis in our Worse-Than-Second-Best World: A Proposal and Related Critique of the Chicago Approach to the Study of Law and Economics*, 67 *WiscLR* (1975), pp. 950-1080, 989; Mishan, *The Folklore of the Market* ..., op. cit., 102; Spivack, Gordon B., *The Chicago School Approach to Single Firm Exercises of Monopoly Power: A Response*, 51 *ALJ* (1983), pp. 651-674, 672.

the way textbook economics suggests. At least there are reasonable doubts whether this function is performed sufficiently by the market. Secondly, if public policy does not provide for corrective action, further damage to the competitive process might be done which renders any later correction impossible. Thus, the corrective state may never be reached.²⁸

c. The General Methodology: Conclusions

Adherents of the current tenet apply positive methodology to antitrust problems, i.e., the same methodology is applied to economic phenomena as is used in the physical sciences. The difference resides the nature of the empirical subject matter.²⁹ This is a crucial difference, however. The object of analysis is simply not comparable to a physical phenomenon, not at least because it is characterized by extreme data instability.³⁰ Besides this, economics deals with open rather than closed systems, as is shown by the use of partial equilibria models that attempt to reduce the complexity of economic phenomena to manageable proportions. This demonstrates the limited range of applicability of positivist methodology as used by adherents of

28 Cf. Scherer, Frederic M., *Industrial market structure and economic performance*, second ed., Chicago 1980, p. 38; Spivack, *The Chicago School Approach ...*, supra, 671 f.; and Winter, S., *Economic 'Natural Selection' and the Theory of the Firm*, 4 YEE (1964), pp. 225-264, 256-264.

The market for corporate control, assumed to be more or less perfect, is an often cited example in this context, cf. Lenel, Hans O., *Über die Märkte für Unternehmenskontrolle*, in: Borchart, Manfred, et al. (eds.), *Markt und Wettbewerb*, Bern, Stuttgart 1987, pp. 143-170, 169 f.; see as well Mueller, Dennis C., *A Cross-National Comparison of the Results*, in: Mueller, Dennis C. (ed.), *The Determinants and Effects of Mergers: An International Comparison*, Königstein/Ts., pp. 299-314, 312: "... to the extent that it works at all, does so with considerable slippage and uncertainty."

29 Cf. Horwitz, *Law and Economics ...*, supra, 905: "The economic analysis of law is only the most recent claimant to draw upon the prestige of the natural sciences in the effort to create a system of legal thought that is objective, neutral, and apolitical."

30 Cf. Chalk, Alfred F., *Concepts of Change and the Role of Predictability in Economics*, 2 HPE (1970), pp. 97-117, 109; Heilbronner, Robert L., *On the Limits of Economic Prediction*, 70 Diogenes (1970), pp. 30-38, 36.

current antitrust theory.³¹

The same reservations apply to the use of neoclassical price theory. Proponents of the Chicago School seem to use theory rather selectively, filtering it through pre-supposed value judgments and highly tendentious definitions.³²

2. Mergers, Efficiency, and the Model for Evaluation

a. Consumer Welfare and Efficiency: Remarks on Interdependence

In the context of current antitrust theory, competition is regarded as a specific state of the market in which consumer welfare cannot be increased by judicial decree.³³ Furthermore, the use of the efficiency criterion emerges from the acceptance of consumer welfare as the sole goal of current antitrust policy. This presupposes a close link between consumer welfare and the criterion of efficiency insofar as "(b)usiness efficiency necessarily benefits consumers by lowering the costs of goods and services or by increasing the value of the product or service offered".³⁴

This assumes that consumers benefit from the efficiency increase automatically; but this only occurs if there is sufficient competitive pressure at any particular time. A crucial difficulty with regard to the terminology seems to be that business efficiency and economic efficiency are not properly distin-

31 Cf. Wilber/ Wisman, *The Chicago School: Positivism or Ideal Type?*, op. cit., 80-83; see as well, Buchanan, James M., *Good Economics - Bad Law*, 60 VLR (1974), pp. 483-492, 485, commenting on the methodological bias: "At this point care must be taken to distinguish between positive economic analysis and the advancement of the efficiency norm that is often associated with the analysis. The latter, which involves an explicit value judgment, need not accompany the former."

32 Cf. Harris/Jorde, *Market Definition in the Merger Guidelines* ..., *supra*, 465: "It is our view that neoclassical price theory simply does not provide a sufficient basis on which to conduct antitrust policy ... Furthermore, there is great danger when analysts or policymakers confuse the consequences assumed to flow from a simplified theoretical model with the realities of a complex economy."; cf. as well Hovenkamp, *Antitrust Policy After Chicago*, *supra*, 256; Schmidt/Rittaler, *Die Chicago School of Antitrust Analysis*, op. cit., 33-37; and Spivack, *The Chicago School Approach* ..., *supra*, 669 f.: "Despite the protestations of some of its proponents, Chicago School economic theory is just that: theory. It is not a science giving conclusive answers to the difficult problems that antitrust cases raise."

33 Cf. Bork, *The Antitrust Paradox*, op. cit., 50 f.

34 Bork, *The Antitrust Paradox*, op. cit., 7.

guished from each other.³⁵ An explicit definition of when efficiency can be said to be achieved is not offered³⁶, and even *Bork* has to concede that efficiency cannot be measured and that substitutes have to be used in order to evaluate whether increases in efficiency have occurred.³⁷

b. The Incorporation of Current Efficiency Considerations

We have already established that there is no explicit consideration of efficiency effects where an efficiency defense in merger cases is conducted according to Sec. 7 Clayton Act, although the legislator has presumably incorporated efficiency considerations implicitly through the wording of the statute.³⁸

35 Cf. Böbel, *Marktmacht versus Effizienz ...*, supra, 50 note 14; Kalfass, Hermann H., *Die Chicago School - Eine Skizze des "neuen" amerikanischen Ansatzes für die Wettbewerbspolitik*, 30 WuW (1980), pp. 596-601, 599 f.

36 Cf. Scherer, Frederic M., *The Posnerian Harvest: Separating Wheat from Chaff*, 86 YLJ (1977), pp. 974-1001, 995 f.: "Also I have been unable to find an explicit definition (of efficiency)". There is no explicit consensus, whether efficiency just means allocative efficiency or whether productive efficiency and, therefore, productivity increases have to be included, cf. Polinsky, *Economic Analysis as a Potentially Defective Product ...*, supra, 1659-1663; and Posner, *Economic Analysis of Law*, op. cit., 4: "By a process of voluntary exchange, resources are shifted to those uses in which the value to the consumer, as measured by the consumer's willingness to pay, is highest. When resources are being used where their value is greatest, we may say that they are being employed efficiently."

37 Cf. Bork, *The Antitrust Paradox*, op. cit., 192 and 117: "..., antitrust must avoid any standards that require direct measurement and quantification of either restriction of output or efficiency. Such tasks are impossible."; and Scherer, *The Posnerian Harvest ...*, supra, 979: "Posner appears to view the condition for achieving economic efficiency as the equality of price with long-run marginal costs under equilibrium condition."

38 Cf. *Brown Shoe v. U.S.*, 1962 CCH Trade Cases § 70,366, and *FTC v. Procter & Gamble Co.*, 1967 CCH Trade Cases § 72,061, adopting this reasoning. Cf. Kauper, Thomas E., *The 1982 Horizontal Merger Guidelines: Of Collusion, Efficiency, and Failure*, 71 CLR (1983), pp. 497-534, 520, who asserts that the unwillingness of Congress and the courts to permit proof of specific efficiencies does not have to be considered inconsistent with the formulation of general rules accommodating efficiency concerns; cf. as well Schwartz, Louis B., *The New Merger Guidelines: Guide to Governmental Discretion or Propaganda for Revision of the Antitrust Laws?*, 71 CLR (1983), pp. 575-603, 593-595, who stresses this aspect with regard to vertical integration.

There is also the position that there should definitely be an explicit efficiency defense: "The one simple rule that is obviously needed is that a merger ... should be allowed if the merging firms can demonstrate that the merger would substantially increase real efficiency in production and distribution. (T)hat ... enforcement would be in accord with accepted

The current efficiency-orientation of the government, the enforcement agencies, and the courts are also directed towards reorientation in the application of Sec. 7 Clayton Act. Like the other antitrust statutes, Sec. 7 Clayton Act is regarded as a consumer welfare prescription with the intention to promote economic efficiency.³⁹

Whereas the 1968 Merger Guidelines did not take efficiency considerations into account, the 1982 and 1984 Guidelines elevated minimum threshold levels for challenging mergers.⁴⁰ At the same time, the Merger Guidelines 1984 of the Antitrust Division have introduced an explicit efficiency-defense and the failing firm defense has been extended to failing divisions of otherwise healthy firms.⁴¹ This has again revived the extensive discussion about the manner in which and the method by which efficiency considerations should be taken into account and thereby find an optimal solution for balancing different factors and effects associated with the occurrence of a merger, in accordance with the contents of the statutes.⁴²

The point of departure for analyzing the current orientation could be the possible effects of a merger on allocative efficiency, productive efficiency,

principles of economic rationality.", Bain, Joe S., Industrial Organization, 2nd ed., New York et al. 1968, p. 658. For the contrary position cf. Dewey, Donald, Mergers and Cartels: Some Reservations about Policy, 51 AER (1961), pp. 255-262, 257.

39 Cf. Reiter v. Sonotone Corp., 1979-1 CCH Trade Cases § 62,688 at p. 77, 877; Bork, The Antitrust Paradox, op. cit., 57-61; Posner, Antitrust Law: An Economic Perspective, op. cit., 23, 99 f.; and with regard to the 1982 Merger Guidelines of the Department of Justice, making explicit government enforcement policy, Baxter, William F., Responding to the Reaction: The Draftman's View, 71 CLR (1983), pp. 618-631, 619 f.: "An examination of the language and legislative histories of section 1 of the Sherman Act and section 7 of the Clayton Act strongly suggests a focus on economic efficiency. '(C)ompetition' and 'monopoly' in section 7 are used as short-hand expressions for effects on consumer welfare."

40 Cf. Merger Guidelines 1968, 1 CCH TRRer § 4510; and Böbel, Ingo, Wettbewerb und Industriestruktur: Industrial Organization - Forschung im Überblick, Berlin et al. 1984, p. 216 for this evaluation.

41 Cf. Merger Guidelines 1984, TRR No. 655, June 18, 1984, Part II.

42 Cf. Fisher, Alan A., and Robert H. Lande, Efficiency Considerations in Merger Enforcement, 71 CLR (1983), pp. 1580-1696, 1691 f.; and Kauper, The 1982 Horizontal Merger Guidelines ..., *supra*, 520 and 522.

and the amount of wealth transfer from producers to consumers and vice versa.⁴³

c. The Partial Equilibrium Trade-Off Model Reconsidered

The current considerations on the possible effects of mergers are based on a partial equilibrium welfare model which was originally introduced by *Harberger* and which demonstrates the welfare differences between monopoly and competition, especially the resulting welfare loss and resource misallocation in individual industries due to market power.⁴⁴ The model is based on the concept of consumer's rent (consumer's surplus), originally introduced by *Dupuit* and *Marshall*⁴⁵ and has been enlarged on by *Williamson*, who gave up the assumption of constant returns to scale inherent in the classical models used for the purpose of welfare measurement.⁴⁶

Among other purposes, the model serves to balance the efficiency effects resulting from a merger. Mergers do cause market power, and, therefore, allocative inefficiency, on the one hand, by allowing the possibility of restricting the output and raising the price; but on the other hand, mergers offer

43 Cf. similarly Fox, Eleanor M., Introduction - The 1982 Merger Guidelines: When Economists are Kings?, 71 CLR (1983), pp. 281-302, 282 f.; Lande, Wealth Transfers as the Original and Primary Concern of Antitrust ..., supra, 72; Markovits, A Basis Structure for Microeconomic Policy Analysis ..., supra, 955.

44 Cf. Harberger, Arnold C., Monopoly and Resource Allocation, 44 AER (1954), pp. 77-87; and for Germany Böbel, Ingo, Welfare Losses due to Monopoly Power: An Investigation for the West German Economy, 197 JNST (1982), pp. 509-520.

For further surveys on the model cf. Armentano, Antitrust and Monopoly, op. cit., 20-22; and Böbel, Ingo, Wettbewerb und Industriestruktur ..., op. cit., 179-185, and 202-207 for a survey on the criticism of the model; cf. as well Littlechild, Steven C., Misleading Calculations of the Social Costs of Monopoly Power, 91 EJ (1981), pp. 348-363.

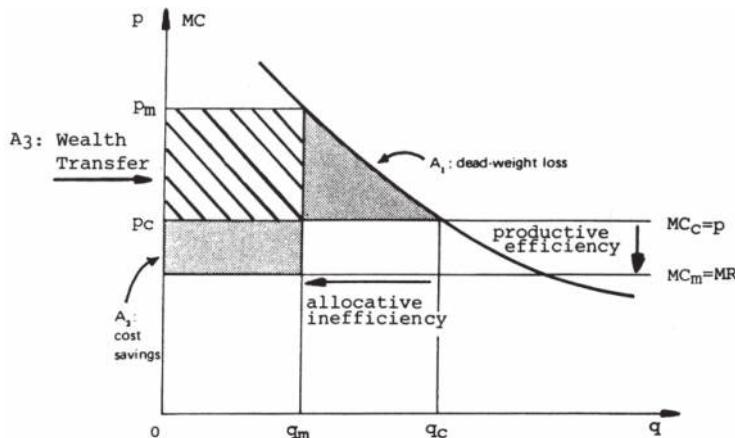
45 "The difference between the maximum amount that the consumer would pay and the amount he or she actually pays is called consumer's surplus.", Mansfield, Edwin, Microeconomics: Theory and Applications, 4th ed., New York and London 1982, p. 95. For a survey cf. Abouchar, A., Marshall, Consumer Surplus and the Marginal Utility of Money, 8 EEJ (1982), pp. 79-82; and Dooley, Peter C., Consumer's surplus: Marshall and his critics, 16 CJE (1983), pp. 26-38.

46 Cf. Williamson, Oliver E., Economies as an Antitrust Defense: The Welfare Tradeoffs, 58 AER (1968), pp. 18-42; idem, Economies as an Antitrust Defense: Correction and Reply, 58 AER (1968), pp. 1372-1376; idem, Economies as an Antitrust Defense: Reply, 59 AER (1969), pp. 954-959; idem, Economies as an Antitrust Defense Revisited, in: Jaquemin, Alexis P., and Henk W. de Jong (eds.), Welfare Aspects of Industrial Markets, Leiden 1977, pp. 237-281.

possible cost reductions due to an increase in productive efficiency. According to adherents of the model, these counteracting effects have to be balanced against each other in order to determine possible beneficial or detrimental effects of mergers and other business practices.⁴⁷

*Williamson exemplified this trade-off between the positive and negative results of horizontal mergers by a merger of duopolists: on the one hand possible cost advantages, and on the other an increase in market power which leads to a resource misallocation.*⁴⁸ In this context, he juxtaposes a market situation that is characterized by competition before a merger occurs, to a market situation after the merger has been carried out. The effects on the allocation of resources and the acquiring firm's productivity due to the merger are then determined. The resulting cost advantages from the merger and the resulting market power demonstrated by the increase in price are hence presented in a partial equilibrium model:⁴⁹

Fig. 2: The Williamson Trade-Off Model



Adapted from: Schmidt, Ingo, and Jan B. Rittaler, Die Chicago School of Antitrust Analysis: Wettbewerbstheoretische und -politische Analyse eines Credos, Baden-Baden 1986, p. 51.

47 Bork, The Antitrust Paradox, op. cit., 91: "The whole task of antitrust can be summed up as the effort to improve allocative efficiency without impairing productive efficiency so greatly as to produce either no gain or a net loss in consumer welfare."

48 Cf. Williamson, Economies as an Antitrust Defense: The Welfare Tradeoffs, *supra*.

49 Cf. Böbel, Wettbewerb und Industriestruktur ..., op. cit., 210.

Within the *Williamsonian* model it is assumed that the long-run average costs of the two merging parties - approximated by the marginal cost curve - can be reduced from MC_c to MC_m by an increase in productive efficiency due to the merger which leads to a joint new cost function. However, the merger leads to a restriction of output due to the increase in market power so that after the merger is carried out, the output quantity is reduced from q_c to q_m .

On the basis of the model and prevalent empirical studies on welfare losses, it is now assumed that the cost savings documented by rectangle A_2 outweigh by far the welfare losses due to the restriction of output documented by triangle A_1 (so-called deadweight loss).⁵⁰

Adherents of the model hold that economies as little as two percent in general yield net allocative-efficiency gains to society. This means that relatively small efficiency gains resulting from a merger would more than offset relatively large gains in the merging parties' market power. Williamson has calculated the reductions in costs necessary to offset the allocative inefficiency resulting from a specific percentage price increase due to an increase in monopoly power:⁵¹

Tab. 6: Williamson's Offset Calculations

Increase in price (%)	Elasticity of Demand			
	$\eta=3$	$\eta=2$	$\eta=1$	$\eta=\frac{1}{2}$
5	0.44	0.27	0.13	.06
10	2.00	1.21	0.55	0.26
20	10.38	5.76	2.40	1.10

Source: Williamson, Oliver E., *Economies as an Antitrust Defense Revisited*, 125 UPLR (1977), pp. 699-736, 709.

50 The deadweight loss due to the restriction of output represents the amount by which the social welfare of society could be increased if antitrust policy could prevent such output restrictions, cf. Armentano, Antitrust and Monopoly ..., op. cit., 21.

51 Cf. Williamson, Oliver E., *Economies as an Antitrust Defense Revisited*, 125 UPLR (1977), pp. 699-736, 708 f. The table presents the **cost decreases** necessary to offset the **increases in price** due to increased market power, choosing **different levels of demand elasticity**: "For example, a merger likely to increase consumer prices by ten percent would have a net social gain if cost efficiencies exceeded two percent, for any demand elasticity up to three (percent).", Fisher/Lande, Efficiency Considerations in Merger Enforcement, *supra*, 1629.

From a public policy point of view it does not seem useful - except in some extreme cases - to declare mergers illegal, since the model shows that, as a rule, mergers bring about net efficiency gains and, therefore, an increase in consumer welfare.⁵² As a rule, a merger of two different firms at the same level of production is seen as an expression of efficiency if this merger does not lead to a duopoly. Even in highly concentrated markets, and taking this provision into account, a merger should not be the subject of judicial enquiry as long as there are any efficiency advantages associated with it.⁵³

The validity of the *Williamson* welfare trade-off as an underlying model for the evaluation of possible effects of mergers depends on the effect of the qualifications necessary to transform the 'naive' *Williamson* model into a model with more realistic assumptions. These qualifications can be classified into different categories: qualifications with respect to premises and assumptions of the model, general welfare measurement qualifications, qualifications associated with the effects of a merger on productive efficiency, qualifications associated with the effects of a merger on allocative efficiency, and qualifications associated with the consideration of possible wealth transfers.⁵⁴

52 Cf. Armentano, Antitrust and Monopoly ..., op. cit., 22; Böbel, Marktmacht versus Effizienz ..., supra, 46 f.; Hovenkamp, Herbert, Merger Actions for Damages, 35 HastLJ (1984), pp. 937-973, 949 f.; and Fisher/Lande, Efficiency Considerations in Merger Enforcement, supra, 1624 f.

53 Bork, The Antitrust Paradox, op. cit., 221 f.: "My guess is that ... mergers up to 60 or 70 percent of the market should be permitted ... Partly as a tactical concession to current oligopoly phobia ..., I am willing to weaken that conclusion ... making presumptively lawful all horizontal mergers up to market shares that would allow for other mergers of similar size in the industry and still leave three significant companies."

54 We will not perform a general critique associated with the original Harberger model since this would be an undertaking which goes beyond the scope and the emphasis of the thesis submitted; besides, in any case its has already been done elsewhere, cf., e.g., Bergson, Abram, On Monopoly Welfare Losses, 63 AER (1973), 853-870; Böbel, Wettbewerb und Industriestruktur ..., op. cit., 201-208; Cowling, Keith, and Dennis C. Mueller, The Social Costs of Monopoly Power Revisited, 91 EJ (1981), pp. 727-748; and Littlechild, Misleading Calculations ..., supra; we will emphasize crucial aspects with regard to the specific application of the *Williamson* model, however.

d. Qualifications to the Model

aa. Premises and Assumptions

The main purpose of this section is not to show primarily that the premises and assumptions underlying the *Williamsonian* model and current antitrust theory do not correspond to reality but to show how the model would react to altered specification of the premises and assumptions.⁵⁵

A main assumption of the original *Harberger* model, which is also accepted by promoters of the Chicago approach, is that the standards of reference are the states of perfect competition and monopoly. In the state of perfect competition, however, demand functions do not slope downwards, or rather have a price-elasticity of demand approaching a value close to infinity. In the case of downward-sloping demand functions, there is a divergence of price from marginal costs under all selling conditions which threatens to make the theory of resource misallocation under imperfect competition appear absurd. The peril here is that the standard of reference can be lost altogether, since a misallocation of resources is relative to a chosen standard.⁵⁶ If one assumes demand functions with a rather low price-elasticity of demand in comparison to a more elastic demand function, the deadweight loss associated with a merger may eventually be smaller than the one derived from the Williamsonian model, but at the same time restrictions with regard to price and quantity in comparison to the more elastic demand function are left out of consideration. This neglects part of the harm done to the consumer due to decreased output and elevated price and hence understates the burden put on society.

The identical conclusion follows from the assumption that premerger market structures embody some degree of market power as is the case most probab-

55 Cf. Fisher/Lande, Efficiency Considerations in Merger Enforcement, *supra*, 1638, who emphasize the dramatic shift resulting from changes in the model's assumptions: "Once we relax ... these assumptions, the range of cost savings necessary to offset anticipated price increases widens so substantially that a given percentage of cost savings would no longer presumably offset much greater price increases from a merger."

Williamson himself showed that the validity of his model and hence the net welfare effect of mergers would strongly be influenced by the shape of the cost curve, the elasticity of demand for the product, and the alleged increase in market power. How valuable the Chicago approach is altogether, has been treated in terms of the methodology applied *supra*.

56 Cf. Armentano, Antitrust and Monopoly ..., op. cit., 23 f.

ly in most of the real existing industrial markets. If this is taken into consideration, the model understates the resulting burden on society by just emphasizing the deadweight loss and neglecting the price/quantity consequences as well as the wealth transfers due to the merger.⁵⁷ The degree of preexisting market power as well as the amount of price-elasticity of demand for the product in question therefore become crucial variables.⁵⁸

A further assumption appears to underestimate considerably the increases in efficiency necessary to outweigh the deadweight loss resulting from a merger. The model assumes price increases of not more than thirty percent above pre-merger levels. A number of studies have shown however, that merger-induced price increases exceeding thirty percent are by no means a rarity.⁵⁹

A further assumption closely connected to the price increase assumption is that price elasticities of demand are in the range of three or below.⁶⁰ Besides the fact that empirical studies show the contrary⁶¹, determining the value of price elasticities crucially depends on the length of the selected time period for measurement: as a rule price elasticities tend to be greater

57 Cf. Böbel, Wettbewerb und Industriestruktur ..., op. cit., 214 f.; DePrano, Michael E., and Jeffrey B. Nugent, Economies as an Antitrust Defense: Comment, 59 AER (1969), pp. 947-953; and Jackson, Raymond, The Consideration of Economies in Merger Cases, 43 JB (1970), pp. 439-447.

Williamson admits this but responds by asserting that his critics greatly overstate the correction factor to be applied in order to take this into account, cf. Williamson, Economies as an Antitrust Defense: Reply, *supra*, 957.

58 Cf. Fisher/Lande, Efficiency Considerations in Merger Enforcement, *supra*, 1641: "Regardless of the amount of correction, however, the direction is clear: the greater the preexisting market power, *ceteris paribus*, the greater the expected cost efficiencies should be to permit a merger likely to increase monopoly power", *italics in original*.

59 Cf., e.g., Geithman, Frederick E., Howard P. Marvel and Leonard W. Weiss, Concentration, Price, and Critical Concentration Ratios, 63 RES (1981), pp. 346-353; and Kessel, Reuben, A Study of the Effects of Competition in the Tax-Exempt Bond Market, 79 JPE (1971), pp. 706-738.

60 Cf. Fisher/Lande, Efficiency Considerations in Merger Enforcement, *supra*, 1643.

61 Cf. Fisher/Lande, Efficiency Considerations in Merger Enforcement, *supra*, 1643, holding that empirical studies show elasticities of demand for successful consumer brand products between one and fifteen and the majority between two and a half to five: "Nevertheless, if demand elasticities of as much as five are not uncommon, the efficiencies necessary to compensate for possible market-power effects would increase dramatically", *emphasis added*.

in the longer run than in the short term.⁶² Since different elasticities of demand are connected with corresponding changes in the level of price, the lower the profit-maximizing price, the higher the price elasticity of demand for a given increase in monopoly power. This interrelatedness further increases the difficulty in predicting welfare effects.⁶³

bb. General Welfare Measurement

Real changes in net welfare can only be determined accurately if changes in productive efficiency and changes in allocative inefficiency are taken into account; in other words, the comparative-static nature of the model must be given up. Thus, the measurement must account for the timing of the trade-off, and the discounted present values of the stream of costs and benefits arising from a merger.⁶⁴ An accurate prognosis of the effects on the welfare trade-off of extending the time period measured is rather complicated because of numerous imponderabilities. In the case of the two cost functions of the merging firms, this is particularly obvious. The model assumes two cost functions that can be unambiguously determined. It is left out of consideration, however, that in a dynamic view the intensity of competitive pressure determines the extent of cost control that is performed by the market, and hence also determines the stream of costs which arise. The trade-off therefore can only claim validity in the short term.⁶⁵

Comparison between welfare losses due to market power, and cost savings due to a shifted cost function, can only be performed if data is available. This data, however, is generally unknown or unavailable. The *Williamsonian* model is therefore difficult to handle, difficult to operationalize, and difficult

62 Cf. for empirical evidence, Telser, Lester G., *Competition, Collusion and Game Theory*, Chicago 1972, pp. 274-300.

63 Cf. Fisher/Lande, Efficiency Considerations in Merger Enforcement, *supra*, 1643.

64 Cf. Böbel, *Wettbewerb und Industriestruktur* ..., op. cit., 213; on the calculation of the deadweight loss over time, cf. Schmalensee, Richard A., Another Look at Market Power, 95 HLR (1982), pp. 1789-1802, 1794 f.

65 Cf. Fisher/Lande, Efficiency Considerations in Merger Enforcement, *supra*, 1635 f.; Schmidt, *Wettbewerbspolitik und Kartellrecht*, op. cit., 96; and Schmidt/Rittaler, Die Chicago School of Antitrust Analysis, op. cit., 52 f.

to put into practice. If additional factors are taken into consideration, the model loses its analytical clarity.⁶⁶

cc. Allocative Efficiency

Different kinds of efficiencies can be discerned in economics.⁶⁷ As already pointed out, efficiency is seen in terms of a quantifiable amount of consumer welfare. In this sense, consumer welfare depends on productive efficiency on the one hand, and on allocative efficiency on the other:⁶⁸

"Allocative efficiency, as used here, refers to the placement of resources in the economy, a question of whether resources are employed in tasks where consumers value their output most."

This characterization is based on the Pareto definition of efficiency (Pareto optimality), which suggests that an allocation of resources is efficient if no rearrangement of resources to make one participating economic agent better off, can be made without rendering at least one participating economic agent worse off in terms of his own welfare. The neoclassical price theory is believed to define the circumstances under which this will occur.⁶⁹

The level of consumer welfare in the perceived market equilibrium is influenced on the one hand by the preferences of all individuals which are re-

66 Even Bork concedes that "(i)t is disastrous to draw policy conclusions from that diagram. Its only valid use is to indicate the general relationship of loss and gain in cases in which both occur. ... One simply cannot read appropriate merger policy off a chart.", Bork, *The Antitrust Paradox*, op. cit., 220. There is a variety of authors who reject the partial equilibrium trade-off model as being unable to perform its function in specific cases because of the imponderabilities; for the most prominent cf. Adams, Walter, *Economic Theory and Economic Policy*, 40 RSE (1982), pp. 1-12; Armentano, *Antitrust and Monopoly* ..., op. cit., ch. 2; Fox, *The Modernization of Antitrust* ..., *supra*, 1159-1966; and Singer, Eugene, *Antitrust Economics and Legal Analysis*, Columbus, Ohio 1981.

67 Cf. Scherer, *Industrial market structure* ..., op. cit., 13-20: allocative efficiency, 302 f.; productive efficiency, 20 f. and 464-466: X-inefficiency.

68 Bork, *The Antitrust Paradox*, op. cit., 91.

In the view of the Chicago School there is a balancing problem since productive and allocative efficiency, for example, may oppose each other in the case of a merger: "(P)roductive efficiency is one of the two opposing forces that determine the degree of consumer well-being (the other one being resource misallocation due to monopoly power) ...", *ibid.*, 7.

69 Cf. Hovenkamp, *Antitrust Policy After Chicago*, *supra*, 239; Mansfield, *Microeconomics* ..., op. cit., 57 f., 440, and 459; Scherer, *Industrial market structure* ..., op. cit., 595 f.

vealed by total demand, and on the other hand by the costs that arise from the production of goods and services that fulfill the demands of society.

Against the background of neoclassical price theory, the Chicago School contends that in a market characterized by perfect competition, marginal revenues of a single firm always equal market demand, thus determining market price.⁷⁰ The market power of a single firm in a market that is characterized by perfect competition can only be small and is hence negligible⁷¹, whereas in the case of monopoly the price is elevated and the output restricted in comparison to perfect competition. In this context, allocative inefficiency in a monopoly is characterized by a divergence of price from marginal costs:⁷²

"The distinctive feature of the monopoly situation is that the monopolist has created a gap between marginal costs and price, which means that social costs and social desires are no longer equated ... (t)he evil of monopoly, then, is not higher prices or smaller production (though these are its concomitants) but misallocated resources or allocation inefficiency."

Because a supplier produces less than he would have produced under competitive conditions, some resources will be used for other economic purposes. These are purposes that are valued less by the consumer, however. This leads to a reduction of total wealth. The measurable outcome of allocative inefficiency is the deadweight loss due to market power.⁷³

Two major qualifications have to be considered with regard to the original amount of deadweight loss due to a merger measured by the *Williamsonian* model. *Williamson* originally assumed a non-linear iso-elastic demand curve. However, if a more or less linear demand curve is assumed (as may seem appropriate in some situations), the resulting deadweight loss always exceeds

70 Cf. Bork, *The Antitrust Paradox*, op. cit., 93.

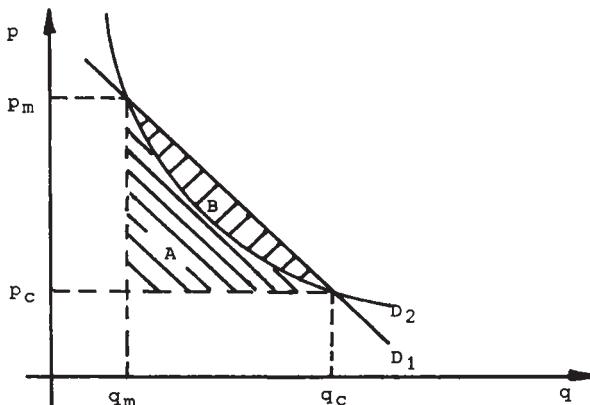
71 Cf. Posner, *Antitrust Law: An Economic Perspective*, op. cit., 9, whose formulation is rather imprecise and resembles phraseology since in the case of perfect competition there is no problem of power.

72 Bork, *The Antitrust Paradox*, op. cit., 101; and Böbel, *Wettbewerb und Industriestruktur ...*, op. cit., 179 ff. This definition leads the classical view on monopoly ad absurdum since monopoly was originally associated with the evils of restricted output quantities and elevated price levels.

73 Cf. Fig. 2 of this contribution. For a formal proof that monopoly power leads to allocative inefficiency, cf. Mansfield, *Microeconomics ...*, op. cit., 277-292; Scherer, *Industrial market structure ...*, op. cit., ch. 2; and Stigler, George J., *The Theory of Price*, 2nd ed., New York 1966, pp. 78-81.

the deadweight loss calculated from a *Williamsonian* demand curve.⁷⁴ Hence, deadweight loss seems to be tendentially larger than Williamson's model would have us believe:

Fig. 3: Deadweight Loss and Linear Demand Curve



Source: Fisher, Alan A., and Robert H. Lande, Efficiency Considerations in Merger Enforcement, 71 California Law Review (1983), pp. 1580-1696, 1639.

A further aspect is that deadweight loss in this model is confined to the individual loss of consumer surplus. However, equally important is social opportunity loss due to inefficient use of resources and possible under-utilization of these resources. This loss is largely neglected. It can be calculated by comparing the Cournot equilibrium with the competitive equilibrium. The latter is attained by assuming internal growth which leads to an increase in productive efficiency and, therefore, to a lower cost function also.⁷⁵

⁷⁴ Cf. Jackson, The Consideration of Economies in Merger Cases, *supra*. Empirical evidence provides no guidance, however, of what demand specifications to use, cf. Fisher/Lande, Efficiency Considerations in Merger Enforcement, *supra*, 1639 f. Besides, the deadweight loss is further undercounted since forgone profits on output no longer produced are neglected, cf. DePrano/Nugent, Economies as an Antitrust Defense: Comment, *supra*, 950-952.

⁷⁵ Koo, Shou-Eng, A Note on the Social Welfare Loss Due to Monopoly, 38 SEJ (1970), pp. 212-214.

dd. Productive Efficiency

The second factor determining consumer welfare is productive efficiency. Whereas allocative efficiency is concerned with the overall placement of economic resources, "(p)roductive efficiency refers to the effective use of resources by particular firms".⁷⁶ Therefore, productive efficiency is concerned with the individual firm's flow of resources to their most effective use within the firm.⁷⁷

In this context, adherent of the current tenet speak of "competitive effectiveness" and apply the concept not only to mechanistical or technical processes that can be inquired into by so-called engineering studies.⁷⁸ Productive efficiency is supposed to be determined only to a certain extent by economies of scale and transaction-cost efficiencies. Considerably stronger factors of influence that determine productive efficiency are specialization, ability to obtain capital, management skills etc., but these are elements which are difficult to quantify.

Productive efficiency is not seen as analogous to or in any way associated with profitability, in contrast to the view of the Harvard School, since the relative efficiency of a firm is not evaluated by its profit rates, but by its relative success in the market-place.⁷⁹ This success is evaluated on the basis of the so-called "survivor test", developed by *Stigler*. The standard of reference for the underlying cost situation is the structure of an industry that for a longer period has not been subject to legal barriers to entry and furthermore, has not changed its market position.⁸⁰ The survivor technique

76 Bork, The Antitrust Paradox, op. cit., 91 note.

77 For further definitions of productive efficiency cf. Mansfield, Microeconomics ..., op. cit., 4-6; and Scherer, Industrial market structure ..., op. cit., 13-21.

78 Engineering studies are considered the most reliable method in determining the impact of firm size on the costs of products, cf. Scherer, Frederick M., Economies of Scale and Industrial Concentration, in: Goldschmid, Harvey, et al. (eds.), Industrial Concentration: The New Learning, Boston, Toronto 1974, pp. 18-54; and Monopolkommission, Hauptgutachten VI: Gesamtwirtschaftliche Chancen und Risiken wachsender Unternehmensgrößen, Baden-Baden 1986, pp. 232 f.

79 Cf. Bork, The Antitrust Paradox, op. cit., 104 f.

80 Cf. Demsetz, Harold, Economics as a Guide to Antitrust Regulation, 19 JLE (1976), pp. 371-388, 375.; Scherer, Economies of Scale and Industrial Concentration, op. cit., 18; and for the deficiencies, Schmidt, Wettbewerbspolitik und Kartellrecht, op. cit., 91.

"proceeds to solve the problem of determining the optimum firm size as follows: classify the firm in an industry by size, and calculate the share of industry output coming from each class over time. If the share of a given class falls, it is relatively inefficient, and in general is more inefficient the more rapidly the share falls."⁸¹

As has been shown above, it is assumed that a merger will reduce the anticipated joint total average costs of an acquiring firm - approximated by its marginal costs - from MC_c to MC_m . The effect of mergers and, therefore, concentration on productive efficiency is rather complex, however, and not as unambiguous as portrayed by the Williamsonian model.

Rising concentration can have negative effects on productive efficiency as well. Primarily this can be subsumed under the headings of 'X-inefficiency' and 'diseconomies of scale'. X-inefficiencies can be considered a kind of organizational slack due to motivation and incentive problems on the part of managers and workers. Such problems are likely to occur if incumbent competitors are protected from sufficient competitive pressure. As a result, these competitors will show an increased level of discretion in the market.⁸² The resulting inefficiencies are considered by some economists to be at least as large as losses from allocative inefficiency.⁸³ The critical reviews of

⁸¹ Stigler, George J., *The Organization of Industry*, Homewood, Ill. 1968, p. 73. The other method being engineering studies, trying to elaborate on the exact shape and properties of cost functions.

⁸² Observed as early as 1935, cf. Hicks, John, *Annual Survey of Economic Theory: The Theory of Monopoly*, 3 *Econometrica* (1935), pp. 1-20, 8; and for the explicit description of the phenomenon, Leibenstein, Harvey, *Allocative Efficiency vs. 'X-Efficiency'*, 35 *AER* (1966), pp. 392-415, 413: "In situations where competitive pressure is light, many people will trade the disutility of greater effort, of search, and of the control of other peoples' activities for the utility of feeling less pressure and of better interpersonal relations. But in situations where competitive pressures are high, they will exchange less of the disutility of effort for the utility of freedom from pressure ..."; cf. as well DeAlessi, Louis, *Property Rights, Transaction Costs, and X-Efficiency: An Essay in Economic Theory*, 73 *AER* (1983), pp. 64-81.

⁸³ Cf. Scherer, *Industrial market structure* ..., op. cit., 466; whereas other authors deny the existence of x-inefficiencies, cf. DiLorenzo, Thomas J., *Corporate Management, Property Rights and the X-istence of X-efficiency*, 48 *SEJ* (1981), pp. 116-123, 122: "The main thesis ... is that rational utility maximizing managers of private monopolistic firms will not be more lax in their pursuit of profit maximization than will be the managers in more competitive industries."; and Stigler, George J., *The Xistence of X-Efficiency*, 66 *AER* (1976), pp. 213-216.

Leibenstein's approach were carried out mainly on theoretical and rhetoric grounds.⁸⁴

However, *DiLorenzo*⁸⁵ and *De Alessi*⁸⁶ additionally criticized the fact that *Leibenstein* had focused his studies too much on commodity markets and neglected property rights, the market for corporate control, and managerial labour markets.

Despite these critical views and the fragmentary evidence, empirical studies have unambiguously shown that the phenomenon of X-inefficiency exists in big firms and in firms not controlled sufficiently by competition.⁸⁷ This kind of inefficiency can either be regarded as a dead loss in the sense of some degree of sheer waste, or as an involuntary transfer from customers to input suppliers.⁸⁸

This basic idea has been extended in order to consider that

"lucrative transfer payments in the form of monopoly profits will attract real resources into efforts by sellers to monopolize, ... The costs of the resources so used are costs of monopoly just as much as the costs resulting from the substitution of products that cost society more to produce than the monopolized product".⁸⁹

Competition for the right to monopolize would proceed until marginal costs of monopolizing would equal marginal returns from monopolizing. This action is

84 Stigler, for example, argued that "(w)hen more of one goal is achieved at the cost of less of another goal, the increase in output due to (say) increased effort is not an increase in 'efficiency' It is a change in output", Stigler, The X-istence of X-Efficiency, supra, 215.

85 Cf. Di Lorenzo, Corporate Management, ..., supra.

86 Cf. De Alessi, Property Rights, ..., supra.

87 This is emphasized by Leibenstein, Allocative Efficiency vs. "X-Efficiency", supra, 413: "The amount to be gained by increasing allocative efficiency is trivial while the amount to be gained by increasing X-efficiency is frequently significant." Evidence for this assertion was found by Prieurmeaux, Walter J., An Assessment of X-Efficiency Gained Through Competition, 59 RES (1977), pp. 105-108, who found inefficiencies as high as 11% of total average costs in the field of regulated energy utilities.

88 Cf. Shepherd, The Treatment of Market Power, op. cit., 131.

89 Posner, Antitrust Law: An Economic Perspective, op. cit., 11; and idem, The Social Costs of Monopoly and Regulation, 83 JPE (1975), pp. 807-827, 807. Posner's error, however, seems to be that he judges such activity to be productive, whereas the productivity of resources in securing and maintaining monopoly positions are clearly negative when judged in terms of social productivity, cf. Buchanan, Good Economics - Bad Law, supra, 487.

referred to as rent-seeking. Empirical evidence is ambiguous on the quantitative significance, however.⁹⁰

The production function left unchanged, diseconomies of scale can occur. This is the case if output increases by a smaller proportion than each of the inputs of the production process. Diseconomies typically arise if enterprises reach a certain size and the costs of organization overproportionately increase in comparison to the organization's output. The same applies for the relation between input and output in research and development.⁹¹

ee. Transfer of Wealth

A possible increase in market power due to a merger of two parties is accompanied by a wealth transfer from consumers to stockholders since the acquiring party is able to cut output and elevate price, tendentially approaching the *Cournot equilibrium*.⁹² Neither the *Harberger* model nor the *Williamsonian* model take wealth transfers into account since these models solely allow statements about the wealth of society as a whole. They do not allow statements about the distribution of income and wealth changes due to changed economic conditions. This is also a characteristic of the original Chicago School approach since within the theoretical edifice the abstraction from distributional aspects is considered a *conditio sine qua non*. Consumer

90 For a survey cf. Siegfried, John J., and Edwin H. Wheeler, *Lost Efficiency and Monopoly Power: A Survey*, 21 QREB (1981), pp. 25-46, including further reference.

91 Cf. Mansfield, *Microeconomics* ..., op. cit., 160 f.; and Schmidt, *Wettbewerbspolitik und Kartellrecht*, op. cit., 86 f.

92 Cf. Fisher/Lande, *Efficiency Considerations in Merger Enforcement*, *supra*, 1625, 1631-1633, 1645, and 1693; Hovenkamp, *Merger Actions for Damages*, *supra*, 950; idem, *Economics and Federal Antitrust Law*, St. Paul, Minn. 1985, pp. 19-24; Lande, *Wealth Transfers as the Original and Primary Concern of Antitrust* ..., *supra*, 74 and 146 f; as well as Leff, *Economic Analysis of Law* ..., *supra*, 480.

welfare is equated with social welfare, which leads to an abstraction from distributional aspects:⁹³

"(I)t seems clear the income distribution effects of economic activity should be completely excluded from the determination of the antitrust legality of the activity. It may be sufficient to note that **the shift in income distribution does not lessen total wealth, ...**"

In abstracting from distributional aspects, monopolists are seen as a different class of consumers, which is in exact accord with the models for welfare measurement. It is conceded that if wealth transfer aspects were taken into account, welfare calculations and the *Williamson* trade-off would have different results.⁹⁴ The extent of the total welfare shift from consumers to

93 Bork, *The Antitrust Paradox*, op. cit., 111, emphasis added; Areeda, Philip, and Donald F. Turner, *Antitrust Law: An Analysis of Antitrust Principles and Their Application*, Boston and Toronto 1980, vol. 4, p. 149 note 2; Landes, *Wealth Transfers as the Original and Primary Concern of Antitrust ...*, *supra*, 144-146; Landes, William M., and Richard A. Posner, *Market Power in Antitrust Cases*, 94 *HLR* (1981), pp. 937-996, 954, holding that they "ignore possible distributional objections to monopoly, as both controversial and difficult to quantify."; Posner, *The Social Costs of Monopoly and Regulation*, *supra*, 821; cf. as well Baxter, *Responding to the Reaction ...*, *supra*, 621, with respect to the general inclusion of non-economic considerations such as income distribution: "Direct taxes and subsidies would be less costly (and politically more honest) methods for achieving social and political goals."

94 If net welfare gains arise - that is, if rectangle A₂ is larger than triangle A₁ - distribution problems are ignored, which means that the welfare gain that is represented by the two rectangles A₂ and A₃ (the latter drawn shaded) only accrues to the suppliers. The term consumer welfare gain can be considered rather misleading in this context because these gains represent more or less additional profits for suppliers. It would be better to speak of supplier's surplus instead of consumer welfare.

Bork, *The Antitrust Paradox*, op. cit., 110, emphasis added: "Those who continue to buy after a monopoly is formed pay more for the same output, and that shifts income from them to the monopoly and its owners, who are also consumers. This is not deadweight loss due to restriction of output but merely a **shift in income between two classes of consumers**. The consumer welfare model, which views consumers as a collectivity, does not take this income effect into account. If it did, the **results of trade-off calculations would be significantly altered.**"

stockholders in an economy is not quite clear, however.⁹⁵

Reasoning along these lines only makes sense, however, if this was the intent of the legislator in the sense of a normative judgment, if allocational aspects can be separated from distributional aspects at all, and if this separation can be performed at bearable costs.

As has been documented, the wealth transfer assumption made by the Chicago School is unprovable and has to be viewed as a normative judgment contrary to the one made by Congress.⁹⁶ The judgment by the Chicago School is based on the assumption that welfare can only be measured in constant dollars, so that a transfer of a dollar from a consumer to a monopolist has no welfare implications. This assumption has to be considered both unprovable and quite controversial, however, since it "rests on the ordinalist premise that no one can compare the amount of welfare, or satisfaction, that is created by giving a dollar to a poor person, with the amount that is created

⁹⁵ It is assumed that the share of total personal wealth controlled by the wealthiest 2.4% of U.S. families in 1962 would have been reduced from 40% to somewhere between 16.6 and 32%, cf. Comanor, William S., and Robert H. Smiley, Monopoly and the Distribution of Wealth, 89 QJE (1975), pp. 177-194, 191-193; with regard to the GNP, it is concluded that the sum transferred amounts up to 2 or 3 percent of GNP, Scherer, Industrial market structure ..., op. cit., 471-473.

For some more recent studies, confirming the view, cf. Friedland, Thomas S., The Estimation of Welfare Gains from Demonopolization, 45 SEJ (1978), pp. 116-123; McElroy, Katherine M., John Siegfried, and George Sweeney, The Incidence of Price Changes in the Economy, 64 RES (1982), pp. 191-203; and Powell, Irene, The Effect of Reductions in Concentration on Income Distribution, 69 RES (1987), pp. 75-82, 81.

⁹⁶ Cf. Buchanan, Good Economics - Bad Law, *supra*, 487, and 491, who emphasizes that positive economics and distributional aspects have to separated from each other and that the latter are a matter of normative judgment; cf. as well Horwitz, Law and Economics ..., *supra*, 912; Hovenkamp, Antitrust Policy After Chicago, *supra*, 235-237; Lande, Wealth Transfers as the Original and Primary Concern of Antitrust ..., *supra*, 75; Markovits, A Basis Structure for Microeconomic Policy Analysis ..., *supra*, 985, and 987-989.

by giving the same dollar to someone who is wealthy".⁹⁷ Therefore, the same amount of welfare is assigned to any dollar spent. Following this reasoning, the general law of diminishing marginal utility can not be applied to money as an economic good.⁹⁸

Furthermore, grave doubts exist as to whether the assumption is correct that a strict separation of allocational from distributional aspects is possible.⁹⁹ For one thing, any change towards allocative optimality has distributive effects, in the same way that any change in individuals' incomes will affect resource allocation. Besides, income redistribution will create external effects biasing allocation for nonmaterial reasons (e.g., leisure time). Unless the distributional effects of allocative improvements can be discovered, cautiousness in recommendations should be the rationale.¹⁰⁰ Secondly, the redi-

97 Cf. Hovenkamp, Antitrust Policy After Chicago, *supra*, 236, and 237: "If the policy maker decided that monopoly wealth transfers do affect welfare and that the antitrust laws are as good a legislative mechanism as any to deal with this problem, he would find plenty of economic argument - also supported by unprovable premises - to back him up"; cf. Posner, Richard A., *The Economics of Justice*, Chicago 1981, pp. 48-95, defending the assumption.

The conclusions drawn from the assumption that interpersonal utility comparisons are unfeasible differ, however. This does not necessarily mean that a dollar is worth the same to everyone, cf. Markovits, *A Basis Structure for Microeconomic Policy Analysis ...*, *supra*, 987; recent scholarship has argued that interpersonal welfare comparisons are possible and that the discussion between the ordinalists and the so-called material welfare school about the comparability of utility was a semantic misunderstanding, cf., e.g., Cooter, Robert, and Peter Rapoport, *Were the Ordinalists Wrong About Welfare Economics?*, 22 JEL (1984), pp. 507-530.

98 Mansfield, *Microeconomics ...*, op. cit., 52: "This law states that, as a person consumes more and more of a given commodity (*the consumption of other commodities being held constant*), the marginal utility of the commodity eventually will tend to decline.", italics in original.

99 Cf. Armentano, *Antitrust and Monopoly ...*, op. cit., 15-17, holding that a resource allocation can only be judged efficient or inefficient **given the distribution of income**; Horwitz, *Law and Economics ...*, *supra*, 906; Markovits, *A Basis Structure for Microeconomic Policy Analysis ...*, *supra*, 977, 983, and 1071; Mishan, *The Folklore of the Market ...*, op. cit., 102; Polinsky, *Economic Analysis as a Potentially Defective Product ...*, *supra*, 1669, and 1677-1679.

100 Cf. Markovits, *A Basis Structure for Microeconomic Policy Analysis ...*, *supra*, 977; and Mishan, *The Folklore of the Market ...*, op. cit., 103 f. In an empirical cost-benefit study of horizontal merger enforcement it is emphasized, for instance, that "(t)he number of economically efficient cases based on (antitrust) benefits depends upon the normative valuation of a dollar redistributed. If the distributive effect is highly valued, almost all of the cases represented a net economic gain", Audretsch, *Horizontal Merger Enforcement*, op. cit., 79.

stribution of factor endowments is costly, so efficiency has to be traded for equity anyhow. Therefore, there can be no prediction of a policy's effect on allocative efficiency if its impact on the distribution of income is disregarded.¹⁰¹

III. Impediments to New Competition

The workability of the market mechanism under competitive pressure can be seen in terms of the realization of its basic functions: coordination, information, and allocation. Not only interaction among competitors already in the market (**Incumbents**) is responsible for sufficient competitive pressure. There is a further conditioning factor strongly influencing the extent of competitive pressure: that is, whether or not the market allows free entry and exit by **potential competitors**, i.e. competitors which are not in the market yet. Only if there is sufficient potential competition can profit and loss expectations properly provide incentives and thus make for an effective level of competition. In other words, prevailing conditions must allow a sufficient number of competitors to participate in the market to perform a given set of predefined economic functions.

In the following section we will therefore perform an analysis of Impediments to new competition paying particular attention to the following questions:

- whether and how impediments to new competition restrict the occurrence of entry (do they exist at all?);
- how important such impediments to new competition are (to what extent do they actually deter new competition?);
- should public policy deal with impediments to new competition (should findings be integrated into public policy when industry concentration is evaluated?).

101 Cf. Markovits, A Basis Structure for Microeconomic Policy Analysis ..., supra, 1071, who asserts that the assumption that the effect of a policy on allocative efficiency will not depend on its impact on the distribution of income is only correct in a Pareto optimal world, and concludes that policies that tend to redistribute income may tend to increase allocative efficiency.

Cf. as well Mishan, The Folklore of the Market ..., op. cit., 108-110, holding that in situations of conflict a just distribution has a stronger 'ethical appeal'.

The current theoretical discussion provides a detailed treatment of what are called "structural" impediments to new competition. On the other hand, strategic impediments are only treated summarically. We will attach particular importance to this procedure in the following.

1. Perfect Competition, Monopoly, and Potential Competition

The impact of potential competitors on the intensity of competition within a market has largely been neglected by traditional microeconomic theory. Either totally free access was assumed or access to the market was considered completely blocked. The question of access to a market was essentially considered irrelevant since in atomistic industries market forces would lead to price adjustments, automatically determining long-run equilibrium market prices. An attempt to charge higher prices would lead to the attraction of entry which, in turn, would restore competitive performance. Therefore, in perfectly competitive industries an individual seller would believe the influence of his price or output adjustments on entry to be negligible.¹ Free entry in this sense would preclude the persistence of monopoly profits and persistent industrial concentration would reflect nothing but efficiency. If impediments to new competition were negligible, even pure monopoly would have little market power.²

Within the context of oligopoly analysis, impediments to potential competition were diagnosed that shielded supracompetitive profits from erosion. It was held that incumbent firms were only able to raise prices above the level of minimum average costs collectively if circumstances existed which would

1 Cf. Areeda, Phillip, and Donald F. Turner, *Antitrust Law: An Analysis of Antitrust Principles and Their Application*, vol. 2, Boston and Toronto 1978, pp. 298 f.; and Bain, Joe S., and P. David Qualls, *Industrial Organization: A Treatise*, Part A, Greenwich and London 1987, p. 236: "Theory thus offers no very striking hypothesis concerning the effect of the condition of entry on pricing in atomistic industries."

2 Cf. Koch, James V., *Industrial Organization and Prices*, 2nd ed., Englewood Cliffs, N.J., 1980, p. 95; and Shepherd, William G., *The Economics of Industrial Organization*, 2nd ed., Englewood Cliffs, N.J. 1985, p. 28.

deter the entry of potential competitors.³ The underlying rationale was that the extent of pricing discretion exercised by incumbent firms depended on how easy it would be for potential competitors to enter a market. Conditions of entry, therefore, became a crucial structural variable in addition to the number of competitors, and the degree of Industry concentration, in determining market conduct. Each industry can be characterized by conditions to entry, these conditions being equivalent to the extent of potential competition the industry has to face from new competitors.⁴

The crucial question remains, therefore, as to what extent potential competitors are impeded in entering the market, since only if such impediments exist, can supracompetitive profits be a proxy for market power at all. Since there is no consensus in economic literature at all about whether impediments to new competition exist and if so, what actually constitutes such a 'barrier to entry', as Joe S. Bain has termed the phenomenon, a closer look at the meaning and definition of barriers to entry seems appropriate at this point.⁵

2. The Meaning, Definition, and Importance of Barriers to New Competition

Current differences in evaluating barriers to new competition stem from the lack of consensus on the question of what actually constitutes a barrier to new competition. As there is no indisputable definition of the phenomenon, it is obvious that the concept should carry different meanings for different

3 Cf. Asch, Peter, Industrial Organization and Antitrust Policy, rev. ed., New York et al. 1983, p. 160; Bain, Joe S., Pricing in Monopoly and Oligopoly, 39 AER (1949), pp. 446-464; Mansfield, Microeconomics ..., op. cit., 351 f.; and Bain, Joe S., Relation of Profit Rate to Industry Concentration, American Manufacturing, 1936-1940, QJE (1951), pp. 293-324, 294: "... the average profit rate of firms in oligopolistic industries of a high concentration will tend to be significantly larger than that of firms in less concentrated oligopolies or in industries of atomistic structure."

4 Cf. Asch, Industrial Organization ..., op. cit., 134; and Yip, George S., Barriers to Entry, Lexington, Mass. 1982. For some early of the numerous empirical confirmations cf., e.g., Bain, Joe S., Relation of Profit Rate to Industry Concentration ..., supra; idem, Barriers to New Competition, Cambridge, Mass. 1956; and Mann, H. Michael, Seller Concentration, Barriers to Entry, and Rates of Return in Thirty Industries, 1950-1960, 48 RES (1966), pp. 296-327.

5 We will henceforth use the term 'impediments to new competition' to include both barriers to entry and barriers to exit, regardless of the actual kind, unless we refer to other approaches explicitly.

economists. So in part, the issue is a definitional one.⁶ The disagreement is further complicated by the fact that there is no consensus over what entry really is. For the purpose of our discussion, entry will be understood as meaning the occurrence of new capacity by a firm which did not supply products to the relevant market, regardless of whether this is considered a *de novo* entry or an entry by a firm already established in markets other than the one in question.⁷

Among the economists who accept the notion of barriers to new competition, three distinct approaches can be discerned under which all other attempts to define barriers to entry can be subsumed.

The most commonly used definition is the one proposed by Joe S. Bain who introduced the concept of barriers to new competition into the economic literature. In his view a barrier to entry is any advantage held by existing firms over those firms that are potential producers in a market. The amount by which the incumbent firms can persistently raise their prices above the competitive level without attracting new entry into that market is viewed as an adequate proxy.⁸ This definition is also a measure for the effectiveness of potential competition. However, it encompasses only those circumstances

6 Cf. Demsetz, Harold, Barriers to Entry, 72 AER (1982), pp. 47-57, 47; Koch, James V., Industrial Organization and Prices, 2nd ed., Englewood Cliffs, N.J., 1980, pp. 95 f.; Posner, Richard A., The Chicago School of Antitrust Analysis, 127 UPLR (1979), pp. 925-952, 946: "Once 'barriers to entry' was redefined as a differentially higher cost borne by the new entrant, the plausibility of supposing that barriers to entry are common, or commonly substantial, diminished sharply."; Waterson, Michael, On the Definition and Meaning of Barriers to Entry, 26 AB (1981), pp. 521-539, 522.

7 For slightly different views cf. Needham, Douglas, The Economics of Industrial Structure, Conduct and Performance, London et al. 1978, p. 159; and Shepherd, William G., The Treatment of Market Power: Antitrust, Regulation, and Public Enterprise, New York and London 1975, p. 101.

8 Cf. Bain, Barriers to New Competition, op. cit., 3-5, who differentiates between three kinds of barriers to entry: (1) economies of large scale, (2) product differentiation advantages, and (3) absolute cost advantages; cf as well Shepherd, The Economics of Industrial Organization, op. cit., 54; and Bain/Qualls, Industrial Organization: A Treatise, Part A, op. cit., 22 f.: "The condition of entry to an industry denotes roughly the advantages in terms of cost or selling price established firms have over potential entrant firms. It may be measured by the degree to which established firms can persistently elevate their prices above minimal average or competitive costs without making it attractive for new firms to enter."

applying uniformly to all competitors.⁹ In this sense it can be viewed as an insider-outsider approach.

A different approach is chosen by George J. Stigler who defines barriers to new competition "as a cost of producing (at some or every rate of output) which must be borne by a firm which seeks to enter an industry but is not borne by firms already in the industry".¹⁰ This approach is contrary to the one chosen by Bain in that it primarily refers to costs and not to prices, and explicitly excludes economies of scale as a barrier to new competition. This is because in Stigler's view such a factor has to be faced by all potential entrants.¹¹

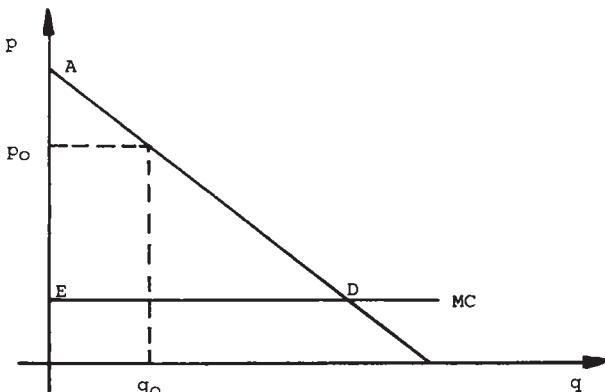
Yet another approach for an evaluation of barriers to new competition is presented by Carl-Christian von Weizsäcker, who classifies potential entry deterring factors according to whether or not they are socially desirable. Entry to a particular market is considered as "socially desirable" if it increases the sum of producer's surplus and consumer's surplus (so-called **social surplus**); If this kind of access to a market is blocked, a barrier to entry is held to obtain. For the case of a monopoly, the social surplus as a measure of welfare can be presented as follows:¹²

9 Cf. Koch, Industrial Organization and Prices, op. cit., 97; a similar approach is chosen by Ferguson, James M., Advertising and Competition: Theory, Measurement, Fact, Cambridge, Mass. 1974, p. 10, who defines barriers as "factors that make entry unprofitable while permitting established firms to set prices above marginal cost, and to persistently earn monopoly return.", emphasizing marginal cost as the criterion of reference.

10 Stigler, George J., The Organization of Industry, Homewood, Ill. 1968, p. 67. Baumol, William J., and Robert E. Willig, Fixed Costs, Sunk Costs, Entry Barriers, Public Goods and the Sustainability of Monopoly, 96 QJE (1981), pp. 405-432, 408, who choose a very similar definition.

11 Cf. Koch, Industrial Organization and Prices, op. cit., 96. This is a clear departure from the insider-outsider concept which Bain used and which has been criticized for not including certain kinds of barriers; cf. Demsetz, Barriers to Entry, *supra*, 48, who mentions legal barriers to new competition.

12 Fixed costs are excluded and constant returns to scale are assumed that are approximated by the marginal cost curve.

Fig. 4: Barriers to Entry and Social Surplus

The figure shows that the social surplus is maximized if price equals marginal costs (area ADE).

In von Weizsäcker's terms, therefore, only socially undesirable limitations impeding the entry of resources and which are also due to the protection of resource owners already in the market, are considered to be real barriers to new competition.¹³

In the view presented in the contribution submitted, impediments to new competition would be taken to encompass those factors which:

- enable incumbent firms to shield themselves against the pressures from potential competition, and/or
- reduce expectations about potential profits by forcing costs on potential entrants formerly not borne by the incumbents.¹⁴

The actual advantage of this definition can be seen in the fact that it does not exclude factors which, although impeding competitive pressure, are not generally recognized as doing so, simply because they are positively associated with economic efficiency. In this connection it is crucially important to realize that certain factors such as economies of scale, while undoubtedly documenting efficiency but, nonetheless act as barriers to entry in the

13 Cf. Weizsäcker, Carl-Christian von, Barriers to Entry: A Theoretical Treatment, Berlin et al. 1980, p. 13; and idem, A Welfare Analysis of Barriers to Entry, 11 BJE (1980), pp. 399-421. Similar reflections on barriers to new competition are performed by Waterson, On the Definition ..., supra, 536-539, who pleads for a reservation of the term barriers to entry for asymmetries in entry conditions to which a pejorative label may be attached.

14 Cf. similarly Schmidt, Wettbewerbspolitik und Kartellrecht, op. cit., 69.

sense that they shield incumbent firms from potential competition.

This view diverges considerably from the currently very influential Chicago School theory. Scholars of the latter theoretical approach admittedly take no homogeneous strand on the phenomenon. But in general it can be said that they either deny that barriers to new competition are an important structural factor, or they treat such barriers as being of minor importance in determining competitive conduct and hence disregard them. Thus factors of impediment focused on in the traditional approach associated with the Harvard School are dismissed by the supporters of the current theoretical tenet:¹⁵

"Alleged barriers to entry such as advertising, vertical integration, and capital requirements all fall into the class of competitive tactics more likely to be associated with productive rivalry than unproductive monopolization ... (t)he current flurry of concern over such 'barriers to entry' reflects the poor guidance that is too often offered to antitrusts by economists."

Different positions towards the notion of barriers to new competition can be highlighted if one analyzes how particular definitions affect what is to be considered as the source of a barrier in the first place.

Certainly, some qualifications are necessary to the assertion that meaningful barriers do not exist at all. For instance, there is far-reaching consensus that the control of a scarce input into the production process by a competitor constitutes such a barrier.¹⁶ According to Demsetz¹⁷ a monopoly is - in

15 Demsetz, Harold, Economics as a Guide to Antitrust Regulation, 19 JLE (1976), pp. 371-388, 382; Armentano, Antitrust and Monopoly, op. cit., 36-39, being an adherent to the Neo-Austrian School; Brozen, Yale, Barriers facilitate entry, AB (1969), pp. 851-854; idem, Competition, Efficiency, and Antitrust, in: Brozen, Yale (ed.), The Competitive Economy: Selected Readings, Morristown, N.J. 1975, pp. 6-14, 9; Pepperell, Harold C., and Robert W. Turner, Barriers to Entry: Antitrust's Search for a New Look, 23 CMR (1981), pp. 29-40; cf. as well Williamson, Oliver E., Symposium on Antitrust Law and Economics, 127 UPLR (1979) 918-924, 919, who points out critically that "(t)he strong version of the Chicago position asserts that meaningful entry barriers do not exist."

16 Cf. Areeda/Turner, Antitrust Law ..., vol. 2, op. cit., 299 ("control over an essential or superior resource, such as a raw material or entrepreneurial genius"); Posner, The Chicago School of Antitrust Analysis, supra, 947; Demsetz, Economics as a Guide ..., supra, 381 f.

17 Cf. Demsetz, Economics as a Guide ..., supra, 381 f. For some examples cf. Greer, Industrial Organization and Public Policy, op. cit., 161 f.

contrast to the way the concept is defined in neoclassical price theory - not characterized by the fact that it controls the whole supply in a relevant market, but by the dominant position it has due to its control over certain resources. *Demsetz* argues that such a position can be achieved by the control of high-grade raw materials (for instance the acquisition of 90 % of high-grade ore mines by U.S. Steel in the U.S.A.), of patents, of an efficient team of people or of an efficient method of organizing experts in a team. Such resources all share the characteristic that they make it difficult for competitors who do not have them at their disposal to imitate those who do. According to *Kirzner*, the classic case of a monopolistic producer has no practical importance; only if the monopolistic producer is also the owner of resources is there a real monopoly.¹⁸

If a monopolist is the sole owner of resources, grave consequences for production are conceded. However, the assumption is that such a control is rare and in the long run the market process will take care of the elimination or substantial reduction of the dominating position, so that there is no need for antitrust policy. Besides, the creation of a resource monopoly is regarded as a source of productivity. In his evaluation of the trade-off between productivity and market dominance, *Demsetz* comes to the conclusion that if one balances the acquisition of a dominant position in the control of a scarce input with the increase in productivity, the danger of penalizing such an increase in productivity is large and the likelihood of reducing unproductive sources of market dominance is small.¹⁹

Bork believes that the only question for antitrust policy is whether artificial barriers to entry exist. Impediments of this kind are seen, for example in exclusionary practices and predation. They "must be barriers that are not forms of superior efficiency and which yet prevent the forces of the market ... from operating to erode market positions not based on efficiency".²⁰ However, this kind of 'blocking' action is regarded as very unlikely to occur

18 Cf. Kirzner, Israel M., *Competition and Entrepreneurship*, Chicago 1973, p. 22, although Kirzner is considered a (Neo-) Austrian scholar.

19 Cf. Demsetz, *Economics as a Guide ...*, supra, 382.

20 Bork, *The Antitrust Paradox ...*, op. cit., 311 and 328 f. as well. This can be termed 'strategic behavior'.

since such unilateral action would be detrimental to the firm undertaking it.²¹

It is also disputed that a risk premium which has to be paid by newcomers as an expression of a higher risk for losses constitutes a barrier to entry.²²

In summary, this approach holds that certain barriers to new competition do exist – though these are different from the ones presented by *Bain*. However, they are not important factors impeding potential competitors.

Before inquiring further into the kinds of barriers and their sources, we will take a brief look at the methods of measuring such barriers.

3. The Measurement of Barriers to New Competition

Differing definitional approaches make it difficult to find a common basis for the measurement of barriers to new competition. Whereas a qualitative evaluation might be feasible, a reduction of the obstacles impeding the measurement of barriers is considered a difficult undertaking.²³

The main point of departure has been the attempt to capture the effects of different barriers on competitive performance. Two general approaches in the attempt to measure barriers to new competition can be discerned.²⁴ On the one hand, there is the attempt to categorize possible individual barriers in each industry by giving them labels such as high, medium, or low, and "then subjectively deriving an overall barrier to the industry as very high,

21 In the case of such unilateral action the firm must be aware of an immediate entry of newcomers because the lack of barriers would stimulate entry if the firm tried to abuse its monopolistic discretionary power. Such a conduct "would be foolish and selfdefeating behavior" and, therefore, unlikely, cf. Bork, *The Antitrust Paradox*, op. cit., 144 f., 153, 160, and 309.

22 Cf. Areeda/Turner, *Antitrust Law* ..., vol. 2, op. cit., 299 ("capital market evaluations imposing higher capital costs on new entrants than on established firms"), Posner, *The Chicago School of Antitrust Analysis*, supra, 945 f.; and Williamson, Oliver E., *Book Review*, 83 *Y LJ* (1974), pp. 647–661, 656: "The uncertainty of the new entrant's prospects may force him to pay a higher risk premium to obtain capital than existing firms must pay."

23 Cf., e.g., Asch, *Industrial Organization* ..., op. cit., 138.

24 Cf. Asch, *Industrial Organization* ..., op. cit., 138; Needham, *The Economics of Industrial Structure* ..., op. cit., 172–183; Shepherd, *The Economics of Industrial Organization*, op. cit., 72.

substantial or moderate-to-low".²⁵

On the other hand, there is the attempt to find measurable proxies for the barriers to be analyzed such as, e.g., price/cost margins. These proxies presuppose a close correlation to the height of the barrier in question. The effect of the barriers is estimated by inserting the different proxies separately into a regression equation and thereby quantifying their effects on barriers to a market.²⁶

There are different proxies to measure barriers to new competition. The most common ones are price and profitability proxies which measure the extent of deviation of elevated prices from total average costs or marginal costs in the situation of facing entry.²⁷ The underlying rationale is that high barriers *ceteris paribus* imply that incumbent firms can use the price parameter more freely and perform an optimal pricing policy, depending on the height of the barrier, by raising prices above the competitive level.²⁸

The most common nonprice proxies that are believed to create barriers to new competition are advertising expenditures and R&D expenditures.²⁹ The underlying rationale for the measurement is that advertising, R&D, and related nonproduction activities can affect firms' cost conditions either by causing scale economies or by creating absolute cost advantages for incumbent firms in comparison to potential entrant firms, resulting in different cost situations.³⁰

25 Waterson, On the Definition ..., *supra*, 521.

26 Cf., e.g., Comanor, William S., and Thomas A. Wilson, Advertising, Market Structure and Performance, 49 RES (1967), pp. 423-458; or Schwalbach, Joachim, Markteintrittsverhalten industrieller Unternehmen, 56 ZfB (1986), pp. 713-727; cf. as well Waterson, On the Definition ..., *supra*, 522.

27 Cf. Asch, Industrial Organization ..., op. cit., 138; Koch, Industrial Organization and Prices, op. cit., 101 f.; Needham, The Economics of Industrial Structure ..., op. cit., 172-175; and for the most important empirical studies, George, Kenneth D., Concentration, Barriers to Entry and Rates of Return, 50 RES (1968), pp. 273-275; Qualls, P. David, Concentration, Barriers to Entry, and Long-Run Economic Profit Margins, 20 JIE (1972), pp. 146-158; Mann, Seller Concentration ..., *supra*; and Rhoades, Stephen A., The Effect of Diversification on Industry Profit Performance in 214 Manufacturing Industries: 1963, 55 RES (1973), pp. 146-164.

28 Cf. Asch, Industrial Organization ..., op. cit., 138.

29 For a survey cf. Needham, Douglas, Entry Barriers and Non-Price Aspects of Firms' Behavior, 25 JIE (1976), pp. 29-43.

30 Cf. Needham, The Economics of Industrial Structure ..., op. cit., 175; for an empirical study cf., e.g., Mueller, Dennis C., and J.E. Tilton, R&D Costs as Barriers to Entry, CJE (1969), pp. 570-579.

4. Kinds of Barriers to New Competition and their Sources: Plausibility and Empirical Evidence

The most common classification of barriers to new competition was introduced by the works of Joe S. Bain and differentiates between economies of large scale, absolute cost advantages, and product differentiation advantages.³¹ These original structural barriers can be complemented by certain factors that are barriers to exit from a market but, at the same time, deter entry to it as well. This can be the case since a potential competitor facing entry to a market might eventually not enter this market despite low entry barriers if this market has specific structural features (e.g., idiosyncratic capital) which make exit from the market difficult and prospects for earning adequate rents not promising.³²

These structural barriers are compounded infra by strategic barriers, that is, impediments raised by incumbents through conduct, in order to deter entry by newcomers and maintain competitive advantages. They include strategies like limit pricing, use of excess capacity, credible threats by sunk costs, and the like. Strategic barriers are erected in order to reduce the attractiveness of the offer the incumbent has to compete against. Structural and strategic barriers are interrelated, however.³³

a. Structural Barriers

These barriers, as the term implies, are associated specifically with the structural dimensions of the market.³⁴

31 Cf. Bain, *Barriers to New Competition*, op. cit., 3-5; and Bain/Qualls, *Industrial Organization: A Treatise*, Part A, op. cit., 221.

32 Cf. Caves, Richard E., and Michael E. Porter, *Barriers to Exit*, in: Masson, Robert T., and P. David Qualls (eds.), *Essays on Industrial Organization in Honor of Joe S. Bain*, Cambridge, Mass. 1976, pp. 39-69; Eaton, B. Curtis, and Richard G. Lipsey, *Exit barriers are entry barriers: The durability of capital*, 11 BJE (1980), pp. 721-729; Franklin, Peter J., *Some Observations on Exit from the Motor Insurance Industry, 1966-1972*, 22 JIE (1974), pp. 299-313; and Schwalbach, *Markteintrittsverhalten industrieller Unternehmen*, *supra*, 716 f.

33 Cf. Hovenkamp, *Antitrust Policy After Chicago*, *supra*, 260-283; Markovits, Richard, *The Limits of Simplifying Antitrust: A Reply to Professor Easterbrook*, 63 TLR (1984), pp. 41-87, 44; Schwalbach, *Markteintrittsverhalten industrieller Unternehmen*, *supra*, 716.

34 Cf. Schmidt, *Wettbewerbspolitik und Kartellrecht*, op. cit., 69; and Schwalbach, *Markteintrittsverhalten industrieller Unternehmen*, *supra*, 714.

aa. Economies of Large Scale

The underlying question is whether scale economies serve as proxy variables for market power which allow price above average costs for lengthy periods and if so whether they should therefore be considered barriers to entry.³⁵

In this context, economies of scale present "reductions in cost per unit of product manufactured and sold associated with the operation of large as compared to small production, distribution, and merchandising entities".³⁶

Scale economies are primarily encountered in production but can also be of importance in administration, distribution, and marketing. With regard to the production process, they are assumed to approximately equal to the long-run average cost curve.

Real economies and pecuniary economies can be distinguished. Whereas real or technical economies entail fewer inputs for a distinct level of output and, therefore, fewer of society's scarce resources are used in the production and distribution process, pecuniary economies are monetary savings resulting from purchasing goods at better terms. The latter include, e.g., volume discounts.³⁷

Resulting economies of the real kind can have several sources. Among these, the most important are:³⁸

- **Indivisibilities** of machinery and labor, leading to costs independent of scale, or to fixed costs over certain levels of output;

35 Cf. Waterson, On the Definition ..., supra, 531.

36 Scherer, Frederic M., Economies of Scale and Industrial Concentration, in: Goldschmid, Harvey, et al. (eds.), *Industrial Concentration: The New Learning*, Boston, Toronto 1974, pp. 16-54. Note that "(t)he decline in unit costs with increases in the scale of plant or firm will ordinarily tend to be encountered over a certain limited range of increasing scales of plant or firm, and then cease to be encountered if the scales of plant or firm are increased still further", Bain, *Barriers to New Competition*, op. cit., 53.

37 Cf. Greer, Douglas F., *Industrial Organization and Public Policy*, 2nd ed., New York 1984, pp. 135 f., and 158; and for an extensive survey, Koutsoyannnis, Anna, *Modern Microeconomics*, 2nd ed., 2nd repr., London et al. 1981, pp. 126-139.

38 Cf. Greer, *Industrial Organization and Public Policy*, op. cit., 162 f., and 167-169; Koutsoyannnis, *Modern Microeconomics*, op. cit., 126-138; Müller, Jürgen, and Rolf Hochreiter, *Stand und Entwicklungstendenzen der Konzentration in der Bundesrepublik Deutschland*, Göttingen 1975, pp. 143 ff.; and Scherer, Frederic M., *Industrial market structure and economic performance*, second ed., Chicago 1980, pp. 82 f.

- **specialization** of machinery and labor, leading to increased productivity;
- **economies of Increased dimensions**, occurring if there is an investment in capital equipment such as, e.g., tanks or vessels, and the volume capacity becomes overproportionate in relation to the equipment's surface and, therefore, costs (so-called 0.6 rule).
- **economies of massed reserves**, due to spare machinery and parts which have to be held in stock and which amount to a lower percentage of total costs if production is on a large scale.

The reasoning why economies of large scale represent barriers to new competition runs along the following lines.³⁹ Assuming production with increasing returns, potential entrants will have to produce close to minimum efficient size and, therefore, ad hoc with relatively large capacity in industries in which efficient output is already relatively large in comparison to overall industry demand. Otherwise the product's price might – if producing at less than minimum efficient scale – eventually fall below the potential entrant's costs per unit after entry, making it impossible for him to cover his total costs.⁴⁰

So the entry-deterring effect results primarily from the first-mover advantage of incumbent firms producing at minimum efficient size. Hence, a crucial criterion for the distinction of whether or not economies constitute a barrier is the question of how large the fraction constituting the minimum efficient size is, relative to total industry demand (so-called **percentage effect**).⁴¹ If it is hence assumed that low scale entry entails significant cost disadvantages per unit, then if the newcomer wants to enter at large scale this constitutes the so-called **absolute-capital-requirement effect**, making it necessary for the potential competitor to raise significant amounts of capital. If it is either more difficult for the newcomer to raise this capital or he can only

³⁹ Cf. Bain/Qualls, Industrial Organization: A Treatise, Part A, op. cit., 230–235; Greer, Industrial Organization and Public Policy, op. cit., 156–158, and 162 f.; Mansfield, Microeconomics ..., op. cit., 352; Schwalbach, Markteintrittsverhalten industrieller Unternehmen, *supra*, 715; and Waterson, On the Definition ..., *supra*, 538 f.

⁴⁰ This is true anyway in the sense that selling price will be lowered by incumbents and held below the limit price in order to deter entry. This is additional to the possible entry deterring effect due to small scale production, cf. Bain/Qualls, Industrial Organization: A Treatise, Part A, op. cit., 230.

⁴¹ Cf. Bain, Barriers to New Competition, op. cit., 55.

raise it at somewhat worse conditions, a barrier is constituted.⁴² An additional criterion, therefore, is whether or not these disadvantages are significant.

The current approach emphasizes that economies of scale are a product of efficient industry structures and do not constitute barriers to new competition as a consequence.⁴³ Economies of large scale production advantages of incumbents over potential entrant firms are regarded as natural barriers to entry.⁴⁴ The underlying rationale for this view mainly relies on the assertion that the studies confirming a positive correlation between concentration and profits, which serve as a proxy for barriers due to economies, are based on false methodology and data, and therefore fail to deliver a theoretical basis for the concentration-collusion doctrine. Free access to markets exists and hence economies have to be interpreted as efficiencies.⁴⁵

This point of view neglects the fact, however, that economies of scale can play a dual role. For one thing, they represent efficiencies and hence a

42 Cf. Bain, Barriers to New Competition, op. cit., 55.

43 Cf. Areeda/Turner, Antitrust Law ..., vol. 2, op. cit., 299 f.; Demsetz, Harold, Why Regulate Utilities?, 11 JLE (1968), pp. 55-65; McGee, John, Efficiency and Economies of Size, in: Goldschmid, Harvey, et al. (eds.), Industrial Concentration: The New Learning, Boston, Toronto 1974, pp. 55-97, 93, neglecting barriers to entry by holding that "the existing structure of industry is the *efficient* structure"; Miller, Edward M., Do economies of scale attract entry?, 25 AB (1980), pp. 583-588, 584; Stigler, The Organization of Industry, op. cit., 67.

44 According to Bork natural barriers to entry exist, "(w)hen existing firms are efficient and possess valuable plants, equipment, knowledge, skill, and reputation. (Therefore,) potential entrants will find it correspondingly more difficult to enter the industry, since they must acquire those things.", Bork, The Antitrust Paradox ..., op. cit., 310 f. For a more distinguished view on the issue, cf. Williamson, Oliver E., Antitrust Economics: Mergers, Contracting, and Strategic Behavior, Oxford and New York 1987, p. 325.

45 Cf. Brozen, Yale, Bain's Concentration and Rates of Return Revisited, 14 JLE (1971), pp. 351-369; and Demsetz, Harold, Two Systems of Belief About Monopoly, in: Goldschmid, Harvey, et al. (eds.), Industrial Concentration: The New Learning, Boston, Toronto 1974, pp. 164-184, esp. 173: "The lack of a theoretical justification for identifying certain types of expenditures as 'barriers to entry' is even more glaring than is the lack of a theoretical basis for the market concentration doctrine ... (t)he costliness of producing commodities does, of course, limit the amounts that will be made available at particular prices; in this sense cost does create a 'barrier' to production, but no pejorative interpretation can be given to such a 'barrier to entry'." We will give the market concentration doctrine (concentration-collusion doctrine) an indepth treatment in Part 3 of this contribution.

factor "not usually regarded as incompatible with what most economists call free entry", whereas, on the other hand "in a very real sense they constitute a barrier to entry".⁴⁶ The question of the impact of these barriers becomes in fact an issue of trade-off.

bb. Absolute Cost Advantages

According to the traditional tenet a barrier to new competition is created if potential competitors have to bear costs when entering the market that are independent of scale and which incumbent firms did not or do not have to bear. This would lead to production at lower costs and optimal pricing by incumbent firms, setting a limit price marginally below the long-run average cost curve of the potential competitor, thereby deterring entry.⁴⁷

The lower costs are independent of scale in that "(a)n absolute cost advantage exists if the prospective unit costs of production of potential entrant firms are generally, and more or less at any common scale of operations, higher than those of established firms".⁴⁸

Under the current tenet this barrier to new competition is judged to be nonexistent or insignificant, also because this kind of natural barrier is considered to result from differential efficiencies.⁴⁹

The principal and most important sources of absolute cost advantages may be briefly categorized as follows:⁵⁰

- access of incumbent firms to **superior production techniques protected by patents;**

46 Dewey, Donald, Industrial Concentration and the Rate of Profit: Some Neglected Theory, 19 JLE (1976), pp. 67-78, 69.

47 Cf. Bain, Barriers to New Competition, op. cit., 144 and 260; Bain/Qualls, Industrial Organization: A Treatise, Part A, op. cit., 235 f.; Greer, Industrial Organization and Public Policy, op. cit., 155 f., and 161 f. for examples; Porter, Michael, Competitive Advantage: Creating and Sustaining Superior Performance, New York, London 1985, pp. 62-118.

48 Bain, Barriers to New Competition, op. cit., 144; cf. as well Koutsoyiannis, Modern Microeconomics, op. cit., 292.

49 Cf., e.g., Areeda/Turner, Antitrust Law ..., vol. 2, op. cit., 305 ; and Bork, Robert H., Vertical Integration and Competitive Processes, in: Weston, J. Fred, and Sam Peltzman (eds.), Public Policies Toward Mergers, Pacific Palisades 1969, pp. 139-149.

50 Cf. Areeda/Turner, Antitrust Law ..., vol. 2, op. cit., 305 f; Bain, Barriers to New Competition, op. cit., 144 f.; cf. as well Koutsoyiannis, Modern Microeconomics, op. cit., 292; Schwalbach, Markteintrittsverhalten industrieller Unternehmen, supra, 715.

- **control of or lower prices for key raw materials** accruing to incumbent firms in comparison to potential entrant firms;
- **lower costs of capital** for the incumbent firms due to abilities in internal financing, preferred access to capital markets, or favorable terms;
- **lower prices for productive factors** (as, e.g., skilled personnel) accruing to the incumbent firms due to market imperfections.

We will put our emphasis firstly on the absolute height of capital requirements as a barrier in itself⁵¹ and, secondly, on the issue of differences in capital costs for potential entrant firms in comparison to incumbents, and, thirdly on capital market imperfections. Patent protection, which might lead to cost differences, will be treated infra under the heading of legal and administrative barriers, and potential differences in absolute costs due to resource monopolization have been dealt with supra.

There is no consensus on whether large absolute capital requirements pose an entry barrier to a market in themselves. On the one hand this depends on whether one defines a barrier as including only conditions which have to be faced by all competitors. It is obvious that absolute capital requirements reflect a condition affecting any potential entrant firm. On the other hand, it depends on the definition of entry. For a large firm entering the market it might be possible to raise exorbitant sums of capital, whereas de novo entrants might not be capable of doing this.⁵² Empirical evidence suggests, however, that there are markets, which can only be entered with the help of prohibitive sums of capital. In this case, entry would be totally blocked.⁵³

Differences in capital costs are attributable to higher risks of failure on the part of potential entrant firms, requiring a higher potential return on invested capital. Furthermore, they are attributable to information costs for

51 Cf., e.g., Lenel, Hans O., Ursachen der Konzentration, 2nd ed., Tübingen 1968, pp. 244 f.

52 Cf. Greer, Industrial Organization and Public Policy, op. cit., 158 f.

53 It is assumed that entry into the German automobile market requires investment capital of roughly DM 10 billion, cf. Berg, Hartmut, Automobilindustrie, in: Oberender, Peter (ed.), Marktstruktur und Wettbewerb, München 1984, pp. 169-215, 185. Other estimates contend that capital requirements in industries like main-frame computer manufacturing are prohibitive for even the largest firms, cf. Fruhan, William E., Phryric Victories in Fights for Market Share, 50 HBR (1972), pp. 100-107.

potential investors disadvantaging potential entrant firms since it is more costly for investors to verify or falsify information.⁵⁴ Finally, these differences can be attributable to capital market imperfections which mean "that a fully qualified borrower cannot obtain (or must pay higher prices for) the capital he wants".⁵⁵

However, the current approach holds that capital market imperfections are not existent. Williamson notes that this argument and related ones are only valid if costless market transactions regarding capital flows are assumed. It is all the necessary information on the respective borrower that makes investment funds more costly or less.⁵⁶ Hence, a distinct tendency can be confirmed that "(t)he price of capital is usually lower to larger firms, especially to those that hold secure market positions. This is shown by cross-market surveys of loan costs by size of firms, and by more precise studies".⁵⁷

The difference between diversifying entrants and de novo entrants which we have stated with regard to absolute capital requirements applies similarly.

Another argument that supports the imperfect capital market hypothesis is that the management of banks has a sort of self-interest in giving preference to incumbent firms since due to experience based on history they can be evaluated more easily. The risk of losses on current loans would increase if competition was intensified by newcomers. This leads to a sort of **de facto cartel** between incumbents and banks.⁵⁸

54 Cf. Areeda/Turner, Antitrust Law ..., vol. 2, op. cit., 304; and Greer, Industrial Organization and Public Policy, op. cit., 169 f.

55 Cf. Koch, Industrial Organization and Prices, op. cit., 137 (emphasis added). Cf. Bowman, Ward, Patent and Antitrust Law: A Legal and Economic Appraisal, Chicago 1973, p. 59, who notes that "difficulties of access to the capital market ... (have) yet to be demonstrated."

56 Cf. Williamson, Antitrust Economics ..., op. cit., 87 and 90. This is even conceded by adherents to the current tenet, cf. Demsetz, Barriers to Entry, supra, 50: "It is not large capital 'requirements', but the histories of successful firms, in a world in which information is costly to acquire, that constitute the source of such interest rate differentials."

57 Shepherd, The Economics of Industrial Organization, op. cit., 191.

58 Cf. Dirlheimer, Manfred J., Marktkonzentration und Wettbewerbsverhalten von Unternehmungen, Frankfurt a.M., New York 1981, p. 274.

cc. Product Differentiation Advantages

Products of incumbent suppliers are heterogeneous or differentiated to a varying degree in many markets. This means that the consumer has different preferences for different products, respectively, with regard to their actual features, the temporal aspect of their supply, or the regional availability of the product. The stronger the preferences, the stronger the supplier's ability to raise prices above the competitive level without a total loss of sales and without inducing new entry. Such preferences do exist either for objective reasons because of technical and physical features or because of the way consumers subjectively regard the products in question.⁵⁹

Product differentiation advantages are regarded as constituting a barrier to new competition in that consumers "have a preference, transitory or permanent, for some or all established products as compared to new-entrant products, and this may in essence erect some barriers to entry".⁶⁰ The newcomer would have to invest heavily in order to overcome the preferences and the consumer loyalty which are outflows of a first mover advantage when entering the market.⁶¹

Product differentiation advantages result from a variety of sources:⁶²

59 Cf. Areeda/Turner, Antitrust Law ..., vol. 2, op. cit., 306. Product differentiation in this sense can be seen as the "fact that different buyers have different product allegiances or preference patterns, so that the preferences in question do not result in some universally agreed-upon system of grading or rating for the competing products", Bain, Barriers to New Competition, op. cit., 114.

60 Bain, Barriers to New Competition, op. cit., 114; cf. as well Bain/Qualls, Industrial Organization: A Treatise, Part A, op. cit., 221.

61 Cf. Bain, Joe S., Conditions of Entry and the Emergence of Monopoly, in: Chamberlin, Edward H. (ed.), Monopoly Competition and Their Regulation, London 1954, pp. 215-241, 224: "Product differentiation advantages of some or all established firms ... resulting for the potential entrant in a *ceteris paribus* demand schedule at a lower position than those of established firms with equivalent production and selling costs, or in higher costs to place its demand curve in the same position."; Comanor, William S., and Thomas A. Wilson, Advertising, Market Structure and Performance, 49 RES (1967), pp. 423-440.

62 Bain, Barriers to New Competition, op. cit., 114; cf. as well Scherer, Industrial market structure ..., op. cit., 375; Schwalbach, Markteintrittsverhalten industrieller Unternehmen, supra, 715; and Yip, Barriers to Entry, op. cit., 18 f.

"Product differentiation is propagated by differences in the design or physical quality of competing products, by efforts of sellers to distinguish their products through packaging, branding, and the offering of auxiliary services to buyers, and by advertising and sales promotion efforts ..."

With regard to its economic effects, product differentiation has to be considered ambiguous. It benefits consumers, on the one hand, by offering greater product variety according to individual consumer taste. On the other hand, however, in the monopolistic competition market price exceeds marginal cost and output is produced at higher than minimum average cost which leads to resource misallocation and inefficiency.⁶³

Since the extent of product differentiation cannot be measured objectively along a commonly accepted scale, proxy variables are used which are supposed to be positively correlated to the extent of product differentiation. The most common proxies are based on ratios relating relevant quantities to the level of advertising expenditure.⁶⁴

There are two reasons why advertising expenditures should be regarded as a relevant quantity for measurement. Firstly, advertising is considered the main cause of product differentiation and is so used as a substitute for variables more difficult to measure, such as, the locational distribution of outlets, e.g.

63 Cf. Areeda/Turner, Antitrust Law ..., vol. 2, op. cit., 307; and for the original source, Chamberlin, Edward H., The Theory of Monopolistic Competition, Cambridge, Mass. 1933. Note that if the reasoning of the current tenet is taken to its logical extreme, these inefficiencies would have to be competed away.

64 Cf. Comanor/Wilson, Advertising, ..., *supra*; Ferguson, Advertising and Competition ..., op. cit.; Needham, The Economics of Industrial Structure ..., op. cit., 177; Shepherd, The Economics of Industrial Organization, op. cit., 314-320, esp. 318; and Waterson, On the Definition ..., *supra*, 521 f.

Secondly, the size of advertising expenditures creates economies of scale or other advantages, serving in turn as barriers to new competition.⁶⁵

Current theory is shifting away from the view that product differentiation and, therefore, advertising expenditures should necessarily be thought of as a means for erecting barriers to new competition. Advertising is more or less seen as a means of entry due to its informational function, and is regarded as desirable, therefore.⁶⁶ For adherents to current theory the real barrier to entry is high information costs for consumers and it is precisely through advertising that such a barrier is surmounted. Information increases the consumer's willingness to substitute products for other ones, makes demand curves more elastic, and hence markets more competitive.⁶⁷

65 Cf. Needham, *The Economics of Industrial Structure ...*, op. cit., 177; Schmalensee, Richard, *Advertising and Profitability: Further Implications of the Null Hypothesis*, 25 JIE (1976), pp. 45-54; Shepherd, *The Economics of Industrial Organization*, op. cit., 314-317.

A variety of empirical studies have used this proceeding, cf. Berg, Hartmut, *Produktdifferenzierung, Werbung und Wettbewerb: Der Zigarettenmarkt der Bundesrepublik Deutschland*, in: Bombach, Gottfried, et al. (eds.), *Industrieökonomik: Theorie und Empirie*, Tübingen 1985, pp. 283-295; Comanor/Wilson, *Advertising, ...*, supra; Mongoven, James J., *Advertising as a Barrier to Entry: Structure and Performance in the Soft-Drink Industry*, 8 ALER (1976), pp. 93-101; Porter, Michael E., *Consumer Behavior, Retailer Power and Market Performance in Consumer Goods Industries*, 56 RES (1974), pp. 419-435.

66 Cf. Brozen, *Competition, Efficiency, and Antitrust*, op. cit., 9: "A new entrant can usually insinuate itself more easily into the market if its product is not identical with those offered by established firms." Cf. for an analogous controversy on the function of advertising in competition, cf. Hopmann, Erich, *Wettbewerb und Werbung*, 33 WuW, (1983), pp. 776-779, and the rejoinder by Kantzenbach, Erhard, *Zur wirtschaftlichen Beurteilung der Werbung*, 34 WuW (1984), pp. 297-301, 298 f. For the differentiation between informative and persuasive advertisement, cf. Greer, *Industrial Organization and Public Policy*, op. cit., 71 ff.; and Shepherd, *The Economics of Industrial Organization*, op. cit., 320 f.

67 Brozen, Yale, *Entry Barriers, Advertising, and Product Differentiation*, in: Goldschmid, Harvey, et al. (eds.), *Industrial Concentration: The New Learning*, Boston, Toronto 1974, pp. 115-161, 115: "To any casual observer, it would seem that advertising is a means of competing. Most importantly, advertising is much more means of entry than a barrier to entry." But see Nelson, however, who poses the question "what kind of information 'great balls of comfort' is meant to convey. Is it really information for me to know that 'If I'm out of Schlitz, I'm out of beer?'", Nelson, Richard L., *Comments on a Paper by Posner*, 127 UPLR (1979), pp. 949-952, 950.

According to Posner, the rational consumer will pay for advertising only to the extent that his search costs in selecting products are diminished. On these grounds Posner characterizes advertising as a service to customers. In any case, this service cannot be separated from the features that are part of the product itself.⁶⁸

Empirical evidence for this view was supplied by a study comparing the price of eyeglasses in different U.S. states. It was discovered that in states which allowed advertising for eyeglasses, prices tended to be lower than in states where advertising was regulated.⁶⁹

Differences in theoretical positions on the issue thus have to do with different views on whether participants in the economic process (suppliers and consumers) act rationally. The traditional approach associated with the Harvard School allegedly presupposes "that consumers are irrational and manipulable". Contrary to this assumption, it is pointed out that "the Chicago theorist rejects this assumption as inconsistent with the premises of price theory".⁷⁰ This amounts to an acceptance of the neoclassical premise that market participants behave rationally. The empirical basis for this assumption, however, has not been unambiguously defined.

One aspect which requires close and critical scrutiny, for instance, is the assumption of autonomous behavior on the part of the consumer, i.e. the postulate that consumers freely decide which goods and services to purchase within the context of their budget constraints and their preferences (consumer sovereignty).⁷¹

The representatives of other approaches to antitrust theory and policy also assume a certain rationality in the behavior of economic agents; it is true,

68 Cf. Posner, *The Chicago School of Antitrust Analysis*, supra, 930 f. and 938: "Advertising can make an advertised brand cheaper by reducing the consumer's search costs by an amount greater than the difference in nominal price between that brand and non-advertised brands of the same product." Posner also admits that the fundamental Chicago assumption applies, that the consumer is an absolutely rational human being, cf. *ibid.*, 938 note 38.

69 Cf. Benham, Lee, *The Effect of Advertising on the Price of Eyeglasses*, 15 JLE (1972) pp. 337-352.

70 Posner, *The Chicago School* .., supra, 930.

71 Cf. Henderson, James M., and Richard E. Quandt, *Microeconomic Theory: A Mathematical Approach*, 3rd ed., Auckland et al. 1985, p. 6 f. On the consumer sovereignty issue in welfare economics, see Scitovsky, Tibor, *On the Principle of Consumer's Sovereignty*, 52 AER (1962), pp. 262-268; and *idem*, *The Joyless Economy*, New York 1976.

certainly, that as a rule, however, the concept of bounded rationality employed by the behavioral sciences is used.⁷² In the words of Herbert Simon this bounded rationality can be characterized in that

"(t)he capacity of the human mind for formulating and solving complex problems is very small compared with the size of the problems whose solution is required for objectively rational behavior in the real world".⁷³

By contrast, current theory assumes totally rational behavior in the sense that consumers and suppliers maximize utilities and profits, respectively.⁷⁴

However, there is evidence against this assumption of autonomous behavior. Consumer preferences are clearly influenced at least to a certain extent by external factors. Two arguments seem especially relevant in this context:⁷⁵

- consumers' preferences and, therefore, the demand of goods and services, is influenced by the decisions of other consumers (**external consumer effects**);
- consumers' decisions are not totally rational because they are influenced by producers through **advertising**. This is of particular importance since there are two types of advertising: informative and persuasive advertising.

Although a neat separation between these two components is difficult, it is an undeniable fact that human beings - also in their roles as consumers - are not totally rational beings and, therefore, are susceptible to persuasive advertising and even to open manipulation.

It is often pointed out by adherents to this view that only persuasive and informative advertising together can stimulate consumers' interest because the role of the persuasive component is to break down the barrier of selec-

72 Cf. Williamson, Oliver E., Markets and Hierarchies: Analysis and Antitrust Implications, New York 1975, p. 21 f., and Ouchi, William G., Markets, Bureaucracies and Clans, 25 ASQ (1980), pp. 129-141.

73 Simon, Herbert A., Models of Man, New York 1957, p. 198.

74 An approach that tries to use the behavioral concept of rationality for antitrust theory is found in Zohlnhöfer, Werner, and Horst Greiffenberg, Neuere Entwicklungen in der Wettbewerbstheorie: Die Berücksichtigung organisationsstruktureller Aspekte, in: Cox, Helmut, Uwe Jens, and Kurt Markert (eds.), Handbuch des Wettbewerbs, München 1981, pp. 79-101.

75 Cf. Schmidt/Rittaler, Die Chicago School of Antitrust Analysis, op. cit., 18.

tive perception. However, this argument does not reflect the core problem since it is basically business-oriented and regards advertising from the standpoint of marketing techniques. This latter argument cannot remove suspicion in the economic sense that advertising restricts sovereignty in a free enterprise system.⁷⁶

Even the representatives of the traditional tenet concede that advertising contains information in many cases, but in so doing they do not underestimate the manipulative effect. *Nelson*, for instance, argues that advertising often tends rather to set signals in a persuasive sense than to provide information when the industry concerned is conscious that consumers are uncertain about selecting products.⁷⁷ The informative component of advertising may play an important role with regard to non-convenience and/or specialty goods. However, as far as convenience goods for daily use are concerned, advertising undoubtedly shifts its accent from information to persuasion. And as the latter kind of goods are encountered more frequently in an economy, it follows logically that persuasive advertising is more widespread.

In summary of what has been argued, then, the dual character of product differentiation should be emphasized. Whether the barrier effect which deters potential competition prevails or the informational effect which is bound to intensify competition, is heavily disputed in current economic literature.⁷⁸ The economic effects of advertising and product differentiation have therefore to be seen in a twofold manner:⁷⁹

76 Cf. Schmidt/Rittaler, Die Chicago School of Antitrust Analysis, op. cit., 19; and Waterson, On the Definition ..., supra, 526 f., on the state of the art: "(A)dvertising could potentially, or actually, be a barrier to entry, but on the other hand it may assist entry by allowing new firms convenient access to potential customers ... (t)he outcome, a net effect of several factors, is potentially an empirically discernible one, yet tests within the structure-profit framework to date do not appear particularly helpful in evaluating it."

77 Cf. Nelson, The Chicago School ..., supra, 950.

78 Cf. Albion, Mark S., and Paul W. Farris, The Advertising Controversy: Evidence on the Economic Effects of Advertising, Boston, Mass. 1981, p. 38: "A major point of divergence between the two main streams of research into the economic impacts of advertising is whether advertising should be regarded as persuasive or informative in nature."; cf. as well Shepherd, The Economics of Industrial Organization, op. cit., 318 f.

79 Butters, Gerard R., A Survey of Advertising and Market Structure, 66 AER (1976), pp. 392-397, 395.

"There is no contradiction in believing both that advertising is crucial in facilitating firms' entry into new markets and that the entry costs might be steep enough to discourage entry. It is not inconsistent to hold that indivisibilities associated with advertising on nationwide television create market power in certain industries, but that a government policy to severely curtail advertising in these industries would cause prices to become even higher."

This dual role of advertising and, therefore, product differentiation has been confirmed by empirical evidence as well.⁸⁰

b. Strategic Barriers

So far, barriers to new competition have been considered an exogenously given determinant of market structure, which are able to influence the rate and extent of entry to a market and, therefore, constrain incumbent firms' conduct. We strongly emphasized in Part 1 of this contribution, however, that structure, conduct, and performance show a circular interdependence in that specific conduct is able to alter market structure. Hence, elements of market structure such as barriers to entry can become the competition parameters of incumbent firms.⁸¹ This aspect of barriers is associated with strategic behavior, being either predatory conduct aimed at disciplining or driving incumbents out of the market, or raising particular barriers to the market aimed at deterring potential entrant firms.⁸²

The primary purpose of strategic behavior of the latter kind is to communicate to potential entrant firms verbal threats of retaliation, or actions that enable or might even require retaliation in case of entry. Unlike structural barriers, which occur more or less unintentionally as a side effect of profit maximization, these barriers are purposely erected in order to reduce the

80 Cf., e.g., Dorfmann, Robert, and Peter O. Steiner, Optimal Advertising and Optimal Quality, 44 AER (1954), pp. 826-836; Hart, Peter E., and E.V. Morgan, Market Structure and Economic Performance in the United Kingdom, 25 JIE (1977), pp. 177-193, for some U.K. studies; and Schmalensee, Richard, The Economics of Advertising, Amsterdam 1972.

81 Cf. Dirrheimer, Marktkonzentration ..., op. cit., 35 ff.

82 Cf. Hovenkamp, Antitrust Policy After Chicago, *supra*, 262 f.; Williamson, Antitrust Economics ..., op. cit., 328, who views strategic behavior as "efforts by established firms to take up advance positions or respond contingently to rivalry in ways that discipline actual and discourage potential competition."

attractiveness of the offer the incumbent has to compete against and, therefore, to reduce the probability of entry.⁸³

The occurrence of strategic barriers is closely related to the existence of structural barriers to a market which means that "severe structural preconditions in both concentration and entry barrier respects need to be satisfied before an incentive to behave strategically can be claimed to exist".⁸⁴

The kinds of strategic barriers can be categorized according to the competitive parameters actually used:⁸⁵

- **limit price strategy**, setting price somewhere between the monopoly price and the competitive price, respectively;
- **excess capacity strategy**, expanding output and investment in the pre-entry period or shortly after entry, aimed at discouraging incentives to enter or driving newcomers out of the market;
- **product differentiation strategy**, offering more product variations than in the case of structural barriers; and
- **excess cost strategy**, imposing cost disadvantages on the potential entrant which the incumbent firms did not themselves have to bear when they entered the market.

The adherents of the current theory regard this kind of action as an artificial barrier to new competition. But they maintain that such unilateral action would be detrimental to the firm undertaking it because in the case of such unilateral action and in the absence of structural barriers, the incumbent firm must be aware that if it tried to abuse its discretionary monopolistic power an influx of potential entrants into the market would be immediate.

83 Cf. Hovenkamp, Antitrust Policy After Chicago, *supra*, 260-283; Markovits, The Limits of Simplifying Antitrust..., *supra*, 44; Salop, Steven C., Strategic Entry Deterrence, 69 AER (1979), pp. 335-338; Schwalbach, Markteintrittsverhalten industrieller Unternehmen, *supra*, 716.

84 Williamson, Antitrust Economics ..., op. cit., 342; cf. as well Esposito, Frances Ferguson, and Louis Esposito, Excess Capacity and Market Structure, 56 RES (1974), pp. 188-200, 188; Hovenkamp, Antitrust Policy After Chicago, *supra*, 278; Schwalbach, Markteintrittsverhalten industrieller Unternehmen, *supra*, 716; and v. Weizsäcker, Barriers to Entry ..., op. cit., 13-15.

85 Cf. Schmidt, Wettbewerbspolitik und Kartellrecht, op. cit., 69 f.; Scherer, Industrial market structure ..., op. cit., 232-260; Schwalbach, Markteintrittsverhalten industrieller Unternehmen, *supra*, 716; and Williamson, Antitrust Economics ..., op. cit., 332.

Such conduct "would be foolish and selfdefeating behavior"⁸⁶ and, therefore, unlikely.

Even if the existence of at least some kind of structural barriers is accepted, the crucial question still has to be answered as to whether on this basis such strategic barriers to entry exist and whether their erection constitutes a meaningful strategy for the deterrence of entry. In examining this issue, we will refrain from dealing with single kinds of strategic barriers⁸⁷, rather we will address ourselves to the crucial issues of excess capacity, sunk costs, and credible threats that underlie the respective hypotheses on these kinds of barriers and determine their validity. The purpose of this is to demonstrate - pars pro toto - that incumbent firms are able to deter entry by strategic conduct.

The primary argument of the hypothesis is that incumbent firms regulate their capacity which they are going to invest before entry of newcomers in such a way as to equal the presumed post-entry output expected after a potential competitor enters the market. In this case the actual output before newcomers enter is deliberately chosen smaller than overall pre-entry capacity. The resulting excess capacity is used to threaten to expand output, cut prices and, therefore, to make entry unprofitable.⁸⁸ Thus the entry deterring effect is achieved by intensifying presumed post-entry competition by

86 Bork, The Antitrust Paradox ..., op. cit., 309, and as well, 144 f., 153 and 160; for a similar view on the existence of strategic behavior, cf. McGee, John, Predatory Pricing Revisited, 23 JLE (1980), pp. 289-330; and Baxter, William F., Reflections Upon Professor Williamson's Comments, 27 StLouis-ULJ (1983), pp. 315-320, acknowledging that strategic behavior exists but holding that the courts are unable to deal with it.

87 In fact, this has been done abundantly elsewhere, cf., e.g., Baron, D. P., Limit Pricing, Potential Entry, and Barriers to Entry, 63 AER (1973), pp. 666-674; Dixit, Avinash K., Recent Developments in Oligopoly Theory, 72 AER (1982), pp. 12-17; Salop, Steven C., and David T. Scheffman, Raising Rivals' Costs, 73 AER (1983), pp. 267-271.

88 Cf., e. g., Dixit, Avinash K., The Role of Investment in Entry-Deterrence, 90 EJ (1980), pp. 95-106; Lieberman, Marvin B., Excess Capacity as a Barrier to Entry: An Empirical Appraisal, 35 JIE (1987), pp. 607-627; Salop, Strategic Entry Deterrence, *supra*; Spence, A. Michael, Entry, Capacity, Investment and Oligopolistic Pricing, 8 BJE (1977), pp. 534-544, 534 f.; for the basic reasoning, cf. Pashigian, B. Peter, Limit Price and the Market Share of the Leading Firm, 16 JIE (1968), pp. 165-177; and Wenders, John T., Excess Capacity as a Barrier to Entry, 20 JIE (1971), pp. 14-19.

additional output, a course of action which invalidates the Sylos' postulate.⁸⁹ It has been shown that there is an incentive to hold excess capacity at some cost because the anticipated reduction in the profit margin due to eventual entry is perceived to offset these costs.⁹⁰

In our view, the likelihood of occurrence has to be connected to three pre-conditions, however. First, the occurrence varies with the extent of structural barriers.⁹¹ Secondly, the kind of capital invested and the structure of resulting costs determine the likelihood of occurrence, and thirdly, the likelihood of deterrence is also dependent on the extent of credibility that is assigned to the threat by potential entrants.

The issue of structural barriers has been dealt with supra and has to be considered implicitly.

The potential for entry deterrence increases with the extent to which assets are limited in their transferability to alternative economic uses because of specificity in use. This limited degree of mobility of specific assets poses an additional risk to the potential entrant because in case of failure after entry the salvage value cannot fully be recovered. The residual part of the fixed costs which is not recoverable in the case of exit is referred to as 'sunk costs' and is calculated by subtracting the salvage value from the unamortized costs of the asset. The impact of sunk costs has to be taken into consideration by a potential entrant when calculating entry costs because an irrevocable choice of investment can alter the pre-entry conditions or those prevailing after entry has occurred. Such an occurrence is to the incumbents' advantage, because additional costs are imposed on the entrant that

⁸⁹ Cf. Sylos-Labini, Paolo, Oligopoly and Technical Progress, Cambridge, Mass. 1962. The postulate holds that incumbents will keep the pre-entry price on limit level and threaten to keep output constant after entry which would result in an unprofitable post-entry situation; cf as well, Wenders, Excess Capacity as a Barrier to Entry, supra, 15.

⁹⁰ Cf. Spence, A. Michael, Entry, Capacity, ..., supra, 534.

⁹¹ With regard to the reasoning along the above lines, the strategy can only be used profitably in an oligopoly, cf., e.g., Esposito/Esposito, Excess Capacity and Market Structure, supra, 188. This is consistent with the empirical findings in economic literature, cf., e.g., Lieberman, Excess Capacity as a Barrier to Entry ..., supra, 607.

were not borne by the incumbent. Hence, sunk costs serve as a barrier to entry because they allow exploitation of a first-mover advantage.⁹²

The threat of the incumbent firms to use excess capacity after successful entry and hence make entry unprofitable is dependent on the credibility of the threat.⁹³ Potential entrants will not be deterred from entering the market unless the "established firm unambiguously commit(s) itself to a course of action which will deter entry".⁹⁴ The irreversibility of an investment is an instrument to document the credibility of the threat. Again, this leads to the condition that the incumbent firms must invest in durable, specialized assets in order to raise the probability of entry deterrence.⁹⁵

c. Legal and Administrative Barriers

In addition to the control of an essential input of the production process, the government protection for some industries is regarded by current theory as the second substantial cause of barriers to new competition and, therefore, monopoly power.⁹⁶ This is considered so, because governmentally sanctioned barriers to new competition do not allow monopoly positions to be

92 Cf. Dixit, *The Role of Investment in Entry-Deterrence*, *supra*, 95 f.; Eaton/Lipsey, *Exit Barriers are Entry Barriers ...*, *supra*, 721; Hovenkamp, *Antitrust Policy After Chicago*, *supra*, 264-266; and Bailey, Elizabeth E., *Contestability and the Design of Regulatory and Antitrust Policy*, 71 AER (1981), pp. 178-183, 178 f.: "It is primarily the risk involved in expending large sums of money in order to acquire sunk-cost facilities that deters new entry when an otherwise profitable entry opportunity arises. Potential competition becomes an ever more effective force as the extent of large irretrievable entry costs decline", emphasis added.

93 Cf., e.g., Wenders, *Excess Capacity as a Barrier to Entry*, *supra*, 18.

94 Eaton, B. Curtis, and Richard G. Lipsey, *Capital, commitment, and entry equilibrium*, 12 BJE (1981), pp. 593-604, 594, italics in original; and Spence, A. Michael, *Entry, Capacity, ...*, *supra*, 544. The assumption is based on Schelling's distinction between threats and commitments. If an actor has made commitments in a strategic game, it is in his self-interest to take counteraction if the action at which the commitment was aimed, occurs, cf. Schelling, Thomas C., *The Strategy of Conflict*, Cambridge, Mass. 1960, ch. 2.

95 Cf. Eaton/Lipsey, *Exit barriers are entry barriers ...*, *supra*, 721; Williamson, *Antitrust Economics ...*, op. cit., 333. The price as a flexible instrument for reaction can still be used in the actual case. Note that the price is now decreased in order to deter entry, whereas before there was a potential for its elevation.

96 Cf. Posner, *The Chicago School of Antitrust Analysis*, *supra*, 947 note 65: "Legal barriers to entry such as patents are quite properly ignored as beyond the reach of antitrust policy."

challenged.⁹⁷ Barriers to entry erected by government, such as patents, legal restrictions of admission to certain occupations or professions, and similar regulations, have been deliberately established by government and authorities; they are therefore durable and cannot be removed by market forces. This kind of protection is provided by legal and administrative barriers.⁹⁸

According to the current approach, those areas that are exempt for political reasons cannot be defended by economic arguments. At the same time, however, it is very difficult to attack them politically. The protection of these industries against competition should be reduced step by step because, according to present evidence it seems to offer no advantages at all.⁹⁹ For instance, the German Monopolies Commission believes that the losses in efficiency in the economy flowing from governmental and public restraints are greater than the ones from market power.¹⁰⁰

Current government policy aims at abolishing legal and administrative barriers by deregulating those exempted areas. This has also become the official policy of the Reagan Administration. Deregulation has already gone far in the airline industry and in transportation. However, proponents of the current approach admit that it is very difficult to make policy conclusions

97 Cf. Koch, *Industrial Organization and Prices*, op. cit., 104 f.; and Demsetz, *Economics as a Guide ...*, supra, 381: "Monopolization has two plausible routes. One follows a circuitous path through fifty state capitals and Washington, D.C. The other is to obtain very dominant control over resources 'essential' to the production of a good."

98 Cf. Areeda/Turner, *Antitrust Law ...*, vol. 2, op. cit., 300 f.; Koch, *Industrial Organization and Prices*, op. cit., 104; and Mansfield, *Microeconomics ...*, op. cit., 353. For an empirical investigation cf., e.g., Kuhlmann, John M., and Terry D. Davis, *The Automobile Rental Industry: An Economic Analysis of the Airport Concessionaire Agreement*, 5 ALER (1971), pp. 59-70.

99 Cf. Demsetz, *Economics as a Guide ...*, supra, 383: "In addition ... it is difficult to see great gains flowing from government protection of industries from competition, although in some case, as with patent protection, such a case can be made."

100 Cf. the comments on the Sixth Main Report of the German Monopolies Commission by the Federal Government, *Stellungnahme der Bundesregierung zum Hauptgutachten VI*, BTDr. 11/555, p. 2. This is furthermore emphasized by Caspari, *Joint Ventures Under EEC Law and Policy*, supra, 12: "Also in Europe, established traditions or social constraints play a major role, and lobbyists as well are all too able to find politicians and bureaucrats who, for reasons of economic ignorance or lack of responsibility, are prepared to protect particular interests."

in fields which have not yet been thoroughly analyzed.¹⁰¹ This view is criticized by the traditional industrial organization approach, especially with regard to the problems of natural monopoly. In markets in which economies of scale prevent a competitive market structure, monopoly profits should be avoided by regulation; in such a case, a policy of deregulation would allow monopolists to skim off monopoly profits.

If the policy of deregulation is not to become an ideology, however, the essential question remains as to how regulation should be handled in order to avoid the costs of regulation which have been pointed out by *Stigler* and others.¹⁰² This however, is an issue that is beyond the scope of this contribution.¹⁰³

d. Barriers to Exit

The extent of potential competition that a market faces is determined not only by barriers to entry but also by barriers to exit from that market. If a potential entrant anticipates high barriers to exit from a market he might eventually decide not to enter this market even if the entry barriers themselves are low. This situation may arise if subnormal profitability because of cutthroat competition has to be expected.¹⁰⁴ Hence, barriers to exit influence performance, profits and industrial structure in the same way as barriers to

101 Cf. Demsetz, Economics as a Guide ..., supra, 383.

102 Rosenbluth, Gideon, Comment on a Paper by Demsetz, 19 JLE (1976), pp. 389-391, 391: "The question that naturally follows from Demsetz's analysis is: Can we regulate insufficiently competitive industries without incurring all the evils of regulation to which Stigler and others have drawn our attention?".

103 For recent thorough treatments of the issue, cf. Pascher, Heinrich, Die U.S.-amerikanische Deregulation Policy im Luftverkehrs- und Bankenbereich, Frankfurt a.M. et al. 1987; and Soltwedel, Rüdiger, et al., Deregulierungspotentiale in der Bundesrepublik, Tübingen 1986.

104 Cf., e.g., Caves/Porter, Barriers to Exit, op. cit.; Porter, Michael E., Competitive Strategy: Techniques for Analyzing Industries and Competitors, New York, London 1980, p. 186; Schmidt, Wettbewerbspolitik und Kartellrecht, op. cit., 70; and Schwalbach, Markteintrittsverhalten industrieller Unternehmen, supra, 716 f.

entry do, since they show a structural complementarity. Recent work has emphasized that this aspect has been neglected.¹⁰⁵

These two types of structural barriers are related in that factors that impede entry are likely to impede exit as well and actions that incumbent firms can take to deter entry also determine the conditions for their own departure from the market. Absolute cost advantages, product differentiation advantages, as well as economies of large scale can also erect a barrier to exit affecting incumbent firms as well as potential entrant firms.¹⁰⁶

Barriers to exit from a market may deter exit because of the following kinds which can be considered fundamental sources of such exit barriers:¹⁰⁷

- **durable and highly specialized assets** (idiosyncratic capital) creating irretrievable costs due to diminished liquidation value of the investment;
- **fixed costs of exit** due to pension plans, labor settlements, contract cancellation penalties, and the like;
- **strategic exit barriers** due to overall business relatedness of the existing business unit, access to financial markets, or vertical integration;
- **informational barriers** due to false evaluation or concealment of business performance;
- **government and social barriers** due to the legal system or political pressure; and
- **managerial and emotional barriers** due to emotional attachment and commitment to a business.

¹⁰⁵ Cf. Eaton/Lipsey, *Exit barriers are entry barriers ...*, supra; and Franklin, *Some Observations on Exit ...*, supra, 299; Koch, *Industrial Organization and Prices*, op. cit., 103: "The conditions of exit may subtly influence the conditions of entry"; cf., however, Hensley, Roy J., *Competition, Regulation and the Public Interest in Nonlife Insurance*, Berkeley and Los Angeles 1962, p. 66: "Conditions of exit in an industry are not likely to be as important an influence on industry conduct and performance as are conditions of entry."

¹⁰⁶ Cf. Caves/Porter, *Barriers to Exit*, op. cit., 44. This is strongly supported by recent empirical investigations that confirm a symmetry between entry and exit barriers in terms of an ex-ante symmetry in that barriers to exit serve as barriers to entry, cf. Shapiro, Daniel, and R.S. Khemani, *The Determinants of Entry and Exit Reconsidered*, 5 IJIO (1987), pp. 15-26, 16 and 25.

¹⁰⁷ Cf. Caves/Porter, *Barriers to Exit*, op. cit., 40-44; Porter, *Competitive Strategy ...*, op. cit., 259-266; and Schwalbach, *Markteintrittsverhalten industrieller Unternehmen*, supra, 717.

Empirical results confirm the significance of barriers to exit not only with regard to their importance but also with regard to their function in determining potential entries to a market.¹⁰⁸

The different kinds of impediments to competition may be presented in the following synopsis:

Fig. 5: Impediments to Competition

<u>entry</u>	<u>private</u>	<u>governmental/public</u>
-structural	economies of scale; absolute cost advantages; product differentiation advantages	overall industrial policy: - merger policy (e.g., in case of diversification) - commercial law - corporate law - patent and license system
-strategic	limit price; excess capacity; excess costs; product differentiation	special industrial policies - individual subsidies - regulation policy - patent and license system - occupational access - merger policy (e.g., prohibiting undesirable mergers)
<u>exit</u>		
-structural	durable and highly specialized assets; fixed costs of exit (e.g., contract cancellation penalties); informational barriers (e.g., concealed or biased figures on business performance)	barriers due to the legal system (e.g., legal pension plans)
-strategic	overall business relatedness; access to financial markets; vertical integration	political pressure and moral suasion (e.g., in case of firm failure and resulting unemployment)

¹⁰⁸ Cf. Caves/Porter, Barriers to Exit, op. cit., 67-69; Eaton/Lipsey, Exit barriers are entry barriers ..., supra; and Schwalbach, Markteintrittsverhalten industrieller Unternehmen, supra, 723 f.

5. An Evaluation of Impediments to New Competition

Even if *Bork's* separation into natural barriers - which reflect efficiency differences - and artificial entry barriers - which are not based on efficiency but prevent market forces from eroding positions based on power - is accepted¹⁰⁹, there are doubts about the validity of policy conclusions drawn by adherents of current theory. Of course it is possible to regard natural barriers to entry as an expression of superior efficiency. However, under such a view only short-term aspects of efficiency are taken into account; the long-run aspect of maintaining competition as an anonymous control mechanism which forces firms to produce in an efficient way and at the same time to pass on the efficiency gains to consumers is totally disregarded, even if barriers to entry are only understood as a manifestation of efficiency. The possible conflict between the realization of short-term efficiency gains and the long-run elimination of competition as an anonymous control mechanism is denied by the current tenet, since it relies on the force of potential competition. The different view of the traditional theory associated with the Harvard School tries to resolve this conflict and views natural barriers to entry in a different way. It emphasizes the workability of competition as a control mechanism and starts from the assumption that the coordination, information, and allocation function of competition is lessened by high barriers to entry, whether they actually reflect efficiencies or not.

Entry into a market presupposes that barriers to entry, as well as the existing profit opportunities in a relevant market, are well-known and that there are enough competitors possessing spirit of competition to allow these profit chances to be exploited by entering the market. If there is too little information on profit opportunities and/or too little spirit of competition, there will be no market entry even in the case of low barriers to entry. Besides this, the product life cycle plays an important role in deciding whether to enter a market or not.

109 Cf. *Bork, The Antitrust Paradox*, op. cit., 311.

Therefore, the traditional tenets associated with Harvard School hold that barriers to entry hinder the long-term erosion of powerful positions.¹¹⁰ Consequently, barriers to entry form a kind of protective shield against competition and keep dominant firms from passing on efficiency gains to the purchasers or to consumers, which leads to increased profits for the dominant firms.

Hence, the conclusion can be drawn that structural barriers to entry to a particular market, and also strategic barriers to entry, which have been erected by established firms in order to keep potential competitors out of the market, are an obstacle for the interindustrial mobility of diversifying firms and *de novo* competition. Such barriers to entry cause extra costs of entry to arise; and these are extra costs that established competitors were not or are not burdened with.

Recent empirical studies show that market entrance and exit is negatively influenced by these kinds of barriers.¹¹¹

*Shepherd*¹¹² provides evidence from results of a study on erosion or change in the position of dominant firms during the period 1910 - 1973 in the USA and in the United Kingdom. An important result of his investigation is that "(t)he 'natural' decline of dominant firms was much more in 1910 - 1935 than in 1948 - 1973".¹¹³

In addition, increasing concentration in most industries underlines the existence of barriers to entry, especially since market entrance in the sense of "net new capacity added by a new firm"¹¹⁴ has little significance. The figures of the Sixth Main Report of the German Monopolies Commission show that between 1983 and 1985, a period of moderate economic activity, concentration in 93 commodity groups (35,9 %) increased, in 64 commodity groups (24,7 %)

110 Cf. *Shepherd*, *The Economics of Industrial Organization*, op. cit., 71-75.

111 Cf. *Masson*, Robert T., and Joseph Shaanan, *Stochastic-Dynamic Limit Pricing: An Empirical Test*, 64 RES (1982), pp. 413-422; *Neumann*, Manfred, Ingo Böbel, and Alfred Haid, *Innovations and Market Structure in West German Industries*, 3 MDE (1982), pp. 131-139; *Schwaibach*, Joachim, *Strategisches Wettbewerbsverhalten in der Titandioxidindustrie*, 54 ZfB (1984), pp. 388-399; *Yip*, *Barriers to Entry*, op. cit.

112 Cf. *Shepherd*, *The Treatment of Market Power ...*, 113 f.

113 *Shepherd*, *The Treatment of Market Power ...*, op. cit., 115.

114 *Shepherd*, *The Treatment of Market Power ...*, op. cit., 101.

decreased, and in 102 commodity groups (39,4 %) fluctuated or remained constant.¹¹⁵ In essence, this means that in 75 % percent of the commodity groups concentration did not decrease. This can be interpreted as strong evidence for the importance of impediments to new competition.

IV. Concluding Remarks

In Part 2 of this contribution we analyzed the central elements of the current theoretical edifice. With regard to the importance of efficiency considerations in the United States' antitrust laws and the current antitrust policy, we can largely adopt the view put forward by the critics of the current theory. This is that the legislative history of the statutes, the ratio legis, the judicial interpretation of the laws by the Federal Supreme Court, and further plausibility considerations, all provide strong evidence that U.S. antitrust legislation was never passed with the intention of upholding and promoting only a single goal or of pursuing one individual goal like, for instance, economic efficiency. The 'imprecise wording' of the statutes has rather led, in fact, to the conclusion that the legislators did not feel in a position to define and quantify additional social and political objectives and therefore left the solution of possible goal conflicts to the judiciary. On the basis of the aforementioned we must thus assume that the antitrust laws of the United States comprise several goals, all of which are interrelated (**multiple-goal approach**). This interpretation has been confirmed by Congress' unwillingness to initiate any change in the legal statutes to conform to the direction of current theory.

Sociopolitical as well as economic considerations underlay the original draft of the German Act Against Restraints of Competition. The sociopolitical considerations encompass, firstly, the protection of the freedom to compete for its own sake, secondly and as a result of this, the preservation of an important mechanism regulating and controlling economic power in the market, and thirdly, the idea that only such protection and control may serve as an appropriate economic equivalent of the political principles of democracy.

¹¹⁵ Cf. Hauptgutachten der Monopolkommission VI: Gesamtwirtschaftliche Chancen und Risiken wachsender Unternehmensgrößen, Baden-Baden 1986, para. 40.

All-encompassing optimization of economic welfare by the best possible supply of consumers is the actual intended result of these economic considerations. The same applies to European law. In German and EEC antitrust philosophy, competition is regarded as an anonymous control and steering mechanism which forces competitors not only to gain efficiency advantages but also to pass them on to consumers.¹ In this view the freedom to compete is an advantage secured for competitors and consumers alike - a view underlined by the European Commission in its Fifteenth Report on Competition Policy in 1986.² This, however, is an aspect which is of no importance for the current U.S. approach.

In evaluating the adequacy and usefulness of neoclassical price theory and the static partial equilibrium model used by current theory for antitrust analysis, we found caveats with regard to the use of neoclassical price theory. Neoclassical price theory seems to be used rather selectively by the current tenet, in order to accord with certain a priori premises and pre-existing value judgments. The use of neoclassical price theory as the allegedly appropriate instrument of analysis has led to the omission of developments in price theory starting in the 1930s (*Chamberlin, Robinson, J.M. Clark et al.*). For the sake of analytical clarity, real world market conceptions have been surrendered or ignored. Total rationality of economic agents, autonomous behavior on the part of consumers, perfectly competitive market structures, perfect information available to economic agents, absence of consumer preferences, and divisibility and mobility of economic resources are the basic assumptions underlying the approach. In the real world, however, these assumptions cannot be met. They must therefore be rejected entirely, or restricted to special cases.

The main objection can be stated with regard to the selective use of price theory. Definitions, premises, and assumptions formulated by current tenet

1 Cf. the wording of Art. 85 para. 3 Treaty of Rome about the passing-on of efficiency gains.

2 Cf. Arts. 85 and 86 Treaty of Rome; and Commission of the European Communities, Fifteenth Report on Competition Policy, Brussels, Luxembourg 1986, p. 11, holding that "(e)ffective competition provides a set of ... checks and balances in the market economy system. It preserves the freedom and right of initiative of the individual economic operator and it fosters the spirit of enterprise. It creates an environment within which European industry can grow and at the same time take account of social goals."

tend to make the underlying model immune from falsification.

Positive methodology - such as that applied in the physical sciences - is used for the purpose of analysis. The only distinction is the empirical subject matter. The subject matter of antitrust is not of a comparable nature, however. It is characterized by extreme data instability, and for this reason alone does not permit valid application of positive methodological principles. Besides this, economics deals with open rather than closed systems, as is shown by the use of partial equilibria models that attempt to reduce the complexity of economic phenomena to manageable proportions. This is a further factor demonstrating the limited range of applicability of positivist methodology to antitrust as used by adherents of the current tenet.

The welfare approach of the Chicago School that is based on price theory relies on the assumption of effective competition, and hence on the existence of competitive prices. If the welfare implications of different policy recommendations are simply considered without concern for the effects on the workability of the market mechanism however, such markets will tend towards self-destruction. By assuming a per se-workability of the market mechanism and neglecting any long-run effects on the workability of the competitive mechanism, advocates of current theory effectively "define conflicts away". The term 'efficiency' tends to become a sort of black box in this context which may be used to justify all kinds of restraints of trade.

In addition to application problems inherent to the model, the partial equilibrium trade-off model used as a basis for policy inferences tends to overestimate possible cost reductions due to industrial concentration, tends to underestimate resulting allocative inefficiencies after a merger, and neglects possible wealth transfers from producers to consumers. The necessary qualifications to the model lead to a loss of analytical clarity and increase the difficulties in drawing unambiguous policy implications. Furthermore, the model performs the trade-off between allocative inefficiency and productive efficiency by means of comparative-static analysis which lacks a dynamic character, although competition is nonetheless perceived as a dynamic process.

The measurement of efficiency is not necessarily confined to the use of a partial equilibrium model which we presented. A different method is the construction of an empirically observable relationship between factors that

determine the structure of an industry and the resulting performance. In addition to profits, the degree of technological innovation or technological efficiency could be used as criterion for the measurement of efficiency. A narrowing-down of the analysis on price/quantity relationships invalidates the resulting conclusions.

The assumption of perfectly competitive markets leads to a denial or playing down of the existence of barriers to new competition. Therefore, numerous competitors are assumed to be a factor guaranteeing a constant and permanent source of sufficient (potential) competitive pressure. Hence, the current tenet is based on the view that competition is a "self-maintaining" mechanism which would only be disturbed by public intervention. Therefore, market power is assumed to be only temporary - if it exists at all.

We have documented that this view primarily depends on the definition of the term 'barrier'. Structural and strategic impediments may be simultaneously both an outcome of efficiency on the one hand, and an obstacle to new competition on the other hand. Hence the pros and cons of impediments to new competition have to be evaluated very carefully in judging specific cases of industry concentration. That is, they are essentially of an ambivalent character, as far as economic welfare is concerned. Structural and strategic impediments are interrelated in that the extent of structural barriers is responsible for the range of discretion incumbents possess in the potential or actual erecting of strategic impediments.

The protection of the workability of competition as an anonymous instrument for controlling and steering economic processes is not a topic of fundamental importance for the current tenet. Because of the presumed absence of barriers to entry, sufficient potential competition is always presupposed to be present to force actual competitors to pass on supra-competitive profits to consumers. Economic power considerations are, therefore, restricted to price/quantity-interrelations and the interdependence of a free and decentralized economic order with a free and democratic political system is ignored.

On the basis of these conclusions, **Part 3** of our contribution will be devoted to an analysis of the role of the number of competitors, the degree of industry concentration, and the individual market share as crucial structural factors in determining industry performance, and especially interfirm efficiency differences.

Part 3: Industrial Concentration through Horizontal Mergers: Effects on Performance

In order to justify an activist competition policy towards mergers it is not sufficient just to be aware of the construction-default inherent in free enterprise systems, as described above. More than this, the economic case for an activist antimerger policy has to be based on an economic model or paradigm which can serve as a framework for public policy. The weaker the empirical evidence for such a paradigm, the weaker the case for distinct antimerger policy.¹

In evaluating the theoretical basis for an antitrust policy towards horizontal mergers, we will proceed as follows:

- We will present the concentration-collusion doctrine as the theoretical foundation underlying the past enforcement policy towards horizontal mergers, evaluate empirical attempts at verification and critically evaluate the insufficiencies associated with the traditional approach.
- We will then present the rival theory underlying the current approach towards horizontal mergers, the so-called new learning hypothesis. The theoretical basis as well as empirical attempts at verification will be evaluated critically and its public policy implications will be discussed.
- Furthermore, we will try to separate efficiency effects from market power effects by answering the question as to what extent horizontal industry concentration is justified by technical economies and additional non-technical efficiencies. Our emphasis will be on the role of market share and the distribution of firm shares in a particular market, according to recent empirical findings.

I. The Economic Rationale Underlying the Traditional Merger Policy

The economic case for traditional horizontal merger policy is based on the so-called concentration-collusion doctrine, which can be considered a special

1 Cf. Green, Chris, Industrial Organization Paradigms, Empirical Evidence, and the Economic Case for Competition Policy, 20 CJE (1987), pp. 482-505, 483 f., who states that empirical evidence has to be considered more important than analytical rigor; cf. as well, Pautler, Paul A., A Review of the Economic Basis for Broad-Based Horizontal-Merger Policy, 28 AB (1983), pp. 571-651, 624.

variant of the structure-, conduct-, performance-paradigm that was treated in Part 1 of the contribution submitted.²

1. The Content of the Concentration-Collusion Doctrine

The economic principle of the concentration-collusion doctrine was first emphasized implicitly by Adam *Smith*, who noted that competitors would restrain competition by harmonizing (colluding) their economic activities and agreeing upon matters of joint interest.³ With regard to antimerger policy, this economic impetus for public policy was elaborated on first by Augustin *Cournot*. His theoretical work showed that a decrease in the number of competitors would have deleterious effects on market performance in that the equilibrium price achieved would be above the one obtained by competition.⁴ Hence, a tendential increase in the number of competitors seemed to be necessary in order to obtain the competitive equilibrium price and, therefore, good market performance.⁵

Actually, this can be considered the starting-point of and the economic basis for the concentration-collusion doctrine.⁶ The doctrine can be traced back to Edward H. *Chamberlin* who can probably be credited for having been the first to argue explicitly that the probability of the recognition of mutual interdependence among competitors would rise as the number of competitors decreased and that eventually a critical level of concentration would be

2 Cf. Green, *Industrial Organization Paradigms* ..., *supra*, 484; and Pautler, *A Review* ..., *supra*, 587.

3 Smith, Adam, *The Wealth of Nations*, New York 1937, p. 128: "People of the same trade seldom meet together, even for merriment and diversion, but the conversation ends in conspiracy against the public, or in some contrivance to raise prices."

4 Cf. Cournot, Augustin, *Researches Into the Mathematical Principles of the Theory of Wealth*, translated by N. Bacon, New York 1960.

5 Again, it becomes obvious that good economic performance and not just freedom to compete must be a valuable criterion for the policymaker in order to accept the tenet submitted.

6 On the meaning and essence cf. further Greer, Douglas F., *Industrial Organization and Public Policy*, 2nd ed., New York 1984, p. 295; Mueller, Dennis C., *Profits in the Long Run*, Cambridge, Mass. 1986, p. 51; and Schmalensee, Richard L., *Collusion Versus Differential Efficiency: Testing Alternative Hypotheses*, 35 JIE (1987), pp. 399-425, 399.

reached which would allow for collusive action and non-competitive pricing.⁷ The increased awareness of mutual interdependence stems from the fact that competitors gradually approach perfect information on relevant market characteristics and, simultaneously, the probability of detecting violations of interdependence, i.e. of collusive conduct, increases. Hence, the essence of the doctrine is to show "that successful (tacit or explicit) collusion would approach joint maximization and that the ability to collude increases with concentration".⁸

The crucial yardstick for the evaluation of the economic evils of collusion are various performance criteria. According to basic monopoly and oligopoly theory, collusion due to increased industry concentration will lead to output restrictions and as market prices are raised and exceed marginal costs, allocational inefficiencies will occur as concomitants. Hence, price-cost margins might be seen as a proof of the quality of performance. Power to raise prices by any form of collusion might result not only in allocational inefficiencies but also in increased costs of production as competitive pressures to minimize costs are reduced.⁹

7 Cf. Chamberlin, Edward H., *The Theory of Monopolistic Competition*, 8th ed., Cambridge, Mass. 1962, pp. 46 f.: "The assumption of independence cannot be construed as requiring the sellers to compete as though their fortunes were independent, for this is to belie the very problem of duopoly itself." On the aspect of mutual interdependence, cf. as well Greer, *Industrial Organization* ..., op. cit., 11 f.; Green, *Industrial Organization Paradigms* ..., supra, 575; and Areeda, Phillip, and Donald F. Turner, *Antitrust Law: An Analysis of Antitrust Principles and Their Application*, vol. 4, Boston and Toronto 1980, p. 55: "There is a general agreement that beyond some point the smaller the number of firms and the larger the share of the market occupied by one or relatively few firms, the greater the likelihood of substantial departures from competitive performance, particularly with regard to price."

8 Weiss, Leonard, *Quantitive Studies of Industrial Organization*, in: Intriligator, Michael D. (ed.), *Frontiers of Quantitative Economics*, Amsterdam, Oxford 1971, pp. 362-408, 363.

9 Cf. Koch, James V., *Industrial Organization and Prices*, 2nd ed., Englewood Cliffs, N.J., 1980, p. 190; and Singleton, Ross C., *Industrial Organization and Antitrust: A Survey of Alternative Perspectives*, Columbus, Ohio 1986, p. 10. The ambiguity of performance measures in determining market power is emphasized by the latest Report of the Council of Experts for the Ministry of Economic Affairs, cf. *Bericht des Wissenschaftlichen Beirats beim Bundesministerium für Wirtschaft, Wettbewerbspolitik*, Bonn 1986, p. 11.

The conclusions issuing from this line of theorizing provide the welfare-theoretic basis for policies that attach to collusion, the exercise of market power as well as to substantial accretions to such power eventually added by mergers.¹⁰

2. Economic Returns as a Standard of Measurement

In order to measure market power, the representatives of the former theoretical edifice associated with the Harvard School used different performance measures. These performance measures indicate the degree of attainment of the performance variables allocative, productive, and dynamic efficiency (technological progress).¹¹ They encompass output restriction, price elevation, profit rates of return, price-cost margins, and the extent of overcapacity, etc. and relate these factors to structural variables such as, e.g., the degree of industry concentration, the market shares of the competing firms, or the height of the barriers to entry.¹²

Economic returns, price-cost margins and profit rates have received particular attention in this context. Crudely stated, the profitability of an enterprise can be viewed as its basic motivation. This leads to the hypothesis widely agreed upon that economic returns serve as an adequate yardstick for a company's performance. At the same time, profitability serves as an indicator of whether the company actually faces sufficient competition. If it faces sufficient competition, excess returns on capital invested and, therefore, undue market power are supposed to be transitory and will be eroded

10 Cf. Green, Industrial Organization Paradigms ..., supra, 484; Greer, Industrial Organization ..., op. cit., 404 f.; and Pautler, A Review ..., supra, 575 f., who note that the antitrust authorities in the U.S. felt secure enough in their knowledge of the relationship between concentration and performance to base their general guidelines for horizontal mergers on the concentration-collusion doctrine; cf. as well, Horizontal Merger Guidelines 1968, issued by the U.S. Department of Justice.

11 Cf. Koch, Industrial Organization ..., op. cit., 190; and Singleton, Industrial Organization ..., op. cit., 4 f.

12 Cf. Schmalensee, Richard A., Another Look at Market Power, 95 HLR (1982), pp. 1789-1808, 1804-1808, and Landes, William M., and Richard A. Posner, Market Power In Antitrust Cases, 94 HLR (1981), pp. 937-996, 938.

- at least over a longer period of time.¹³ The importance of individual structural factors then depends on how much they add to profitability in the individual case.¹⁴

In addition to a number of statistical problems there are three crucial problems in measuring performance, i.e., in measuring market power by means of profitability:¹⁵

- Severe operability problems exist in measuring profitability;
- market power may exist even at low "excess profits";
- "excess profits" may exist in competitive markets in the short-run (as an incentive to imitative competition).

In addition to the notion that excess returns must be non-transitory in order to indicate market power, another qualification has to be made. Economic returns might also reflect an enterprise's higher efficiency or higher innovativeness. It will be the main task of this part of our contribution to find some evidence on the causes of excess returns: to what extent are such returns attributable to higher efficiency and to what extent can they be put down to market power?

The underlying technique of performance measurement seems to be the main point of dispute for the present. For the purpose of measuring monopoly or

13 On this position cf. Shepherd, William G., *The Economics of Industrial Organization*, 2nd ed., Englewood Cliffs, N.J. 1985, p. 65, who emphasizes profitability in the sense of accounting returns only. For a profound discussion on the difference between economic returns and accounting returns, cf. Areeda, Phillip, and Donald F. Turner, *Antitrust Law: An Analysis of Antitrust Principles and Their Application*, vol. 2, Boston and Toronto 1978, §§ 508-510, 512c, and § 508: "Substantial market power usually brings higher returns than needed to attract capital into the business ..., we will show that persistent excess returns are convincing proof of durable, individually held market power for a firm that is the only producer of a physically distinguishable product, or that has produced a very high and relatively stable proportion of the output of that product."

14 For a detailed survey on the significance of various structural elements in determining variations in profitability, cf. Abell, Derek F., and John S. Hammond, *Strategic Market Planning: Problems and Analytical Approaches*, Englewood Cliffs, N.J., 1979, pp. 271-286; and more recently, Buzzell, Robert D., and Bradley T. Gale, *The PIMS Principles: Linking Strategy to Performance*, New York 1987.

15 Cf. Schmalensee, *Another Look at Market Power*, *supra* 1805; and also again, *Wissenschaftlicher Beirat beim Bundesministerium für Wirtschaft*, op. cit., 11 f.

market power, the current theory associated with the Chicago School tends towards a theoretical case-by-case analysis and uses perfect competition as a standard of reference:

"The term 'market power' refers to the ability of a firm (or a group of firms, acting jointly) to raise price above a competitive level without losing so many sales so rapidly that the price increase is unprofitable and must be rescinded."¹⁶

This evaluation of market power follows logically from the price/quantity-definition of monopoly. The existence of market power as such is of less importance; with regard to antitrust theory and policy the extent of market power is of much greater concern. The theoretically correct index for the measurement of this power is the *Lerner* index which relates price-cost margins to price and indicates deviation from an efficient resource allocation.¹⁷ The *Lerner* index must equal zero if perfect competition is prevalent, and increases up to one with the extent of market power individually held. Some critics of the current tenet, however, doubt that measures such as the *Lerner* index are suitable for the general case and reject them for this reason:¹⁸

"Concepts such as the Lerner index of monopoly, relating price to marginal cost, reflect the adoption of these criteria," (i.e., performance criteria) "criteria which have become widely adopted principles of antitrust economics. Nonetheless these are incorrect criteria upon which to construct standards of antitrust policy."

While other adherents of current theory accept such measures of market power in principle, they stress the problems of using these measures. For instance, *Landes* and *Posner* emphasize the difficulty of extricating the necessary data and especially of measuring the elasticity of demand which is used in the *Lerner* index:¹⁹

16 Landes/Posner, Market Power in Antitrust Cases, *supra*, 937.

17 Cf. Koch, Industrial Organization ..., op. cit., 62; and Scherer, Frederic M., Industrial market structure and economic performance, second ed., Chicago 1980, p. 268.

18 Demsetz, Harold, Economics as a Guide to Antitrust Regulation, 19 JLE (1976), pp. 371-388, 373.

19 Landes/Posner, Market Power in Antitrust Cases, *supra*, 943.

"More important is the difficulty that would face a court or an enforcement agency in estimating elasticities of demand for purposes of using (the) approach in antitrust enforcement and adjudication."

The dead-weight loss, which has already been discussed, seems to be the only concept that is accepted by all representatives of current theory. As has been emphasized above, this measure presents the monetary loss which results in an economy by virtue of the fact that a monopoly offers a smaller quantity than would be offered under competitive conditions.²⁰ We have pointed out the practical difficulties of the model and the qualifications necessary to make use of the approach. Furthermore, the dead-weight loss is severely handicapped by the fact that as a rule it is static and strictly efficiency-orientated (in contrast to a multiple-goal approach advocated by us in this contribution); it therefore does not serve as a broadly enough based concept for the purpose of empirical proof.

In order to find empirical evidence of supracompetitive profits, an empirically observable relationship between factors that determine the structure of an industry and the resulting profits has to be constructed. In addition to profits, the degree of technological innovation or technological efficiency can be used as a criterion for measuring performance.²¹ Additional measures can only be determined vaguely.²² We have to return to so-called proxy variables, which will be treated further below. Our considerations will be based on the commonly used structure-performance studies employing such proxy variables. Furthermore, we will return to the problems of performance studies as used by traditional, after having evaluated the empirical evidence on the concentration-collusion doctrine.

3. Empirical Attempts to Verify the Concentration-Collusion Doctrine

Empirical studies aiming to verify the concentration-collusion doctrine have commonly attempted to determine the role of various structural factors in

20 Cf. the criticism of this measurement concept by Schmalensee, Another Look at Market Power, *supra*, 1793.

21 Cf. Bain, Joe S., Industrial Organization, 2nd ed., New York et al. 1958, pp. 434 ff.

22 Cf. Bain, Industrial Organization, op. cit., 458 ff.

facilitating collusion. In this context, collusive behavior has been seen as an attempt to restrain competition, which leads to poor performance.²³

Commonly, underlying these studies, were four different independent structural variables, used either separately or simultaneously. Competitive performance was seen to be influenced primarily by the degree of market concentration, the size distribution of the firms (market shares), barriers to market entry, and the degree of product differentiation. Since the emphasis of the traditional studies was on the degree of market concentration as measured by concentration ratios or the Hirschman-Herfindahl index as presented above, we will proceed along the same lines.²⁴

Underlying the traditional studies are two different sets of data. Both are based on the Standard Industrial Classification Code (SIC), which regards markets in terms of industries and "delineates market breadth with a system of numerical codes".²⁵ The breadth of delineation runs from two-digit major industry groups (e.g., electrical equipment and supplies) which are broken down into narrower industries (e.g., five digits: electrical integrating instruments) and then finally into seven-digit single product categories.

One set of data is collected by the U.S. Internal Revenue Service (IRS). The data provided comprises the two-, three-, and four-digit levels of industry aggregation in terms of the census classification scheme. This sort of

23 Cf. Green, *Industrial Organization Paradigms ...*, *supra*, 489; Pautler, *A Review ...*, *supra*, 587-591 for the original tenet presented by these studies; Singleton, *Industrial Organization ...*, *op. cit.*, 10 f.; and Weiss, Leonard W., *The Concentration-Profits Relationship and Antitrust*, in: Goldschmid, Harvey, et al. (eds.), *Industrial Concentration: The New Learning*, Boston, Toronto 1974, pp. 184-233, for a survey and evaluation of the basic studies up to 1974.

24 Cf. Green, *Industrial Organization Paradigms ...*, *supra*, 484; Singleton, *Industrial Organization ...*, *op. cit.*, 11.

25 Greer, *Industrial Organization ...*, *op. cit.*, 103; and cf. as well Koch, *Industrial Organization ...*, *op. cit.*, 173-175.

classification is contaminated, however, since whole companies are assigned to their primary industry category.²⁶

The second set of data used is provided by the U.S. Bureau of Census that collects statistics on manufacturing activity at the level of individual plants, and condenses the figures to concentration ratios of the four, eight, twenty, and fifty largest firms.²⁷

We will infra recur to the question of general data insufficiencies being possibly responsible for spurious results in the studies presented.

a. Empirical Evidence

The most commonly used performance variables in the traditional studies are prices, profits, and price-cost margins, the latter being considered a correct substitute proxy for economic returns.

aa. Concentration and Prices

The primary proof of the concentration-collusion doctrine should come from a link between the degree of concentration and the level of price. If an increase in concentration raises the probability of mutual interdependence, the actual result would be an inelastic demand situation. This would encourage incumbent competitors to raise prices. Hence, an increase in concentration is associated with a rise in price. This reasoning only holds *ceteris paribus*, however, since the height of entry barriers to the market in question as well as the intensity of potential competition have to be considered at the

26 Cf. Intriligator, Michael D., et al., Conceptual Framework of an Econometric Model of Industrial Organization, in: Weston, J. Fred., and Stanley J. Ornstein (eds.), *The Impact of Large Firms on the U.S. Economy*, Lexington et al. 1973, pp. 23-55, 35; and Scherer, Industrial market structure ..., op. cit., 270: "(F)or diversified corporations, this means that vast amounts of irrelevant or 'contaminating' activity are loaded into the primary industry totals along with correctly classified primary industry, profits, sales, and assets."

27 Cf. Koch, Industrial Organization ..., op. cit., 173-175; Shepherd, The Economics ..., 67-69; Scherer, Industrial market structure ..., op. cit., 271; and Singleton, Industrial Organization ..., op. cit., 16 note 21, who notes that industries are defined on the basis of similarity of production processes: "As a result firms which do not compete with each other are sometimes included in the same industry while firms which do compete are sometimes not included in the same industry."

same time. Low barriers and strong potential competition would make the demand situation more elastic.²⁸

Empirical studies have been performed mainly with regard to industries where data is available relatively easily, such as commercial loan terms in banking²⁹, mortgage rates of mortgage-lending institutions³⁰, interest rates of savings bonds³¹, food retailing³², and newspaper publishing.³³ All of these studies have indicated that the net effect of increased concentration is a significant tendency to raise prices:³⁴

"Although one can, as always, quarrel with the particular samples, controls, and methods employed in these studies, their overall thrust is unambiguous. Prices do tend to be higher when markets are highly concentrated than when they are not."

For several reasons, however, these studies are of restricted usefulness in their attempts to verify the concentration-collusion doctrine:³⁵

- Structural factors other than industry concentration such as, e.g., barriers to entry or the extent of buying power might affect the level of prices in actual markets in cases where the *ceteris paribus*-condition no

28 Cf. Shepherd, *The Economics ...*, 126 f. for specific examples and the underlying reasoning; and Pautler, *A Review ...*, supra, 615-624 for a survey.

29 Cf. Heggestad, A. and J. Mingo, *Prices, Nonprices, and Concentration in Banking*, 8 *JMBC* (1976), pp. 107-117; and Hester, D., *Customer Relationships and Terms of Loans: Evidence from a Pilot Survey*, 11 *JMBC* (1979), pp. 349-357.

30 Cf. Aspinwall, R.C., *Market Structure and Commercial Bank Mortgage Interest Rates*, 36 *SEJ* (1970), pp. 376-384.

31 Cf. Kessel, Reuben, *A Study of the Effects of Competition in the Tax-Exempt Bond Market*, 79 *JPE* (1971), pp. 706-738.

32 Cf. Lamm, Richard, *Prices and Concentration in the Food Retailing Industry*, 30 *JIE* (1981), pp. 67-78; and Marion, Bruce W., et al., *The Price and Profit Performance of Leading Food Chains*, 61 *AJAE* (1979), pp. 420-433.

33 Cf. Landon John H., *The Relation of Market Concentration to Advertising Rates: The Newspaper Industry*, 16 *AB* (1971), pp. 53-100.

34 Scherer, *Industrial market structure ...*, op. cit., 288; cf. for one of the latest case studies, Barton, D., and R. Sherman, *The Price and Profit Effects of Horizontal Merger: A Case Study*, 32 *JIE* (1984), pp. 165-178; and Pautler, *A Review ...*, supra, 615; Greer, *Industrial Organization ...*, op. cit., 295 f. note 1 for a largely complete survey on the studies.

35 Cf. Greer, *Industrial Organization ...*, op. cit., 295; Pautler, *A Review ...*, supra, 615; Smith, James L., *Risk Aversion and Bidding Behavior for Offshore Petroleum Leases*, 30 *JIE* (1982), pp. 251-269; Scherer, *Industrial market structure ...*, op. cit., 287; Walker, H.D., *Market Power and Price Levels in the Ethical Drug Industry*, Bloomington, Ind. 1971, chs. 6 and 7.

longer obtains. The extent to which these factors add to or subtract from the pricing effect is difficult to determine correctly.

- Prices cannot - as a rule - be compared across different markets, since there is no way of standardizing what constitutes a 'competitive price'.
- There is a paucity of useful data on prices, which restricts empirical attempts to verify the doctrine in respect of certain industries particularly those which might show irregular structural or legal features.³⁶

In essence, the results of the price studies can be considered crucial for a proper interpretation of the profit studies to be presented because they might add information necessary to distinguish price-raising effects from cost-depressing effects that are due to scale economies:³⁷

"Without these price studies we could never be certain that the observed positive association between profits and concentration (or profits and market share) was indeed due to 'market power'. A skeptic would argue that the cause of the positive profit association was not market power pushing up prices, but rather some *non-price* profit-enhancing variable like productivity or efficiency, which would be positively but unmeasurably associated with concentration."

A complex interplay of price increasing and cost decreasing-effects seems to be at work, the latter of which we will deal with infra; there seems to be a tendency for suppliers to refrain from lowering their prices to such an extent as gained cost advantages would allow them to do. A study by Kelton³⁸, who inquired into the correlation between concentration and prices in the field of food and tobacco products shows a durable positive and significant correlation between the two variables in periods without inflation (change of the price level of 8 % when the level of concentration increased by 10 %).³⁹

36 For example, much of the banking business in the United States is regulated. This affects the results of banking studies severely, cf. Pascher, op. cit.

37 Greer, Industrial Organization ..., op. cit., 299, italics original; and cf. Scherer, Industrial market structure ..., op. cit., 287.

38 Quoted from Weiss, Leonard W., Concentration and Price - A Possible Way out of the Box, Discussion Paper of the International Management Institute Berlin, Berlin 1984, pp. 7 ff.

39 Cf. Weiss, Concentration and Price ..., supra, 8.

bb. Concentration, Profit Rates, and Price-Cost Margins

The concentration-profitability relationship is considered to be the probably most thoroughly tested hypothesis in economics.⁴⁰ The pioneering study within the field was performed by Joe S. Bain in 1951. He tested the hypothesis "that the average profit rate of firms in oligopolistic industries of a high concentration will tend to be significantly larger than that of firms in less concentrated oligopolies or in industries of atomistic structure".⁴¹ He collected data from 335 firms in 42 industries for the period of 1936-1940 on the rate of return on equity after tax (the underlying performance measure) and correlated this data with the eight-firm concentration ratio (the measure for market structure). Bain did not find a linear relationship between concentration and profitability as measured by rate of return on equity. Nevertheless, he found profits to be significantly above average for an eight-firm concentration ratio above 70%.⁴²

A whole spate of empirical studies followed the one performed by Bain. The majority of these studies showed a significant positive correlation between

40 Cf. Weiss, The Concentration Profits Relationship and Antitrust, op. cit., 193.

41 Bain, Joe S., Relation of Profit Rates to Industry Concentration: American Manufacturing 1936-40, 65 QJE (1951), pp. 293-324, 294.

42 Cf. Bain, Relation of Profit Rates ..., supra, 313. Probably the most recent of these studies are Salinger, M., Tobin's q, Unionization, and the Concentration Profits Relationship, RandJE (1984), pp. 159-170; and Schmalensee, Richard L., Do Markets Differ Much?, 75 AER (1985), pp. 341-351.

concentration or further independent structural variables and profits as the dependent variable across various industries:⁴³

"Almost all of the 32 concentration-profits studies except Stigler's have yielded significant positive relationships for years of prosperity or recession, though they have depended on a wide variety of data and methods."

During the period of traditional studies *Stigler* was the only scholar to present a deviant study. However, his different results can be traced to the fact that high inflation or price controls occurred in the period of inquiry and/or to false assumptions.⁴⁴ It has to be noted, however, that the concentration-profitability relationship has not been statistically significant in the vast majority of the cases. It is disputable whether this is a consequence of a weak correlation or of insufficiencies of the data base.

There was strong evidence that the contention of a strong correlation would hold even if different time periods were examined, different countries com-

43 Weiss, Quantitive Studies of Industrial Organization, op. cit., 371. Cf. Böbel, Ingo, Wettbewerb und Industriestruktur: Industrial Organization - Forschung im Überblick, Berlin et al. 1984, 25; Greer, Industrial Organization ..., op. cit., 407; Koch, Industrial Organization ..., op. cit., 195; and for a deviant opinion, cf. Shepherd, The Economics ..., op. cit., 128 f., who states that there is actually no close correlation, essentially because of data problems: "(T)he correlation accounts statistically for only about 10 percent of the variation in margins. Such a weak correlation could reflect errors in the data, and therefore be meaningless." Among the most important of these studies are Bain, Relation of Profit Rates ..., supra; Bain, Joe S., Economies of Scale, Concentration, and the Conditions of Entry in Twenty Manufacturing Industries, 44 AER (1954), pp. 15-39; Bain, Joe S., Barriers to New Competition, Cambridge, Mass. 1956; Collins, Norman R., and Lee E. Preston, Price-Cost Margins and Industry Structure, 51 RES (1969), pp. 271-286; Comanor, William S., and Thomas A. Wilson, Advertising, Market Structure and Performance, 49 RES (1967), pp. 423-458; Mann, H. Michael, Seller Concentration, Barriers to Entry, and Rates of Return in Thirty Industries, 1950-1960, 48 RES (1966), pp. 296-327; Rhoades, Stephen A., and J.M. Cleaver, The Nature of Concentration-Price/Cost Margin Relationship for 353 Manufacturing Industries: 1967, 40 SEJ (1973), pp. 90-102; and Shepherd, William G., The Elements of Market Structure, 54 RES (1972), pp. 25-37.

44 Cf., e.g., Kilpatrick, Robert W., Stigler on the Relationship Between Industry Profit Rates and Market Concentration, 76 JPE (1968), pp. 479-488; and for the study, Stigler, George J., Capital and Rates of Return in Manufacturing Industries, Princeton, N.J. 1963.

pared, and varying profitability definitions chosen.⁴⁵

Most of the traditional empirical tests of the concentration-performance relationship chose average after-tax profit-rates ("rate of return on equity after tax") for leading firms whose primary product was assigned to the industry according to the SIC. The use of rather simple profit rates has disappeared over time, current emphasis being placed on the following measures of profitability as substitute proxy variables:⁴⁶

- rate of return on equity as an indication of the profitability of the firm's invested capital, and therefore of misallocation of resources and inefficiency; at the same time, this is the actual variable to be maximized by the shareholder;
- rate of return on assets;
- rate of return on sales; it remains ambiguous whether or not allocative inefficiency can be measured by means of this variable;⁴⁷
- price cost margins, which have been used with increasing frequency in recent studies as a substitute proxy for the *Lerner* index; and
- *Tobin's q*, which tries to avoid the problems associated with the differences in profitability definitions.⁴⁸

The rate of return on equity and price cost-margins have received the most attention in recent studies. Their advantages and disadvantages will be dealt with infra.

45 Cf. Greer, Industrial Organization ..., op. cit., 407 f.: "Given this wide variety of tests, the general consistency of a positive concentration-profit relationship is impressive"; Kilpatrick, Robert W., The Validity of the Average Concentration Ratio as a Measure of Industrial Structure, *SEJ* (1976), pp. 711-715; Scherer, Industrial market structure ..., op. cit., 278 f.; and Singleton, Industrial Organization ..., op. cit., 11.

46 For an in depth discussion of the performance variables used, cf. Scherer, Industrial market structure ..., op. cit., 276-280; and Weiss, The Concentration Profits Relationship and Antitrust, op. cit., 198-200.

47 For the contrary positions cf. Greer, Industrial Organization ..., op. cit., 407, and Koch, Industrial Organization ..., op. cit., 191.

48 The advantage of this variable is to be seen in the fact that the "capital market valuation of rents appropriately incorporates firm risk, corresponds to an equilibrium valuation of rents and minimizes any distortions introduced by tax laws and accounting conventions", Smirlock, Michael, Thomas Gilligan and William Marshall, *Tobin's q and Structure-Performance Relationship*, 74 *AER* (1984), pp. 1051-1060, 1054.

b. Collusion and "Critical Levels" of Concentration

In concentration profitability studies there is a strong tendency to determine whether there exists a continuous or discontinuous relationship between concentration and profitability, i.e. whether or not a steady upward progression of profitability may be found as industry concentration increases.⁴⁹ Such a break in the concentration-profitability relationship could be of importance as a sound theoretical basis for antimerger policy because

"(i)f such a break existed, and it could be attributed to market power, and if the breakpoint was relatively stable over a large class of markets, then one might be able to devise an antimerger policy that would slow the movement of concentration above the critical level".⁵⁰

For studies performed on the basis of U.S. samples the results have been unambiguous, even if we consider the variety of performance measures used. The four-firm concentration ratio CR₄ was detected to be between 45 and 60% of the market in question and between 60 and 70% for the eight firm concentration ratio CR₈.⁵¹ Areeda and Turner assert that this does not imply enough consensus on what the critical levels are, actually, because a span of discretion is left. This follows from the contention that four-firm concen-

49 Cf., e.g., Scherer, Industrial market structure ..., op. cit., 280. For a survey on the studies cf. Bradburd, Ralph M., and A. Mead Over, Organizational Costs, "Sticky Equilibria", and Critical Levels of Concentration, 64 RES (1982), pp. 50-58, 50 f.

50 Pautler, A Review ..., supra, 637. Furthermore, such a critical concentration ratio would be consistent with the approach of the contribution submitted since we prefer a combination of structure-conduct approach. A continuous relationship among the variables is found by Collins/Preston, Price-Cost Margins and Industry Structure, supra; Kamerschen, David, The Determination of Profit Rates in "Oligopolistic" Industries, 42 JB (1969), pp. 293-301.

51 Cf. Bain, Relation of Profit Rates ..., supra; Dalton, James E., and David W. Penn, The Concentration/Profitability Relationship: Is There a Critical Concentration Ratio?, 25 JIE (1976), pp. 133-142; Meehan, James W. and Thomas Duchesneau, The Critical Level of Concentration: An Empirical Analysis, 22 JIE (1973), pp. 21-30; Rhoades/Cleaver, The Nature of Concentration-Price/Cost Margin Relationship ..., supra; and White, Lawrence J., Searching for the Critical Industrial Concentration Ratio, in: Goldfeld, Stephen; and Richard E. Quandt (eds.), Studies in Non-Linear Estimation, Cambridge, Mass. 1976, pp. 61-75.

Deviating from this span is Stigler, George J., The Organization of Industry, Homewood, Ill. 1968, p. 59, who asserts a critical CR₄ of 80%.

tration levels CR₄ below 55-60% are not likely to foster collusion, whereas, if these CR₄ ratios are higher than 75-80% collusive conduct is rather likely.⁵²

Additionally, a variety of abstrusenesses justifies a closer look at the ambiguous results. To begin with, there seems to be a significant difference between high and low concentration industries in that no such break point of profitability presumably exists in low concentration industries.⁵³ The pooling of low and high concentration industries in samples might be biasing the relationship, and hence may be inappropriate for the determination of a critical level of concentration.⁵⁴

Furthermore, Kwoka found out that especially the four-firm concentration ratio has the tendency to mask the possible asymmetry and importance of individual firm shares of the market. When introducing the market shares of the top four firms it was seen that the shares of the top two firms were consistently positive and at the same time significant, whereas the coefficients of the third and fourth largest firms were negative and often insignificant.⁵⁵ This has shattered the whole traditional field of concentration-profitability studies and has led to the contention that the two-firm concentration ratio is the correct structural variable. There has been found to be a profitability break at a CR₂ of 35%. This seems to indicate that four-firm concentration ratios carry a rather strong bias due to data aggregation and hence it can be contended that "concentration by itself may not be detrimental, but that dominance may be a more important problem".⁵⁶ As a result, firm dominance as documented by CR₁ and CR₂ may be considered the real source of market power rather than collusion via simple four firm industry concentration if the tenet held. A critical concentration ratio would simply

52 Cf. Areeda/Turner, Antitrust Law ..., vol. 4, op. cit., § 910d.

53 Cf. Rhoades/Cleaver, The Nature ..., supra.

54 Cf. Dalton/Penn, The Concentration/Profitability Relationship ..., supra.

55 Cf. Kwoka, John E., Large-Firm Dominance and Price/Cost Margins in Manufacturing Industries, 44 SEJ (1977), pp. 183-189; and Kwoka, John E., The Effects of Market Share Distribution on Industry Performance, 61 RES (1979), pp. 101-109.

56 Pautler, A Review ..., supra, 645. This has been assumed implicitly already by Mann, H. Michael, Asymmetry, Barriers to Entry, and Rates of Return in Twenty-Six Concentrated Industries, 8 WEJ (1970), pp. 86-89; and documented by Shepherd, The Elements of Market Structure, supra.

be the outcome of a bias due to data aggregation. This has been confirmed by later studies.⁵⁷

c. The Suitability of Different Performance Criteria

The suitability of a performance measure has to be determined by its ability to indicate the existence of nontransitory market power, hence to indicate the ability to raise price above the competitive level for an extended period of time. For the time being, it is "difficult to reach confident judgments except where excess returns are indicated by all or most of the plausible techniques of measurement".⁵⁸ At the heart of the discussion lies the question of which performance variable serves the purpose of indicating market power best, which variable can be used to proxy a theoretically correct index if this is found to be inoperational, and which measurement technique is finally to be applied in actual empirical studies.⁵⁹

It is often contended that the economic rate of return is the sole superior indicator of monopoly or market power and that the validity of performance measures is judged by whether they are able to serve as a proxy for economic rates of return.⁶⁰ This does not seem to be correct, however, since the choice among different performance measures rather depends on the underlying purpose of the study within which the measure is used. Conclu-

57 Cf. Pautler, A Review ..., supra, 649: "Since at least 1977, the emphasis has shifted toward the market-dominance problem, and the large market shares held by leading firms have become the focus of attention." Cf. as well, e.g., Kwoka, John E., and David J. Ravenscraft, *Collusion, Rivalry, Scale Economies, and Line of Business Profitability*, Washington, D.C. 1982.

58 Areeda/Turner, *Antitrust Law* ..., vol. 2, op. cit., § 512a.

59 For an extensive pros and cons survey on different performance measures cf. Long, William F., and David J. Ravenscraft, *The Misuse of Accounting Rates of Return: A Comment*, 74 AER (1984), pp. 494-500, 495 f.; and Weiss, *The Concentration Profits Relationship and Antitrust*, op. cit., 198 f.

60 Cf., e.g., Areeda/Turner, *Antitrust Law* ..., vol. 2, op. cit., § 512c; Fisher, Franklin M., and John J. McGowan, *On the Misuse of Accounting Rates of Return to Infer Monopoly Profits*, 73 AER (1983), pp. 82-97, 82: "Thus, the economic rate of return is the only correct measure of the profit rate for the purpose of economic analysis. Accounting rates of return are useful insofar as they yield information as to economic rates of return."

sively, strong doubt can be cast on the hypothesis that economic returns are the sole valid basis.⁶¹

Because of inoperationality, the theoretically correct variable has to be proxied by a substitute in every case. The crucial question that has been discussed in this context is whether or not accounting profit data is able to reflect economic returns due to monopoly power.⁶² It was concluded that "the accounting rate of return ... is a misleading measure of the economic rate of return ... (t)hus comparisons of accounting rates of return to make inferences about monopoly profits is a baseless procedure".⁶³

Although this reproach has to be rejected since it is based on a variety of false calculations and is tested on the basis of performance criteria other than profitability-on-sales which substitutes for the *Lerner* index quite correctly, cautiousness is recommended in making a choice about the correct

61 Cf. Long/Ravenscraft, *The Misuse of Accounting Rates of Return: A Comment*, *supra*, 495: "The correct definition of profit depends on the context in which it is employed ... Existing evidence suggests that the *Lerner* index, which can be approximated by profit/sales, better reflects the degree of monopoly power." For a reasoning along the same line, cf. Koch, *Industrial Organization* ..., *op. cit.*, 191 f.

62 Cf. Brozen, *Yale, The Persistence of "High Rates of Return" in High Stable Concentration Industries*, 14 *JLE* (1971), pp. 501-512, 512; Pautler, *A Review* ..., *supra*, 580 note 22; Fisher/ McGowan, *On the Misuse of Accounting Rates of Return* ..., *supra*, 82: "Such a procedure is valid only to the extent that profits are indeed monopoly profits, accounting profits are in fact economic profits, and the accounting rate of return equals the economic rate of return."

63 Fisher/McGowan, *On the Misuse of Accounting Rates of Return* ..., *supra*, 89; and cf. as well Brozen, *Yale, The Significance of Profit Data for Anti-trust Policy*, in: Weston, J. Fred, and Sam Peltzman (eds.), *Public Policies Toward Mergers*, Pacific Palisades 1969, pp. 110-127; but cf. Scherer, Frederic M., *On the Current State of Knowledge in Industrial Organization*, in: de Jong, Henk W., and William G. Shepherd (eds.), *Mainstreams in Industrial Organization - Book 2*, Dordrecht et al. 1986, pp. 5-22, 9, who notes that data problems are always difficult to deal with: "(E)veryone admits that accounting data are imperfect, and it is virtually impossible to prove the negative proposition that the problems are not so serious as to preclude valid inferences. Much seems to hinge on basic matters of faith ... Attempts to test the robustness of structure-performance regression results to variations in accounting conventions have shown no significant sensitivity", citation omitted.

accounting rate of return.⁶⁴ Nevertheless, a survey of empirical studies relating accounting earning changes to stock market price changes, the latter being an indicator for economic returns, finds strong evidence of a significant correlation between the two and no evidence that large deviations are common.⁶⁵

The most suitable proxy variable for the *Lerner* index are price-cost margins which have been introduced by *Collins* and *Preston*. They are calculated by subtracting the marginal cost approximated by variable costs from the price and relating this difference to the price. Return on sales is properly used as a proxy for the price-cost margin.⁶⁶ If we assume average costs not to be constant, the price-cost margin is a function of the *Lerner* index and the elasticity of the average cost curve, and is considered to have "both sound theoretical roots and the considerable practical advantages of availability and reliability"⁶⁷ because of the interrelatedness with the theoretically correct performance measure.

Although it does not indicate resource misallocation as, e.g., return on the firm's equity does, it serves as an indicator of the firms' ability to raise prices above the competitive level. This is of importance for the contribution submitted in that "an excess of price over average variable cost is likely to provide a reasonably accurate measure of the degree of market power".⁶⁸

64 Cf. Areeda/Turner, Antitrust Law ..., vol. 2, op. cit., § 512c; Long/Ravenscraft, The Misuse of Accounting Rates of Return: A Comment, supra, 494; and Stauffer, Thomas, The Measurement of Corporate Rates of Return: A Generalized Formulation, 2 BJE (1971), pp. 434-469, 467 f.: "Most firms or industries are little affected by the corrections, which partly vindicates the accounting rate of return as a practical tool. There are certain egregious counter-examples, however."

65 Cf. Beaver, William H., Financial Reporting: An Accounting Revolution, Englewood Cliffs, N.J. 1981, p. 118.

66 Cf. Collins/Preston, Price-Cost Margins and Industry Structure, supra, and Pautler, A Review ..., supra, 591; and Areeda/Turner, Antitrust Law ..., vol. 2, op. cit., § 513a: "(P)ersistent and substantial differences between price and marginal cost strongly suggest either that excess returns have in fact been earned or that they could have been even though the books show otherwise. Accounting profits might underestimate the firm's true profits or reflect non-competitive policy choices."

67 Kwoka, John E., The Effects of Market Share Distribution ..., supra, 101.

68 Areeda/Turner, Antitrust Law ..., vol. 2, op. cit., § 513b; and Koch, Industrial Organization ..., op. cit., 191; but cf. Liebowitz, S. J., What Do Census Price-Cost Margins Measure?, 25 JLE (1982), pp. 231-246, 246: "I have found that the census-price-cost margin does not measure the variable it was purported to measure, nor is it much of a proxy for more traditional profit measures."

d. Insufficiencies of the Traditional Studies

We have concluded that most of the traditional empirical studies on the concentration-profit relationship find a strong correlation among the variables. However, a number of restrictions have to be mentioned with regard to the studies especially with regard to the ones using aggregated industry data and leading to a somewhat weaker correlation between concentration and profits:

- Often limited samples of data for too short a period of time were used; thus a certain source of bias was assumed due to the fact that time periods were picked randomly. The positive correlation would be assumed to disappear if other periods of time were chosen for the inquiry.⁶⁹
- In essence, the first point is closely associated with the contention that excess profits are only a temporary problem and will be eroded over time in every case.⁷⁰ The logical conclusion to be drawn from the observation that competitors' profitability in various industries remains above average over time, is considered to be proof of some kind of (efficiency) superiority of incumbents versus potential competitors.
- As we have already mentioned *supra*, the level of profit is not solely influenced by the degree of concentration. Other structural variables such as barriers to entry, market share, firm size, capital requirements, and the stage of market evolution influence the level of profits as well and must therefore be analyzed individually and be carefully distinguished from one another. The attempt to determine their influence by means of multiple regression analysis may lead to multicollinearity, possibly overemphasizing the role of the degree of industry concentration.⁷¹
- Another source of uncertainty is that economic rents differ from book-keeping profit rates. To what extent these differ from each other and may become arbitrary, therefore, would have to be evaluated in each individual case, as to the extent to which such a difference would affect the empiri-

⁶⁹ Cf. Greer, Industrial Organization ..., op. cit., 410; and Scherer, Industrial market structure ..., op. cit., 277 f.

⁷⁰ Cf., e.g., Brozen, Yale, Concentration and Structural and Market Disequilibrium, 16 AB (1971), pp. 241-248; and Brozen, The Persistence of "High Rates of Return" ..., *supra*.

⁷¹ Cf. Böbel, Wettbewerb und Industriestruktur ..., op. cit., 26 and 55; Koch, Industrial Organization ..., op. cit., 195; and Scherer, Industrial market structure, 279.

cal study in question.⁷² The longer the time period over which economic rents and book-keeping profit rates are compared, the less should be the difference between the two if average values are juxtaposed.

- The main criticism of the traditional studies is the use of data which is aggregated on an industry level. By aggregating the data, potential explanatory variables may lose their importance in explaining profitability differentials among competitors, since the profitability of market leaders may be exaggerated.

This contention is supposed to be backed up by the finding that the simultaneous introduction of additional structural variables leads to a somewhat weaker concentration-profitability relationship. This might either be a reason for the weak correlation due to an averaging of the profit rates or a reason for the correlation to be spurious.⁷³ In essence, this seems to be the main cause of the uncertainty that remains in the attempt to separate efficiency from market power effects with regard to the causal relationship between concentration and efficiency.⁷⁴ This implies a strong need for data on a firm or commodity group level.

- The use of cross-sectional data is a final point that is put forward against traditional concentration-profitability data and leads to the contention that "interindustry or intermarket comparisons of profits are irrelevant

72 Cf. Greer, Industrial Organization ..., op. cit., 406; Hagerman, Robert L., and Lemma W. Senbet, A Test of Accounting Bias and Market Structure, 49 JB (1976), pp. 509-514; Koch, Industrial Organization ..., op. cit., 195 f.; Brozen, The Significance of Profit Data for Antitrust Policy, op. cit.; and Weiss, The Concentration Profits Relationship and Antitrust, op. cit., 196, state the opposite case that the relationship is rather underestimated due to the data problems: "The reported rates of return can vary a great deal depending on which of many accounting conventions are used. Even if the choice of accounting conventions were randomly distributed among firms, such variations would introduce errors that would reduce the correlation between concentration and profits." This seems to be in accordance with the findings on the robustness of such studies with regard to changes in the performance measure.

73 Cf. Schmidt, Ingo, and Jan B. Rittaler, Die Chicago School of Antitrust Analysis: Wettbewerbstheoretische und -politische Analyse eines Credos, Baden-Baden 1986, p. 60; and Scherer, On the Current State of Knowledge in Industrial Organization, op. cit., 8: "Let me make the point more strongly: At least for the United States, the many studies that found a positive association between aggregated industry profits and concentration were almost surely spurious, the victims of aggregation biases."

74 Cf. Greer, Industrial Organization ..., op. cit., 412 f.; Koch, Industrial Organization ..., op. cit., 191 and 195; and Shepherd, The Economics ..., op. cit., 128.

because they indicate nothing about what would happen to profits if concentration *within* an industry or market changed".⁷⁵

Furthermore, the alleged relationship seems to be evidently stronger in consumer goods industries than in producer goods industries because of knowledgeable industrial buyers who may hold a certain amount of buyer power as well.⁷⁶

II. The Validity of the Mainline Paradigm and the New Learning-Hypothesis

Since the 1970s, the validity of the mainline paradigm underlying the traditional approach to industry concentration and mergers was attacked on the grounds of two propositions. The explicit so-called new learning hypothesis held that industry concentration trends occur because of interfirm efficiency differences.¹ This was accompanied by the more implicit suggestion that the new learning hypothesis makes the concentration-collusion doctrine loose its theoretical foundation because it was concluded that concentration and collusion are not as a rule necessarily associated with each other.²

1. Efficiency as a Cause of Concentration

With regard to the first proposition, the traditional industrial organization approach assumed that it was necessary for firms in an industry to achieve a certain size in order to be efficient in the sense of having lower average costs, assuming access of competitors to almost identical common technology and the presence of economies of scale.³ This led to the chain of causation, which asserted that size as a result of an expansion of output would cause lower costs and, therefore, increase (productive) efficiency.

⁷⁵ Greer, Industrial Organization ..., op. cit., 412 italics original.

⁷⁶ Cf., e.g., Collins/Preston, Price-Cost Margins and Industry Structure, *supra*.

¹ Cf., e.g., Demsetz, Harold, Industry Structure, Market Rivalry, and Public Policy, 16 JLE (1973), pp. 1-9.

² Cf., for instance, Brozen, Yale, The Concentration-Collusion Doctrine, 46 ALJ (1977), pp. 826-856.

³ Cf. Bain, Joe S., Economies of Scale, Concentration, and the Condition of Entry in Twenty Manufacturing Industries, 44 AER (1954), pp. 15-39.

However, within the current context, the relation between concentration and profits has undergone reinterpretation. Accordingly, concentration has to be perceived as an expression of efficiency (the actual so-called new learning) and therefore higher profits are an expression of efficiency as well. Competitors that have attained a large market share allegedly satisfy the wants of consumers better than smaller firms, regardless of the degree of industry concentration. Hence an increasing degree of concentration means aggressive competitive behavior primarily due to efficiency differences with prices close to long-run costs.⁴ Declining concentration would be an indicator of cartelization or monopolistic price behavior, however, because entry of newcomers due to supracompetitive profits would be stimulated and this in turn would lead to the erosion of excess profits.⁵ Newcomers would immediately erode monopoly power that is not based on efficiency. For instance, what may look like a resource monopoly in the short run is actually an expression of competition in the long run; therefore, such monopoly positions cannot be maintained.⁶ As a result, it could be concluded that profits which have not been eroded over a long time show that a firm operates efficiently in the market.

In this line of reasoning, concentration is considered to be absolutely necessary in some markets in order to achieve economic efficiency. According to the view of this tenet, different levels of efficiency lead to an elimination of weaker competitors and thereby to concentration (efficiency causes concentration). Therefore, the size of the firm that is realized through internal growth, for instance, is also the most efficient size for the firm.⁷ Whereas the traditional mainline paradigm ascribed supracompetitive profits in markets to increased concentration and barriers to entry, barriers to entry are regarded here as a reward for high risk and superior efficiency, or as being the result of a natural monopoly which would not allow for further competitors.⁸ For the mainline paradigm, profits that have not been eroded

4 Cf. Kalfass, Hermann H., Die Chicago School - Eine Skizze des "neuen" amerikanischen Ansatzes für die Wettbewerbspolitik, 30 WuW (1980), pp. 596-601, 597.

5 Cf. Brozen, The Concentration-Collusion Doctrine, *supra*, 830.

6 Cf. Kirzner, Israel M., Competition and Entrepreneurship, Chicago 1973, pp. 205 ff., for the similar Neo-Austrian point of view.

7 Cf. Bork, The Antitrust Paradox, *op. cit.*, 192.

8 Cf. Scherer, Frederic M., The Posnerian Harvest: Separating Wheat from Chaff, 86 YLJ (1977), pp. 974-1001, 995 ff., and Posner, Richard A., The Chicago School of Antitrust Analysis, 127 UPLR (1979), pp. 925-952, 945.

by competition in the long run indicate market power in that "they show clearly that there is some impediment to effective imitation of the firm in question".⁹

2. Concentration May Possibly Cause Collusion

A far-reaching consensus with the mainline paradigm remained on the view that the likelihood of collusion would increase with growing concentration because of the perception of increased mutual interdependence among firms. Here the idea of mutual interdependence is accepted - in contradiction of the general reasoning (!). However, a possible abuse through an exertion of monopoly power would become well-known to potential competitors and this would induce new entry. Moreover, collusion could be recognized easily by the antitrust authorities and therefore be dealt with at once. As a result, the proposition of the mainline paradigm that market concentration serves as a substitute proxy for and an indication of collusion and should therefore be of antitrust concern, became subject to criticism on the grounds that public policy intervention may discourage competitive conduct that would otherwise promote efficiency.¹⁰

According to the current reasoning, explicit collusion, i.e., conspiracy or concerted action (cf. Sec. 1 Sherman Act), and implicit collusion or spontaneous coordination (cf. the control of market dominating groups under Art. 86 Treaty of Rome and under Sec. 22 para. 2 ARC in Germany), which is not covered by U.S. antitrust law, are judged in a different manner.¹¹

(1) In order not to reject American antitrust policy in toto, the current trend expresses the opinion¹² that horizontal price conspiracies should be prohibited, since collective monopolies have the same effect on price and output as an individual monopoly. The tendency towards conspiracy increases when concentration increases and the number of competitors de-

9 Schmalensee, Another Look at Market Power, *supra*, 1806.

10 Cf. Demsetz, Economics as a Guide to Antitrust Regulation, *supra*, 383, and Bork, The Antitrust Paradox, op. cit., 193: "(T)o explain industrial concentration on grounds other than efficiency, ... will prove difficult or impossible to do ...".

11 Cf. Posner, The Chicago School ..., *supra*, 932 f. and 944 - 946.

12 Posner, The Chicago School ..., *supra*, 932: "Partly, perhaps, for tactical reasons (not to seem to reject antitrust policy in its entirety), the members of the Chicago School would sometimes denounce price fixing."

creases. The necessity of public policy and legislation is accepted at least to this extent.¹³

- (2) Neglecting the position of *Stigler* who regards tacit or implicit collusion, i.e., spontaneous coordination as a problem in markets with high interdependence due to a high degree of concentration, the other representatives of the current tenet deny that implicit collusion actually restrains competition (i.e., favoring conscious parallelism).¹⁴ It is not denied that concentration is an important factor in facilitating collusion. However, the question of how excessive profits can exist without attracting newcomers in the long run is seen to be the core issue since it is assumed that the entry of newcomers would cause an immediate or gradual price decline.¹⁵

This would necessarily lead to the suggestion that supracompetitive profits that have not been caused by efficiency, but rather by implicit collusion, would have the effect of lowering concentration because of entry by newcomers or it would force firms to lower their prices in order to prevent newcomers from entering the market (e.g., by means of limit pricing). This reasoning takes for granted, however, that ideal markets without any bar-

13 Cf. e.g. Demsetz, Economics as a Guide, supra, 383, and Bork, The Antitrust Paradox, op. cit., 406. Vertical arrangements, however, have to be judged in an unrestricted and completely different way, according to Bork because they do not have any output consequences: "Vertical price fixing (resale price maintenance), vertical market division (closed dealer territories), and, indeed, all vertical restraints are beneficial to consumers and should for that reason be completely lawful", Bork, The Antitrust Paradox, op. cit., 297.

14 Cf. the omnibus volume on the economic and legal problems of conscious parallelism, 13 The Journal for Reprints of Antitrust Law and Economics (1982), pp. 581 ff.

15 It is assumed that due to changing conditions with regard to demand, technology, and different cost situations, collusion that is favored by oligopolistic interdependence between the firms is in practice very difficult to deal with, Bork, The Antitrust Paradox, op. cit., 92: "Conventional oligopoly theory, however, is little more than a guess about the ways in which firms might be able to behave in a market composed of a few sellers." This cannot be considered new knowledge, however, since the determinants of cartelization have been known for some time, cf. Koch, James V., Industrial Organization and Prices, 2nd ed., Englewood Cliffs, N.J., 1980, pp. 424-428; and Schmidt, Wettbewerbspolitik und Kartellrecht: Eine Einführung, 2nd ed. Stuttgart 1987, pp. 112 f.

riers to entry are the rule rather than the exception - an assumption which we have already dealt with critically in one of the preceding sections.¹⁶

3. The Theoretical Basis and the Empirical Evidence of the New Learning

The main contention of the new-learning hypothesis is that a strict merger control carries with it the peril of sacrificing efficiencies due to scale economies and related nontechnical efficiencies.¹⁷ Consequently, the industry's structure is the result of differing efficiencies of firms over time. However, the unwarranted assumption underlying this assertion is that the improvement of efficiency is the only motivation for concentration.¹⁸ A high degree of concentration is regarded as the result of superior abilities on the part of entrepreneurs. According to this line of thinking, it is important whether the firm has reached its efficient size by internal or external horizontal growth.¹⁹

In this context, representatives of the Chicago School speak of "competitive effectiveness", emphasizing that the approach does not only apply to mechanistic or technical processes. Productive efficiency is not only determined by economies of scale and transaction-cost efficiencies but also by specialization advantages, ability to obtain capital, management skills, etc.

A positive correlation between concentration and profits is acknowledged by economists adhering to the current tenet. However, they would consider the relationship to be spurious, misinterpreted, or overstated for a number of

16 Accordingly, the sustainability of profits has to be viewed in the context of market barriers. If the latter are not substantial, persistent profits really have to be considered an outcome of superior efficiency.

17 Cf. Brozen, Yale, Concentration, Mergers, and Public Policy, New York 1982, p. 11; McGee, John S., Efficiency and Economies of Size, in: Goldschmid, Harvey, et al. (eds.), Industrial Concentration: The New Learning, Boston, Toronto 1974, pp. 55-97; and Posner, Richard A., The Chicago School of Antitrust Analysis, 127 UPLR (1979), pp. 925-952, 940. But cf. Stigler, George J., The Economics of Scale, 1 JLE (1958), pp. 54-71, who regards economies of scale as such as being negligible beyond rather small scales.

18 Cf. Hauptgutachten der Monopolkommission IV: Fortschritte bei der Konzentrationserfassung, Baden-Baden 1982, ch. VI: "Motives of concentration", in which the German Monopolies Commission deals with the different underlying causes of concentration (for instance, legal framework, imperfect capital markets, patents, striving for market power, etc.).

19 Cf. Bork, The Antitrust Paradox ..., op. cit., 164.

reasons. Productive efficiency should not be seen as analogous to or even confused with profitability, since the relative efficiency of a firm is not evaluated by its profit rates but by its relative success in the market-place:²⁰

"Productive efficiency, like allocative efficiency, is a normative concept and is defined and measured in terms of consumer welfare. Since a free market system assumes that consumers define their own welfare, it follows that productive efficiency consists in offering anything whether products or services, that consumers are willing to pay for."

Again, this argument presupposes that (overproportionate) internal and external growth only occurs because of superior efficiency. According to empirical estimates trying to find evidence for this view, a divestiture of concentrated industries with CR₄ more than 50 % would result in cost increases of about 20 % and price increases of about 15 %.²¹ Since the market structures resulting from unfettered competition are considered to be an outflow of superior efficiency and since efficiency is the goal of antitrust policy, no reason for interference emerges. An abuse of power in concentrated industries would result in a natural deconcentration of the industry since efficient newcomers would enter the market by virtue of the non-existence of barriers to entry.²² Even leaving aside the issue of efficiency, the divestiture of industries does not seem to be practicable.²³

20 Bork, *The Antitrust Paradox*, op. cit., 104 f. This deprives the antitrust analyst of an operational criterion for the determination of market power since 'success in the market' embodies a tautology: Everything that prevails in the end is successful, regardless of the conditions and circumstances present, cf., e.g., McGee, *Efficiency and Economies of Size*, op. cit., 88 f.

21 Cf. Peltzman, Sam, *The Gains and Losses from Industrial Concentration*, 20 JLE (1977), pp. 229-263. But see Scherer, Frederic M., *The Causes and Consequences of Rising Industrial Concentration*, 22 JLE (1979), pp. 191-208, 208: "(T)here is no reason to suppose that deconcentration need impose efficiency sacrifices as long as government enforcement agencies and courts do not behave like bulls in (vitreous) china shops."

22 Cf. Posner, *The Chicago School ...*, *supra*, 946.

23 Posner, *The Chicago School ...*, op. cit., 79: "Any proceeding to deconcentrate an industry by reorganizing the major firms into smaller units would probably be cumbersome, protracted and indeed unmanageable." Cf. also Schmidt, Ingo, *Different Approaches and Problems in Dealing with Control of Market Power: A Comparison of German, European, and U.S. Antitrust Policy Towards Market Dominating Enterprises*, 28 AB (1983), pp. 417-460, who reviews the prohibitive difficulties in divesting firms.

Effective divestiture would presuppose a knowledge of the optimal market structure, which does not exist on account of the complexity of market forces. Therefore, divestiture could not be carried out in a constitutional way. The aforementioned shortcomings of the traditional studies have been emphasized in a number of empirical studies, which try to lend support to the new learning hypothesis:²⁴

- The most important reason is the existence of aggregation biases which would make results spurious. This is one of the results issuing from Demsetz' work. It is concluded that the positive correlation between concentration and profits is only valid for firms with a large market share in an oligopoly (core of the oligopoly), but not for the fringe of small firms in a (partial) oligopoly because "the differential profitability of large firms did not fall as concentration (and the probability of collusion) increased".²⁵ If collusion caused the profits-concentration relationship all competitors and not just the ones owning large market shares in a market would attain supracompetitive profits.²⁶ This need not necessarily be the case, however, since collusion might only be an advantage to the core of the oligopoly, whereas fringe firms - more or less - have to act as price takers.

In addition to economies of scale, experience-effects from cumulated pro-

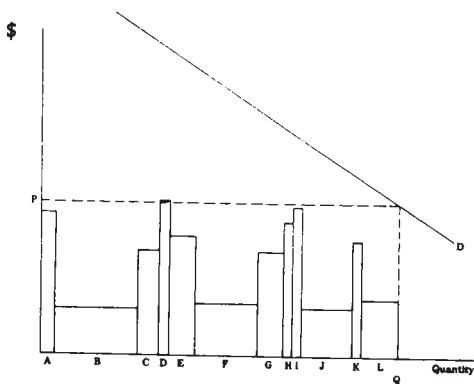
²⁴ Among the most important are, Brozen, Yale, Bain's Concentration and Rates of Return Revisited, 14 JLE (1971), pp. 351-369; Brozen, Concentration and Structural and Market Disequilibria, *supra*; Brozen, The Persistence of "High Rates of Return" ..., *supra*; Carter, John R., Collusion, Efficiency and Antitrust, 21 JLE (1978), pp. 435-444; Demsetz, Industry Structure, Market Rivalry, and Public Policy, *supra*; Demsetz, Harold, Two Systems of Belief about Monopoly, in: Goldschmid, Harvey J., et al. (eds.), Industrial Concentration: The New Learning, Boston 1974, pp. 164-184; Gale, Bradley T., and Ben S. Branch, Concentration versus Market Share: Which Determines Performance and Why Does it Matter?, 27 AB (1982), pp. 83-106; Peltzman, The Gains and Losses from Industrial Concentration, *supra*; Smirlock/Gilligan/ Marshall, Tobin's q ..., *supra*.

²⁵ Singleton, Industrial Organization ..., op. cit. 47; and for the study, Demsetz, Industry Structure, Market Rivalry, and Public Policy, *supra*, 7 f.; although empirical efforts to verify the structure-conduct-performance paradigm and, therefore, implicitly the concentration-collusion doctrine are rejected, the scholars associated with current theory now heavily draw on such studies to prove their hypotheses.

²⁶ The essence of the findings holds that "(c)oncentrated industries, then, will typically consist of several large, relatively efficient firms sharing the majority of the market and a fringe of many smaller, less profitable firms. The industry profit rate in such concentrated industries will be above average precisely because the large profitable firms share the majority of the market. The above-average profit rate in such industries will emphatically not be the result of collusive output restriction", Singleton, Industrial Organization ..., op. cit., 47, *italics original*.

duction (learning by doing), goodwill, and the difference in the quality of management are used in order to explain superior performance and hence concentration tendencies²⁷; the latter factors imply the realization of a more favorable production and cost function, the actual realization of which seems at least disputable. Demsetz draws the conclusion that the absolute cost advantages, economies of scale or other efficiencies which are due to individual firm superiority, are the reason for the higher profits.²⁸ The underlying reasoning results from an industry profile (firms A-L), a market price, and different total costs such as the ones depicted:

Fig. 6: Industry Profile



Source: Singleton, Ross C., Industrial Organization and Antitrust: A Survey of Alternative Perspectives, Columbus, Ohio 1986, p. 48.

- Persistent profits are concluded to be an indicator of efficiency as a result of the underlying **potential competition doctrine**.²⁹ This doctrine holds

27 Cf. Alchian, Armen, and Harold Demsetz, Production, Information Costs, and Economic Organization, 62 AER (1972), pp. 777-795, 777; Green, Industrial Organization ..., *supra*, 484; and Kallfass, Die Chicago School ..., *supra*, 598.

28 Cf. as well Brozen, Bain's Concentration ..., *supra*, 367: "(I)t seems that the less concentrated industries were less concentrated because that was the efficient pattern of organization just as the more concentrated became so because that was the efficient way to organize them. The market selected the appropriate structure for each industry." This makes the disaggregation of data a primary task for subsequent empirical research.

29 Cf., e.g., Clark, John Bates, *The Control of Trusts*, New York 1901.

- that "(n)o matter how concentrated an industry, external competition will constrain the collusive behavior of entered firms".³⁰
- Criticism on the underlying empirical test to verify the traditional tenet rests on the alleged insufficiency of the kind of data (accounting data) and the data base used (FTC, IRS, PIMS, or SIC data). The results of former empirical studies are furthermore considered to be spurious because problems in the sampling techniques result from the general use of a small number of industries and profit rates for few firms at a point in time rather than at several points.³¹ Hence, the choice of the underlying sampling techniques has to be considered in interpreting the results.
 - Concentrated industries were found to have profits below equilibrium and unconcentrated industries to show profits above equilibrium. This suggests that industries earning low profits are therefore held to be collusive more likely than concentrated and high profitability industries.³²
 - Excess profits - if they appeared - are seen primarily as a problem of temporary disequilibrium in individual markets; it is therefore held that they tend to disappear in later years.³³ There is an encompassing consensus that the elimination of excess profits is to be considered an indicator of sufficient competitive pressure, and is hence empirically relevant.

30 Singleton, Industrial Organization ..., op. cit., 44. This is an equivalent to the assumption that meaningful market barriers do not exist; and Demsetz, Industry Structure, Market Rivalry, and Public Policy, *supra*, 1: "*(I)n the absence of effective barriers to entry it would seem that the concentration of an industry's output on a few firms could only derive from their superiority in producing and marketing products or in the superiority of a structure of industry in which there are only a few firms*", italics supplied.

31 Cf. Benston, George J., The Validity of Profits-Structure Studies with Particular References to the FTC's Line of Business Data, 75 AER (1985), pp. 37-67; Pautler, A Review ..., *supra*, 597; Scherer, On the Current State ..., op. cit., 7 f.; and Singleton, Industrial Organization ..., op. cit., 47 f. and 51; and Brozen, Yale, Deconcentration Reconsidered: Comment, 14 JLE (1971), pp. 489-491, 491: "We need not, however, be concerned that above-normal profits are more prevalent in concentrated industries. It appears that findings to this effect are the consequence of the use of small samples. Larger samples do not show any relationship between concentration and rates of return."

32 Cf. Asch, Peter, and John Seneca, Is Collusion Profitable? RES (1976), pp. 1-12, 6; Brozen, Yale, No...The Concentration Collusion Doctrine, in: American Bar Association (ed.), Industrial Concentration and the Market System, pp. 106-117, 106; Pautler, A Review ..., *supra*, 597.

33 Cf. implicitly admitted by Demsetz, Industry Structure, Market Rivalry, and Public Policy, *supra*, 3; and Pautler, A Review ..., *supra*, 597 note 66: "Brozen did not show that the relationship ... was spurious, but only that it was not persistent in any individual industry."

- The final argument holds that no causal relationship exists between concentration and profitability, although a correlation may be found. It is argued that a verified correlation could not serve as evidence for the existence of an underlying chain of causation.³⁴ This argument seems of the utmost importance since it deals with the separability of efficiency gains from market power effects.

4. Revised Policy Conclusions for Horizontal Mergers

As a result of this reasoning on the relationship between concentration and collusion, *Bork* raises doubts as to whether mergers would lead to substantial restraints of output and believes that "the effect would usually be outweighed by cost savings".³⁵ However, he admits that with monopolistic structures, the restraints of output may outweigh the efficiency gains so that "we are in an area of uncertainty".³⁶ *Bork* therefore comes to the preliminary conclusion that mergers up to 60 or 70 % market share should be legal per se. However, "(p)artly as a tactical concession to current oligopoly phobia and partly in recognition of section 7's intended function of tightening the Sherman Act rule, I am willing to weaken that conclusion".³⁷

Posner explicitly refers to *Bork* on the subject of the limits of horizontal concentration.³⁸ He expresses in a rather unspecified way that antitrust po-

34 Cf., Green, Industrial Organization ..., *supra*, 489; Singleton, Industrial Organization ..., *op. cit.*, 50; and, e.g., the separate statement of *Bork*, Robert H., White House Task Force on Antitrust Policy, Report 1, CCH TRRer No. 415, May 26, 1969, Supplementary, at 1-B to 2-B: "My objection to the proposed statute is that the studies relied upon are shaky and open to question and that the correlation, if it were shown to exist, would prove nothing."

35 *Bork*, The Antitrust Paradox, *op. cit.*, 221. The welfare trade-off as the underlying methodology has been treated with regard to its shortcomings in Part 2 of the contribution submitted.

36 *Bork*, The Antitrust Paradox, *op. cit.*, 221.

37 *Bork*, The Antitrust Paradox, *op. cit.*, 221. But cf. Stigler, The Organization of Industry, *op. cit.*, p. 265 and 270, who figures out a substantial decline of horizontal mergers according to FTC statistics on the merger activities of the 200 leading firms in the U.S.A. from 1948-1953, 1954-1959, and 1960-1964. He traces this decline to the effect of the amendment of Sec. 7 Clayton Act in 1950. In the summary of the chapter on the economic impacts of the antitrust laws he stresses this fact once more without any comment. Thus, it seems that he is in favour of this effect of the amendment of Sec. 7 Clayton Act.

38 Cf. *Posner*, The Chicago School of Antitrust Analysis, *supra*, 933.

licy should deal mainly with horizontal mergers that lead directly to monopolies or which contribute to cartelization by a large reduction of the number of firms in a market.³⁹

In the case of horizontal mergers, the effects of output restriction outweigh the efficiency gains only if the merger results in a very high degree of concentration. Consequently, *Bork* regards as "presumptively lawful all horizontal mergers up to the market shares that would allow for other mergers of similar size in the industry and still leave three significant companies".⁴⁰

He takes the view that the maximum market share realized by a merger should be about 40 %.⁴¹ Although, he objects that "even at these levels the law would certainly be preventing the realization of some efficiencies"⁴², he supports this proposal for horizontal mergers in his recommendations.⁴³

As competition is regarded a free play of market forces, interference in market structures is generally rejected. How divestiture in cases of over-proportionate internal or external growth is accordingly evaluated in this view, seems to be apparent. In general, remedies through market structure interference are rejected on the argument that the organization of an industry which has developed over time without any legal restrictions can be viewed as an outcome of the underlying cost situation ("survival of the fittest").⁴⁴ As a result, divestiture would harm consumers by forcing suboptimal sizes and market shares upon the firms and depriving the firms of incentives to grow by means of efficiency-enhancing conduct.⁴⁵ The underlying reasoning, upon which the hypothesis is based, holds

39 Cf. Posner, *The Chicago School of Antitrust Analysis*, supra, 928; taken to its logical extreme, the notion that no meaningful barriers to entry exist, and the assertion that there will not be any form of collusion, no matter how concentrated the industry is, effectively means the minimum number of firms in an industry necessary to insure competition and, therefore, competitive performance, is one, cf. Singleton, *Industrial Organization and Antitrust*, op. cit., 44.

40 *Bork*, *The Antitrust Paradox*, op. cit., 221 f.

41 *Cf. Bork*, *The Antitrust Paradox*, op. cit., 222.

42 *Bork*, *The Antitrust Paradox*, op. cit., 222.

43 *Cf. Bork*, *The Antitrust Paradox*, op. cit., p. 406 (3) (b).

44 *Cf. Demsetz*, *Economics as a Guide ...*, supra 375.

45 *Cf. Demsetz*, *Economics as a Guide*, supra, 375.

"that any size achieved by internal growth without predation is the most efficient size for that firm. This, in turn, leads to the conclusion that the dissolution of any such firm will always create an efficiency loss". (Therefore) "the law should never attack such structures since they embody the proper balance of forces for consumer welfare."⁴⁶

After the *Reagan* Administration received responsibility for antitrust policy, the enforcement agencies have rarely attacked mergers. Even in the case of horizontal mergers there is a very generous interpretation of the antitrust law - especially in the oil industry; as a result, the concentration in this industry has been strengthened. The four biggest firms: Exxon, Mobil Oil, Standard Oil of California, and Texaco have become much bigger than all the other firms, so that the oligopolistic nucleus in this industry has become still stronger. The break-up of Standard Oil in 1911 into different competing firms has been offset as a result.⁴⁷

5. Critical Evaluation of the New Learning-Hypotheses, the Underlying Premises, and their Empirical Evidence

The policy conclusions just presented rest on the new learning hypotheses and underlying premises, as well as on empirical evidence. Most of the empirical evidence, however, is ambiguous enough to leave room for divergent interpretation; hence, some of the new learning hypotheses are still disputed and so are the resulting policy conclusions. This is mainly due to the following aspects.

a. Impediments to Competition

Although former empirical (mostly qualitative) results on the importance of impediments to competition did not justify the emphasis which was put on this element of market structure, impediments to competition do exist and their importance in deterring sufficient pressure due to potential competition is underestimated by current Chicago theory. The original potential competition doctrine supplied by John Bates Clark does not hold in a real economy characterized by numerous frictions which partly invalidate the functioning

46 Bork, *The Antitrust Paradox*, op. cit., 194 and 164.

47 Cf. as well Schmidt/Rittaler, *The Chicago School of Antitrust Analysis*, op. cit., 77 f.

of the competitive mechanism and have therefore to be seen as impediments to new competition.⁴⁸

Such barriers are able to distort the proper working of competition and, therefore, also distort the efficient allocation of economic resources. This does not necessarily mean that they are to be condemned *per se*, since their impact may be competition-enhancing from time to time which makes a trade-off necessary in an actual case.⁴⁹ Collusion thus can be seen as a policy problem primarily in industries that are accompanied by persistent impediments to competition of any kind in the sense of the insider-outsider concept which we have presented. Although some of these barriers can be viewed as being a form of efficiency, they can represent an impediment to new competition at the same time.⁵⁰ This makes necessary the trade-off just mentioned.

This view is consistent with the notion of the role of mobility barriers as an extended explanatory approach. Mobility barriers can be considered in the heritage of barriers to competition:⁵¹

"The theory of entry barriers, concentrating on the movement of a firm from zero output to some positive output, has missed a great opportunity for generality. Entrants into an industry can be entirely new firms or firms already established elsewhere. Firms may enter one or another segment of a given industry, and firms already operating in one segment may shift to another."

According to this approach, interfirm variations in profitability cannot only be explained by interfirm efficiency differences but also by the concept of mobility barriers within an industry, a concept developed primarily by Caves

48 Demsetz speaks of "natural frictions and ignorance that characterize any real economy", Demsetz, *Industry Structure, Market Rivalry, and Public Policy*, *supra*, 3. The question remains, however, how one is to separate these natural frictions from impediments to competition. This seems to be a definitional issue primarily and from an antitrust policy point of view it has to be decided on a case by case basis. Cf. as well Pautler, *A Review ...*, *supra*, 605: "It seems that much of the debate boils down to whether barriers to entry and immobility among firms are really serious enough to be concerned with and, if they are, whether they can be reduced efficiently through antitrust measures."

49 Cf. Otremba, Walter, *Die empirische Relevanz von Marktzutrittsbarrieren*, 28 *Konjunkturpolitik* (1982), pp. 190-198, 197.

50 Cf. Qualls, P. David., *Stability and Persistence of Economic Profit Margins in Highly Concentrated Industries*, 40 *SEJ* (1974), pp. 604-612.

51 Caves, Richard E., and Michael E. Porter, *From Entry Barriers to Mobility Barriers: Conjectural Decisions and Continued Deterrence to New Competition*, 91 *QJE* (1977), pp. 241-261, 249.

and Porter.⁵² The market entry approach is enlarged to a mobility approach. It holds that industries contain strategic groups and that there are mobility barriers into and out of these strategic groups that account for a major proportion of interfirm profitability differences. Whereas the traditional approach departed from homogeneous industries with identical firms, it is now assumed that firms can be separated from each other by means of economically relevant features which account for the mobility barriers. This is concluded from the fact that structural determinants of profitability differ between strategic groups, "depending on their status in their particular industry".⁵³ This makes it difficult for a firm belonging to one strategic group to change to another. These kinds of barriers are apt to protect in a twofold manner. They protect from newcomers and they protect from incumbents of other strategic groups. Entry could possibly be made easier since entry can follow successively from strategic groups with low mobility barriers and low risk to strategic groups with rather high mobility barriers and high risk.⁵⁴

b. Accounting Data and the Data Base

Although data problems are always difficult to deal with, attempts to test the robustness of structure-performance regression results for variations in accounting conventions have shown no significant sensitivity.⁵⁵ The biases due to data aggregation have led to attempts to compile firm and business unit level data. This has been done primarily by the PIMS (profit impact of marketing strategies) data base and the FTC Line of Business Program, the latter containing data on revenues, sales, and equity of 3.007 businesses in

52 Cf. Caves/Porter, From Entry Barriers to Mobility Barriers, *supra*; and Porter, Michael E., The Structure within Industries and Companies' Performance, 61 RES (1979), pp. 214-238.

53 Pautler, A Review ..., *supra*, 610. Although the studies are based on crude sets of data, the empirical evidence is as strong as it is for the differential efficiency approach proposed by the current tenet.

54 An excellent example is the European motorcycle industry. Japanese producers entered segment for segment, starting with the 50 ccm class and ending at 1100 ccm, cf. Purkayastha, Dev, Note on the Motorcycle Industry in 1975, Harvard Business School, Case 9-578-210 Rev. 9/78, Inter-collegiate Case Clearing House, Boston 1978.

55 For a survey cf. again Leamer, Edward E., Sensitivity Analysis Would Help, 75 AER (1985), pp. 308-313.

257 industries on a legal basis.⁵⁶ The former is intended to isolate the long-run determinants of firm profitability among 37 variables and contains data obtained from large firms, voluntarily contributing line of business data which is compiled by the Strategic Planning Institute. The firms are free to define their businesses and since the lines of business are picked by the firms on an arbitrary basis they are not randomly distributed. Although a number of interpretation problems remain⁵⁷, the studies based on the new sets of data confirm earlier results on the predominance of the market share value over simple concentration variables in the sense that if market share is introduced simultaneously into a regression equation containing concentration ratios, concentration as an explaining variable loses its significance.⁵⁸

This has not silenced critics on the use of accounting data, however. It is repeatedly argued that "the numbers reported, which are derived from the companies' accounting system, do not reflect economic market values well".⁵⁹

56 Cf. Böbel, *Wettbewerb und Industriestruktur*, op. cit., 129; Pautler, A Review ..., supra, 625-633 for an extensive survey. Furthermore, cf. Buzzell, Robert D., Bradley T. Gale, and Richard Sultan, *Market Share - A Key to Profitability*, 52 HBR (1975), pp. 97-106; and Ravenscraft, David J., *Structure-Profit Relationships at the Line of Business and Industry Level*, 65 RES (1983), pp. 22-31.

Under the pressure of the Reagan officials, the program has been stopped, however, by a 4 to 1 vote among the FTC Commissioners, cf. CCH TRR No. 645, April 17, 1984, p. 1.

57 Cf. Pautler, A Review ..., supra, 629 note 162, who mentions the lack of correspondence to relevant markets; and Scherer, *Industrial market structure* ..., op. cit., 270, who emphasizes that due to data secrecy it is impossible to say "what companies and industries are being studied or what the absolute size of any business is."

58 Cf. Gale/Branch, *Concentration versus Market Share...*, supra; Martin, Steven, *Market, Firm and Economic Performance*, New York 1983; and for an early work, Shepherd, *The Elements of Market Structure*, supra. This "supports the hypothesis that concentration acts as a proxy for market share in industry regressions", Ravenscraft, David J., *The Relationship Between Structure and Performance at the Line of Business and Industry Level*, Washington, D.C. 1981, p. 19. For a recent affirmation, cf. Schwabach, Joachim, *Marktanteil und Unternehmensgewinn*, unpublished inaugural lecture at the University of Koblenz, December 18, 1987.

59 Benston, *The Validity of Profits-Structure Studies*, supra, 64; and the rejoinder, Scherer, Frederic M., et al., *The Validity of Studies with Line of Business Data: Comment*, 75 AER (1987), pp. 205-217, 209: "(C)ontrary to the implications drawn by Benston, the basic structural relationship estimated using LB data turn out to be robust across a wide range of variable definitions, sampling frames, and controls for accounting method variations."

Aside from the arguments already listed in rejection of this reproach, severe analytical carelessness can be documented in empirical studies that emphasize a sort of worst-case analysis (**reproach of selective empiricism**).⁶⁰

The selective empirism of the current tenet becomes especially evident with regard to the debate on the concentration-profitability relationship referred to supra. *Demsetz*, for instance, reinterpreted all studies which supported the traditional findings – a positive correlation between market concentration and supra-competitive profits of the large firms as indicating market power – in the sense that they had unintendedly discovered a concentration-efficiency nexus.⁶¹ In 1977 *Peltzman* tried to support the *Demsetz* hypothesis by holding that "the main result ... is that long period changes in market structure are accompanied by increased efficiency. This efficiency gain is most pronounced where concentration is growing".⁶²

But a closer look at the data of the *Peltzman* study reveals a further aspect of selective empirism. All of the industries in the study with rather fast increases in concentration were consumer goods industries with important product innovations and large-scale advertising campaigns.⁶³ The criticism that the *Peltzman* study – which most of the Chicago adherents rely on – was biased by the consumer goods industries was confirmed by further studies in which data of consumer goods and producer goods industries were used. These studies showed that *Peltzman's* findings do not hold for producer goods industries.⁶⁴

60 Cf. Schmidt/Rittaler, *The Chicago School of Antitrust Analysis*, op. cit., 97; and Scherer, Frederic M., et al., *The Validity of Studies with Line of Business Data: Comment*, 215: "Data are fallible. So are scholars. Yet when an article is as consistently negative as Benston's, one suspects bias, and when it contains as many demonstrable errors as Benston's, one suspects a degree of carelessness incompatible with the burden a scholar must bear when he singles others' work out for criticism"; and Benston, George J., *The Validity of Studies with Line of Business Data: Reply*, 75 AER (1987), pp. 218-223, 221 f., who partly admits this.

61 Cf. Mueller, Willard F., *A New Attack on Antitrust: The Chicago Case*, 18 ALER (1986), pp. 29-66, 40.

62 *Peltzman*, *The Gains and Losses ...*, supra, 251.

63 Cf. Scherer, *The Causes and Consequences of Rising Industrial Concentration*, supra, 289.

64 Cf. Mueller, *A New Attack on Antitrust ...*, supra, 41 f.

Although a number of interpretation problems remain⁶⁵, the studies based on the new sets of data confirm earlier results on the predominance of the market share value over simple concentration variables.⁶⁶ These findings have been confirmed in a variety of studies, essentially leading to a converging emphasis.

A study performed by *Martin* for 1975 was based on the FTC Line of Business, using 4,527 LBs of 475 firms and 275 industries.⁶⁷ Inquiring into the relationships between profitability, market share, corporate structure, economies of scale, demand characteristics, advertising activities, R&D activities, capital intensity and internal organizational firm structure, he drew the following conclusions:

- Lines of business with a high market share do have a positive effect on profitability. This is based on an increase in market power as well as on economies of scale; the relative importance of the two factors varies from industry to industry.
- Lines of business in concentrated industries have lower rates of return - on average - than other lines of business. The most likely underlying reason for this is that oligopolists had problems maintaining and enforcing collusive agreements in times of recession.
- The absolute size of a line of business seems to be rather significant. Larger lines of business have larger profits than smaller lines. Lines of business that are part of a diversified enterprise show higher profits as well. As a rule, these lines show higher market shares. This seems to be in accordance with the market share hypothesis.
- If price is primarily used as a competition parameter in a line of business this tends to induce a search for non-price competition, such as product differentiation through advertising.

⁶⁵ Cf. Pautler, A Review ..., *supra*, 629 note 162, who mentions the lack of correspondence to relevant markets; and Scherer, Industrial market structure ..., *op. cit.*, 270, who emphasizes that due to data secracies it is impossible to say "what companies and industries are being studied or what the absolute size of any business is."

⁶⁶ Cf. Buzzell, Robert D., et al., Market Share ..., *supra*; Gale/Branch, Concentration versus Market Share..., *supra*; Martin, Stephen, Market, Firm and Economic Performance, New York 1983; and for an early work, Shephard, The Elements of Market Structure, *supra*.

⁶⁷ On the following study, cf. Martin, Market, Firm and Economic Performance, *op. cit.*

The concurring efficiency differential- and concentration collusion-hypotheses were tested by *Clarke, Davis and Waterson* on the basis of price-cost margins in the U.K., using a model to separate market power effects from efficiency effects.⁶⁸ The study is based on 147 and 155 manufacturing industries on a three digit level for the period from 1971 to 1977 respectively, using the ratio of gross profits to sales as the dependent variable.

If the efficiency-differential hypothesis by *Demsetz* holds, relatively small firms should be of lower profitability than relatively large firms, regardless of the level of industry concentration; and the profitability differences should be larger, the higher the level of concentration. However, *Demsetz'* hypothesis is not confirmed by this study. The authors conclude that "both efficiency and market power effects are at work".⁶⁹

Amato and Wilder emphasized the relation between profitability, firm size and further structural variables for the years 1966 to 1975, including 40 manufacturing industries, classified by IRS data.⁷⁰ The basic hypothesis to be tested is that, because of the separation of owner and management, utility maximization by managers in accordance with firm size is the correct variable. It was also tested whether profitability is a non-linear function of firm size. The result that there is no relationship between firm size and profit rate - which contradicts most of the previous studies - is supposed to be due to an improved data base. *Demsetz'* differential efficiency hypothesis is rejected and it is stated that the results of market share/profitability studies cannot be applied to firm size/profitability studies.

c. The Core of the Oligopoly and Other Omissions

Although it is conceded by the current tenet that concentration facilitates collusion and that real markets are characterized by oligopolistic structures⁷¹, concentration is in fact of little importance for antitrust policy because it is argued that there is no clear theoretical basis for a general

68 Cf. Clarke, Roger, Stephen Davies and Michael Waterson, The Profitability-Concentration Relation: Market Power or Efficiency?, 32 JIE (1984), pp. 435-450.

69 Clarke/Davies/Waterson, The Profitability-Concentration Relation ..., supra, 448.

70 Cf. Amato, Louis, and Ronald P. Wilder, The Effects of Firm Size on Profit Rates in U.S. Manufacturing, 52 SEJ (1985), pp. 181-190.

71 Cf. Bork, The Antitrust Paradox, op. cit., 101 f.

oligopoly theory.⁷² Due to changing conditions with regard to demand, technology, and different cost situations, collusion that is favored by oligopolistic interdependence between the firms is in practice very difficult to deal with.⁷³

According to this view, the fact that monopolies neither act as a collective monopoly, nor act purely competitively does not permit the conclusion that oligopolists behave uncompetitively.⁷⁴

There is an exception, however, in the case of *Stigler* who was among the first to deal with problems of competition in an oligopoly.⁷⁵ Though *Stigler* is in favour of an oligopoly theory, he has not succeeded in developing a coherent economic and legal approach to oligopoly.⁷⁶

However, if we start from the more realistic assumption of market imperfections and if we assume furthermore that with increasing concentration and a decreasing number of competitors the interdependence between the firms increases, i.e., that every supplier has to take account of the behavior of his competitors as a reaction to his own behavior, then a single supplier has monopolistic discretion, which he has neither under the conditions of perfect competition (price being given) nor in a (partial) monopoly (where the fringe of the small competitors has no influence on the market activities).

However, accepting the correlation between concentration and the interdependence of firms is not enough to settle the question of whether oligopolists must behave in a competitive way or not. In order to answer this question, the existing structural conditions of the market have to be looked

72 Cf. Posner, *The Chicago School ...*, supra, 932.

73 Bork, *The Antitrust Paradox*, op. cit., 92: "Conventional oligopoly theory, however, is little more than a guess about the ways in which firms might be able to behave in a market composed of a few sellers." A different view is offered by *Stigler*. He accepts the existence of an authority that takes legal action against collusion, thus accepting the phenomenon as a real one. Thus he comes to the conclusion that "(t)he Sherman Act has reduced the availability of the most efficient methods of collusion and thereby reduced the amount and effects of collusion", *Stigler*, *The Organization of Industry*, op. cit., 271.

74 Cf. Bork, *The Antitrust Paradox*, op. cit., 102 and 104.

75 Cf. esp. *Stigler*, *The Organization of Industry*, op. cit., 39 ff.

76 For this evaluation, cf. Kirchner, Christian, "Ökonomische Analyse des Rechts" und Recht der Wettbewerbsbeschränkungen (antitrust law and economics), 140 ZHR (1980), pp. 563-588, 565.

into as well (for instance, the stage in market evolution, product homogeneity or heterogeneity, degree of information - these being factors which qualify the importance of the number of the firms). Structural conditions which lead to oligopolistic behavior cannot be established for the general case. Significant and empirically meaningful statements can be made only by showing a correlation between specific market structures and the likelihood of oligopolistic behavior. Consequently, a classification of specific oligopolistic forms of behavior restraining competition becomes necessary.⁷⁷

The assertion that concentration does not necessarily lead to collusion since oligopolies are rather fragile in nature does not take into account sufficiently the fact that there is often a distinct symmetry of interest within a small group of competitors substituting for legal sanctions (e.g., penalties for breach of contract).⁷⁸

This distinct symmetry of interest may be the answer to the question why firms of the oligopoly core do not seem to compete among each other on a price basis. Under the circumstances presented, positive price-cost margins should pose an incentive to expand output until competitive returns are realized and prices equal marginal costs. This would have the effect that most of the smaller and allegedly inefficient firms would have to leave the market. The fact that in reality this often does not happen, presents some evidence that superior efficiency and collusive behavior may go hand in hand.⁷⁹ This makes the original reasoning become more or less **tautological** with regard to the efficiency-differential hypothesis of large firms because "comparing profitability amongst large and small firm profits is defective, in that their efficiency would imply higher profits, but their higher profits do not necessarily imply their efficiency".⁸⁰ This seems to be apparent to some of the ad-

77 Cf. Zohlnhöfer, Werner, *Wettbewerbspolitik im Oligopol: Erfahrungen der amerikanischen Antitrustpolitik*, Basel and Tübingen 1968, pp. 26 ff.

78 Cf. Schmidt/Rittaler, *The Chicago School of Antitrust Analysis*, op. cit., 97.

79 Cf. Green, *Industrial Organization Paradigms ...*, supra, 493; and Greer, *Industrial Organization ...*, op. cit., 412 f.: "Collusion can reward an industry's big firms with excess profits and simultaneously reward its small firms with only normal profits even if the concentration fostering the collusion is not grounded on big firm efficiencies."

80 Clarke/Davies/Waterson, *The Profitability-Concentration Relation ...*, supra, 438.

herents of current theory, although this is not acknowledged or even accepted.⁸¹

d. The Persistence of Profits In the Long Run

The workability of the market mechanism is seen by the Chicago School in terms of a long-run realization of its basic functions: coordination, information, and allocation. However, market processes are perceived to take a certain amount of time to adjust to changing economic conditions because the relevant information has to be processed. According to this view, it is this which is responsible for temporary market frictions. However, this ought not to be mistaken for impediments to competition. Since the whole concept stands or fails with the assumption of the non-existence of impediments to competition and a long-run view of market processes (time horizon), both premises are of crucial importance.⁸² We will try to find evidence for the validity of the assumption of the long-run effectiveness of the market mechanism by observing as to whether above average profitability is reduced to average competitive rates of return over time.

There is a general consensus that high profits can persist over a longer period of time when the observed enterprise has cost or related efficiency advantages, offers a superior good or holds market power in comparison to actual or potential competitors.⁸³ Nevertheless, sufficient competitive pressure is supposed to exercise persistent downward pressure on prices and profitability so that the ideal norm would seem to be that only costs plus a normal return on capital ought to be earned in unconcentrated industries.⁸⁴ There is no consensus on two issues, however. First, the question remains as to whether above-average profitability is just a result of a disequilibrium

81 Cf. Demsetz, Harold, Two Systems of Belief about Monopoly, op. cit., 178; and Carter, Collusion, Efficiency and Antitrust, supra, 438 and 441, who seems to acknowledge that these results are consistent with collusion among the large firms and efficiency differentials vis-à-vis smaller firms at the same time.

82 Impediments to competition have been treated supra, showing the limited use of the assumption of ultra-free entry.

83 Cf. Mueller, Dennis C., United States' Antitrust: At the Crossroads, in: de Jong, Henk W., and William G. Shepherd (eds.), Mainstreams in Industrial Organization - Book 2, Dordrecht et al. 1986, pp. 215-241, 232.

84 Cf., e.g., Mueller, Dennis C., Profits in the Long Run, Cambridge, Mass. 1986. p. 31.

state of the market or whether there actually is a movement of above-average rates of return toward that norm and whether or not this movement occurs less quickly in more concentrated industries in comparison to less concentrated ones.⁸⁵ Second, if profits are not eroded quickly in some industries this does not necessarily mean that these profits are persistent as a result of market power. They can also be persistent as a result of efficiency differences, product preferences, or as a result of a mixture of power, product preferences, and efficiency.

With regard to the first question, empirical evidence suggests that the erosion of profitability divergences in concentrated industries - if it occurs at all - takes a much longer time than it does in less concentrated industries⁸⁶, regardless of whether profit margins of high and low concentration with either high or low barriers are examined⁸⁷, or results of concentrated industries are treated as if they were competitive.⁸⁸

Contrary to the assertion of the current tenet, under certain circumstances profits may be an index of market power in cases in which profits are not eroded in the long-run. This is the case when profitability differences cannot be justified by persistent interfirm-efficiency differences as expressed by cost differences and when in addition the market in question may be facing impediments to competition. In this case profits can be considered an expression of market power arising from a restraint on competition. This makes it necessary to distinguish efficiency effects carefully from market power effects.⁸⁹

85 Cf., e.g., Liebowitz, S.J., Measuring Industrial Disequilibria, 48 SEJ (1982), pp. 119-136.

86 Cf. MacAvoy, Paul W., John W. McKie and Lee E. Preston, High and Stable Concentration Levels, Profitability, and Public Policy: A Response, 14 JLE (1971), pp. 493-499; Mueller, Dennis C., The Persistence of Profits Above the Norm, 44 Economica (1977), pp. 369-380; Mueller, Profits in the Long Run, op. cit.; and Weiss, Leonard W., and George Pascoe, The Extent and Permanence of Market Dominance, Paper presented at the Annual EARIE Conference 1983 at Fontainebleau.

87 Cf., e.g., Qualls, P. David, Concentration, Barriers to Entry, and Long-Run Economic Profit Margins, 20 JIE (1972), pp. 146-158.

88 Cf. Marvel, Howard P., Collusion and the Pattern of Rates of Return, 47 SEJ (1980), pp. 375-387.

89 Cf. Mueller, United States' Antitrust: At the Crossroads, op. cit., 226 who emphasizes with regard to the U.S. American Fortune 500 that "an examination of the list of persistently most profitable firms suggests that this image of efficiency does not characterize these firms."

III. Firm Market Share as the Essential Determinant of Interfirm Profitability Differences

In the following, the aforementioned line of reasoning leads us to the attempt to determine the extent to which concentration is actually justified by technical and non-technical efficiencies. The result can be considered a *prima facie* assumption on the threshold beyond which undue market power may be assumed to emerge.¹

1. Interfirm Profitability Differences: Efficiency or Market Power?

The former tenet associated with the Harvard School does not necessarily seem to be in conflict with the new learning hypothesis, even if it seems that this former tenet as the underlying rationale for antimerger policy is in actual need of a few refinements. There is no reason why economies of scale could not be responsible for generating the intra-industry results which Demsetz and others offer as support for the efficiency-causes-concentration hypothesis.²

The roots of a possible complementarity lie within the role that market share as an element of market structure plays. Both the adherents to the former and the current tenet take the view that the correlation between market share and profit is much more central - even analytically more precise - than the correlation between concentration and profits.³ This seems to be largely in accordance and consistent with findings on the role of market shares. According to the view of the former tenet, however, higher profits of firms with large market shares are the result of better opportunities of making use of advantages in product differentiation and price differentiation, i.e. better opportunities of exerting individual monopoly power and raising prices beyond the competitive level, as well as of making use of econo-

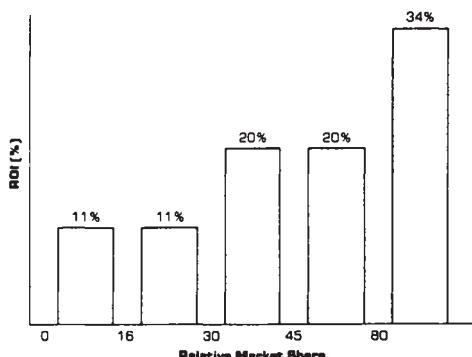
1 Necessarily, the *ceteris paribus* clause applies. Additional structural and behavioral aspects have to be considered depending on the individual case.

2 Cf. Scherer, *The Causes and Consequences of Rising Industrial Concentration*, *supra*; and Clarke/Davies/Waterson, *The Profitability-Concentration Relation: Market Power or Efficiency?*, *supra*, 437, who note that in the case of firms producing along a production function exhibiting scale economies "there would be a natural tendency over time for the larger firms to be more successful and for the industry to become more concentrated".

3 Cf. Scherer, *On the Current State ...*, *op. cit.*, 6; and recently, Buzzell/Gale, *The PIMS Principles ...*, *op. cit.*

mies of scale or other cost advantages. Whereas the use of industry-wide data in former empirical studies led to spurious results due to data aggregation and thereby to a positive correlation between concentration and profit, as has been demonstrated supra (exaggeration of profits of market leaders)⁴, recent empirical inquiries show that the profits of the firms have to be seen primarily as a function not only of (relative) market share, but also of invested capital, market growth, life cycle stage, and product differentiation advantages:⁵

Fig. 7: Relative Market Share and Profitability Differences



Source: Abell, Derek F., and John S. Hammond, *Strategic Market Planning: Problems and Analytical Approaches*, Englewood Cliffs, N.J., 1979, p. 279.

These studies are based on the above mentioned PIMS-Data Base and FTC Line of Business Program, which refer to firm information instead of industry data. They offer significant solutions to data problems due to industry aggregation, and tend to throw quite a different light on the new learning-

4 Cf. Scherer, *On the Current State ...*, op. cit., 6. The structural importance of market shares was emphasized as early as 1972, cf. primarily Buzzell/Gale/Sultan, *Market Share - A Key to Profitability*, supra; and Shepherd, *The Elements of Market Structure*, supra, but an extreme data insufficiency problem remained that made it difficult if not impossible to test the importance of market shares.

5 Cf. esp. Ravenscraft, *Structure-Profit Relationships at the Line of Business and Industry Level*, supra, where product differentiation is measured by the amount of advertising and a patents-to-sales ratio; and Abell/Hammond, *Strategic Market Planning ...*, op. cit., 289: "PIMS-findings indicate that investment intensity, market share, industry growth rate, life cycle position, and marketing expense/sales ratios are among the most important factors affecting ROI and cash flows", which emphasizes market share overproportionately.

hypothesis of the Chicago School (efficiency causes concentration) than was originally thought:⁶

"The typical firm earning persistently high profits has a large market share in a differentiated product industry. If it is more efficient than its competitors, it is not because it produces the same product as they at lower costs, and sells it at lower prices. If anything, the price it charges probably exceeds that of its competitors for a product that is perceived to be superior along one or more product characteristic dimensions. ... The successful firm is more efficient than its competitors in using nonprice modes of competition."

Due to a high market share, the supplier can take advantage of his monopolistic discretion to charge higher prices; however, due to the lack of competitive pressure, it is not guaranteed that the efficiency gains will also be passed on to consumers. In this case, the hypothesis that an increase in the efficiency of a business due to cost reductions - be it actual or potential - leads self-evidently to higher growth and greater welfare has not been established empirically. It has not been shown that a potential efficiency increase resulting from a merger would be synonymous with an increase in overall efficiency.⁷ Hence the role of market share not only serves as a basis for an efficiency explanation but also as a basis for a possible market power explanation.⁸ As size of firm, level of market concentration, and explicit product differentiation are essentially all held constant, recent investigation has suggested that market share per se has to be considered a source of market power regardless of the level of concentration and that this kind of market power is distinct form the one usually associated with

6 Mueller, Dennis C., Profits in the Long Run, op. cit., 229, italics supplied; and cf. idem, United States' Antitrust: At the Crossroads, op. cit., 225, which emphasizes that "(f)irms with large market shares in differentiated product industries are more profitable presumably because they have higher quality products or products which are perceived to be of higher quality ... If one wants to describe the most profitable firm as being more efficient, they appear to be more efficient at differentiating their products through advertising or patentable product improvements.", italics supplied.

7 As a result, "Increased efficiency cannot necessarily be inferred from a presumed increase in profitability in the case of large firms. In such cases, profits may also be caused by market power. Such market power can in turn be regarded as almost a guarantee that the potential for efficiency and in particular innovation is not being exploited to the fullest and the maximum welfare possible is not being achieved", Caspari, Manfred, Joint Ventures Under EEC Law and Policy, unpublished paper, presented at the Fordham Corporate Law Institute, New York, October 23, 1987, p. 8.

8 Cf., e.g., Pautler, A Review ..., supra, 611.

oligopolistic market structures.⁹ The implications that can be drawn from these findings are that market share can be considered at least as important for the existence and exercise of market power as is the case with all the other elements of market structure and that industries that may show competitive overall structure "may actually have a market power problem that is not apparent from overall industry performance".¹⁰ The results of these studies falsify the *Demsetz* hypothesis that profitability differences are an outflow of efficiency differentials, but do clearly indicate that a unique kind of market power associated with market share is responsible for persistent above average profitability.¹¹

As has been emphasized above, however, the monopoly problem or the problem of welfare losses due to monopoly and market power are assumed to play only a minor role in the U.S.¹²

This seems to support the view that the supplier with a high market share is profiting from lower costs as well as from higher prices; however, the customers do not gain necessarily from these increases in efficiency, and this contradicts the explicit goal of consumer welfare.¹³ This makes it

9 This aspect of large market shares has strongly been emphasized particularly by Rhoades, Stephen A., Market Share as a Source of Market Power: Implications and Some Evidence, 37 JEB (1985), pp. 343-363, esp. 359; and *Ibid.*, 347 and 350, which characterizes the underlying reasoning by asserting that there may be "product differentiation that is unique to market leaders (in the buyer's perceptions) irrespective of specific product differentiation policies... - giving market leaders an opportunity to sell their products at premium prices even if the quality of their products is identical to that of their competitors".

10 Rhoades, Market Share as a Source of Market Power..., *supra*, 346.

11 Cf. again Rhoades, Market Share as a Source of Market Power..., *supra*, 359 f., who concludes that "these findings, along with the work on strategic groups, raise the possibility that markets may generally be defined too broadly" and that "the antitrust authorities ... should devote attention to the market share of firms to be acquired, regardless of market concentration."

12 This view is based on the study of Harberger, Arnold C., Monopoly and Resource Allocation, 44 AER (1954), pp. 77-87. Losses of allocation would be more than compensated for by profits due to productive efficiency and, hence, would increase 'consumer welfare'. This position has to be criticized since later studies have found higher welfare losses, as has been demonstrated *supra*; besides, the *Harberger* study on which the Chicago view is based has been criticized on many aspects, cf. Böbel, Wettbewerb und Industriestruktur ..., op. cit., 179 ff. and 201 ff.

13 Cf. the legal wording of Art. 85 para. 3 Treaty of Rome where in the case of a rationalization cartel a fair share of the resulting benefits has to be passed on to consumers.

obvious that the efficiency differential explanation offered by *Demsetz* and others does not provide convincing evidence on "how one is to distinguish those situations where scale economies only have efficiency effects, from those where the firms enjoying such economies realise entry into the industry is difficult (for whatever reason) and thus set high prices".¹⁴ A major hint could be the extent to which market shares are necessary to exploit economies of scale. If it is assumed that beyond this point on a scale, additional efficiency gains, regardless of source, are non-existent or play a marginal role only, the corresponding market share could serve as a sort of borderline, indicating as it were the limits of a technical imperative. Beyond this point, undue market power could be assumed to exist.

The view that concentration is only caused by efficiency-differentials is consistent with the hypothesis that if the general conditions of production were characterized by economies of size and increased industry concentration with related efficiencies in an unlimited manner, welfare maximization resulting from the attainment of these economies, from the rate of technological progress, and from the availability of a superior management would require unlimited growth of size.¹⁵ A typical goal conflict as described above would arise since the attainment of all possible cost savings would result in a loss of effective competitive pressure within the particular market, which would otherwise tendentially hold down prices close to marginal costs. A trade-off between attainable efficiencies in the short-run and sufficient competitive pressure in the long-run would become necessary.¹⁶

In order to measure efficiency, an empirically observable relationship has to be established between factors that determine the structure of an industry

14 Cf. Clarke/Davies/Waterson, *The Profitability-Concentration Relation: Market Power or Efficiency?*, supra, 437; Herdzina, Klaus, *Wettbewerbspolitik*, 2nd ed., Stuttgart 1987, p. 41. Fisher, Alan A., and Robert H. Lande, Efficiency Considerations in Merger Enforcement, 71 CLR (1983), pp. 1580-1696, 1608: "After more than a decade of debate, neither side has proven its case, but the evidence tentatively suggests that both market-power and efficiency effects contribute to the overall relationship between concentration and profitability."

15 This postulate is the so-called traditional defense hypothesis and was first put forward by Schumpeter, Joseph H., *Capitalism, Socialism and Democracy*, New York 1942; and later by Galbraith, John K., *American Capitalism - The Concept of Countervailing Power*, Boston 1952.

16 Cf. Gröner, Helmut, *Konzentration und Wettbewerbsordnung*, 8 Jura (1986), pp. 520-527, 522; and Schmidt, *Wettbewerbspolitik und Kartellrecht*, op. cit., 84 ff. The adherents of the current tenet, perform this trade-off by means of the Williamson-model which we have treated *supra*.

and performance criteria such as profits, costs, or rate and extent of technological innovation.¹⁷

2. The Range of Economies of Size as an Alternative Explanatory Approach

Whether profitability can be viewed as an adequate indicator of the extent of productive efficiency is questionable, since the relative efficiency of a firm cannot only be evaluated merely on the basis of its profit rates. It is not only the latter which indicates whether the firm is subject to sufficient competitive pressure, but also its relative success in the market, although, as we have emphasized, there are problems associated with this approach.¹⁸ This market success may be evaluated on the basis of the so-called survivor test developed by *Stigler*.¹⁹ The standard of reference for the underlying cost situation is the structure of an industry that for a longer period of time has not been subject to legal barriers to entry and, furthermore, has not changed its characteristics during that time period.²⁰ Thus, in determining the optimum firm size, the survivor technique proceeds to

"classify the firm in an industry by size, and calculate the share of industry output coming from each class over time. If the share of a given class falls, it is relatively inefficient, and in general is more inefficient the more rapidly the share falls".²¹

The other methods used are statistical cost analyses, engineering studies, and profitability studies. The question remains as to how valuable different

17 Cf. Bain, Industrial Organization, op. cit., 434 ff. Additional measures can only be determined vaguely, cf. ibid., 458 ff.

18 Cf. Bork, The Antitrust Paradox, op. cit., 104 f.

19 Originally the basis of the test was developed by John Stuart Mill, Principles of Political Economy, New York 1929, p. 134.

20 Cf. Demsetz, Harold, Economics as a Guide ..., supra, 375.; Scherer, Economics of Scale and Industrial Concentration, op. cit., 18; and for the deficiencies, Schmidt, Wettbewerbspolitik und Kartellrecht, op. cit., 91.

21 Stigler, The Organization of Industry, op. cit., 73; and for a critical assessment of the test, Bain, Joe S., Survival Ability as a Test of Efficiency, 59 AER (1969), pp. 99-104, and Shepherd, William G., What Does the Survivor Technique Show about Economies of Scale, 36 SEJ (1967), pp. 113-122. It has to be noted critically that the ability to survive not only depends on intrafirm efficiencies, but also on other determinants, such as public policy intervention, economic influences due to foreign trade, economic boom or depression scenario, etc., Schmidt, Wettbewerbspolitik und Kartellrecht, op. cit., 91.

techniques are in the attempt to determine a minimum optimal scale²² and, furthermore, whether or not the choice of the measurement technique makes a difference in determining the extent of efficiencies that can be attained by rising industrial concentration.²³

The most commonly used technique, and one that is considered at the same time to be the most appropriate one, is the engineering study, which tries to elaborate on the exact shape and properties of cost functions. This is done by the questioning of engineers specialized in the planning of new production facilities and currently or formerly employed by differently sized companies.²⁴ If the use of statistical cost studies is commonly rejected²⁵, the use of such engineering studies is also heavily disputed by some adherents of current theory: they have put forward a number of arguments against the applicability of such studies, the majority of which, however, can be rejected to a large extent.²⁶

Engineering studies are viewed as incomplete with regard to the full extent of efficiencies because "they can cover only technical processes, which leaves out ... product design; research; planning; administration; cost and

22 "Minimum optimum scale is the smallest output per unit of time at which the plant or firm can realize the lowest-obtainable unit cost of production", Koch, Industrial Organization ..., op. cit., 127.

23 This also means efficiencies in addition to simple plant or firm economies. For detailed and critical surveys on the different measurement techniques, cf. McGee, Efficiency and Economies of Size, op. cit., 65-88; Monopolkommission, Hauptgutachten VI: Gesamtwirtschaftliche Chancen und Risiken wachsender Unternehmensgrößen, Baden-Baden 1986, paras. 600-604; Scherer, Industrial market structure ..., op. cit., 92-94; and Schmidt, Wettbewerbspolitik und Kartellrecht, op. cit., 88-92.

24 "The persons or groups performing these functions accumulate much information on alternative equipment and plant designs and the associated investment and operating costs", Scherer, Industrial market structure ..., op. cit., 94.

25 "Statistical cost studies utilize historical cost-output data to make inferences about economies of scale", Koch, Industrial Organization ..., op. cit., 128. The main problem of this technique seems to be the secrecy problem in data availability and the general incomparability of interfirrm cost data; it has to be rejected, therefore, cf. Monopolkommission, Hauptgutachten VI ..., op. cit., paras. 600 and 604; and Scherer, Industrial market structure ..., op. cit., 93. Profit studies are viewed as a complementary technique to engineering studies and/or survival tests.

26 Cf. most prominently, McGee, Efficiency and Economies of Size, op. cit., 68-80.

quality control; finance; marketing; and so on".²⁷ These efficiencies should be considered as very insecure in nature, however. They vary considerably from case to case, they often resist proper measurement, where they do not, ambiguous results are often encountered. We are thus in an area of uncertainty. At the present, there is no evidence that the inclusion of further efficiencies enlarges the efficient size for the individual firm.²⁸

The alternative survivor test also shows weaknesses significant enough to raise strong doubts about its applicability:

- Survival ability may reflect either superior efficiency, monopoly power, or discriminatory legislation depending on various criteria, and there is no clear separation of the underlying causes.²⁹
- This method does not take into consideration - in addition to costs as an expression of efficiency - that other factors such as, e.g., tax policy, other forms of public intervention, or influences of international trade can affect competitiveness and the ability to survive. This approach is therefore clearly biased methodologically.³⁰
- As a rule, less efficient firms are not driven out of the market as is suggested by the survival-of-the-fittest doctrine. This lends support to the hypothesis that firms within a noncompetitive oligopoly nucleus jointly

27 McGee, Efficiency and Economies of Size, op. cit., 69; and Fisher/Lande, Efficiency Considerations in Merger Enforcement, supra, 1608: "In short, these studies inherently can focus only on part of what determines differential firm efficiency, and what the studies omit is frequently very important." For a general description of the insufficiencies and limitations of the scale economies analysis, cf. Gold, Bela, Changing Perspectives on Size, Scale, and Returns: An Interpretative Survey, 19 JEL (1981), pp. 5-33.

28 With regard to the efficiency effects of mergers, "econometric studies neither prove nor disprove that mergers yield efficiencies on average", Fisher/Lande, Efficiency Considerations in Merger Enforcement, supra, 1619. The same line of reasoning holds with regard to multi-plant economies of scale which for Scherer leads to the critical conclusion that "(t)he best available evidence on this point, derived from interviews with 125 manufacturing firms, suggests that the managerial and central staff economies of multi-plant operation are at most slight, and that in many instances, especially beyond some modest threshold, multi-plant size is disadvantageous", Scherer, Industrial market structure ..., op. cit., 101.

29 Cf. Scherer, Industrial market structure ..., op. cit., 93. Furthermore, Stigler doubts whether the socially optimum size is determinable at all by any technique; he describes this issue as an **ethical concept**, cf. Stigler, The Organization of Industry, op. cit., 73.

30 Cf. Schmidt, Wettbewerbspolitik und Kartellrecht, op. cit., 62 and 68.

perform an umbrella-pricing strategy on the grounds of mutual interdependence within the nucleus, protecting those firms on the fringe of the oligopoly which are less efficient.³¹

- A sufficiently large number of competitors is necessary for an application of the technique. Small number studies (i.e., esp. oligopolies) result in confusing statements and often lead to the conclusion that quite different firm sizes are all seen to be optimal.³²

Most of the empirical investigations that rely on the survivor technique reach conclusions almost identical with those of engineering estimates and cost studies. These results are that the minimum optimal size for firm or plant economies is usually a small fraction of total market demand, which seriously questions the role of economies in determining size and concentration.³³

Contrary to the assertion of the efficiency-concentration adherents, the bulk of econometric studies of the post-war era³⁴, which relate firm size to efficiency show that "scale economies were not so substantial that most indu-

31 "Conceivably, the competition referred to could involve the foreclosure of markets for outputs, monopolization of input markets, predatory pricing, and the like. Survival, then, might be an indicator of private efficiency but not of social efficiency", Koch, *Industrial Organization* ..., op. cit., 127, which is in accordance with our assumed cost-decreasing and price-raising effect of large market shares and the assertion that benefits not necessarily be passed on to consumers, due to barriers to entry and hence a lack of competitive pressure.

32 Cf. Shepherd, *What Does the Survivor Technique* ..., *supra*.

33 For a survey of the studies of *Bain*, *Haldi* and *Whitcomb*, *Pratten*, and *Scherer*, cf. *McGee*, *Efficiency and Economies of Size*, op. cit., 71-77. Besides, this seems in accordance with the original tenet of the Chicago School, which holds that "full exploitation of available scale economies at both the plant and firm levels would ... result in small firms", Koch, *Industrial Organization* ..., op. cit., 123, citing *Henry C. Simons* and *Frank H. Knight*.

34 Although they assert that a high level of industry concentration is warranted by economies of large size, in many, if not most cases, it may not be possible to identify or even quantify these economies. Therefore, adherents of current theory see it simply as a matter of *faith* that market structures that result from unrestrained competition are efficient market structures, cf. *Singleton*, *Industrial Organization* ..., op. cit., 44, citing *Demsetz*.

stries should be expected to be oligopolies"³⁵, regardless of what measurement technique was chosen in individual studies.

From a survey of the measurement of economies or diseconomies of scale relying on engineering estimates, cost studies, and the survivor technique, and an inquiry into the main findings resulting from the studies it can be concluded that "(d)espite very different analytical approaches in the various studies, a general pattern seems to emerge from a very large number of studies; beyond a certain point, average costs do not vary substantially over wide ranges of plant sizes".³⁶ Moreover, the cost gradients which are responsible for the steepness of the individual cost curve, are generally low so that the cost disadvantage of firms that work at suboptimal plant levels are comparatively small and can easily be compensated or even more than compensated for by sufficient competitive pressure, disciplining costs, and the holding down of prices to marginal costs. Using a range from 4 to 14 percent for the alleged critical market share, after which no significant scale economies are likely to be attained, it is estimated that the true cost effect that results from a reduction of excess market share varies between 5 and 20 percent of additional monopoly profits achieved in the case of excess market share.³⁷

35 Pautler, A Review ..., *supra*, 611; Shepherd, The Treatment of Market Power, *op. cit.*, 119, who notes "that scale economies explain only a relatively small portion of the major dominant-firm positions". Cf. also Scherer, Industrial market structure ..., *op. cit.*, 94, who states that "with few exceptions, the minimum optimal plant scale revealed in studies of American manufacturing industries has been small relative to industry size." *Idem*, p. 95: "We conclude then that economies of scale at the plant level do not in the vast majority of instances necessitate high national concentration levels for U.S. manufacturing industries."

36 Fisher/Lande, Efficiency Considerations in Merger Enforcement, *supra*, 1606 f.; Scherer, Industrial market structure ..., *op. cit.*, 91-98; and Shepherd, The Economics of Industrial Organization, *op. cit.*, 181-185 and 193, who notes that "economies of scale appear to be limited, so that market shares above 10 percent commonly embody mainly excess market share"; and even Peitzman, The Gains and Losses from Industrial Concentration, *supra*, 231, who provides empirical evidence for the Chicago tenet. For a more recent survey of empirical studies on the topic cf. Monopolkommission, Hauptgutachten VI ..., *op. cit.*, Tabs. 1, 4 10, 12, 17, 23, 26, 30, and 36, pp. 235-261, summarizing the studies from Bain (1951) to Owen (1980), essentially presenting analogous results for individual branches.

37 Cf. Shepherd, The Economics of Industrial Organization, *op. cit.*, 195; and Scherer, Industrial market structure ..., *op. cit.*, 94: "(T)he long-run cost curves in most industries are much less steep at suboptimal plant scales than one is led to believe by typical textbook illustrations."

With regard to the underlying cost function, *Shepherd* reaches the conclusion, therefore that "(t)he typical 'industry' cost curve for the firm is dish-shaped, with MES at 5 percent of the market or less. The constant-cost range may be wide, though presumably average cost rises eventually ...".³⁸

Empirical evidence on this was strongly affirmed by some early Hearings of the U.S. Senate from 1964 to 1969 in which the economic and sociopolitical consequences of increased concentration in the economy were scrutinized. Essentially, these Hearings provided the following results:³⁹

- There is no reliable correlation between the size of a firm and its profitability;
- the minimum optimal scale of a firm and hence the minimum efficient size in the technical sense may be different from industry to industry; and
- in the majority of industries in the U.S. economy the actual level of concentration may not be justified by the existence of economies of scale.⁴⁰

Probably the most recent study within the tradition of engineering studies which tries to elaborate on the interdependence of economies of scale and concentration is the one performed by the German Monopolies Commission (MC) in its Sixth Main Report.⁴¹ In its report the MC tested the significance of economies of scale in 18 branches of the German economy. The relation between the planned size of a plant and the average cost of production is

38 Shepherd, *The Economics of Industrial Organization*, op. cit., 206.

39 Cf. *Economic Concentration: Hearings before the Subcommittee on Anti-trust and Monopoly of the Committee on the Judiciary, United States Senate, Washington, D.C. 1964-1969*, Parts 1-8a. An extensive evaluation of these Hearings may be found in Petry, Horst, *Technischer Fortschritt, Integration, internationale Wettbewerbsfähigkeit und Unternehmensgröße*, 183 JNST (1969), pp. 271-299.

40 This may be different in the case of relatively small national markets. However, economies of scale that bulk large relative to any national market, and would therefore lead inevitably to highly concentrated industries at the national level, may be smaller relative to the EEC market as a whole. Thus, the creation of the Common Market may serve as an anti-trust policy, curbing what would otherwise be problematic levels of monopoly power in some national markets, cf. Krugman, Paul, whose study is part of the report "Efficiency, Stability and Equity: A Strategy for the Evolution of the Economic System of the European Community", Brussels, 1987.

41 Cf. *Monopolkommission, Hauptgutachten VI ...*, op. cit.

portrayed by what is called the 'long-range planning curve'. This planning curve comprises technical economies only and not pecuniary economies.⁴²

In all of the branches analyzed, the MC finds the minimum efficient size to become enlarged over time. Specialization as well as automatization advantages are the primary cause for this development, which seems to provide certain evidence for the size/concentration argument. However, industry concentration in a number of economic branches is significantly higher than required by economies of scale. In the majority of the branches presented, industry concentration is lower than the full exploitation of technical economies would require them to be.⁴³

The importance of economies of scale may increase in the presence of a number of conditions which can be listed as follows:⁴⁴

- Minimum efficient size constitutes a large share of the domestic output;
- suboptimal scales are associated with above average cost increases (high cost gradient of the underlying cost curve);
- minimum efficient plant sizes are not outweighed by inefficiencies resulting from the distribution- or from the input-side of the firm;
- cost disadvantages cannot be compensated for by smaller plant sizes through means of production flexibility;
- the competitiveness of firms is based primarily on pricing policies and not on innovativeness or product differentiation advantages.

In a number of economic branches the significance of economies of scale is diminished, however. Technical economies may lose some of their significance primarily due to a high proportion of transportation costs in relation to total costs, which do not allow significant economies to be realized. Other factors are fluctuating or stagnating market demand, making the exploitation

42 Cf. Monopolkommission, Hauptgutachten VI ..., op. cit., para. 593. The efficiency advantages are seen to be rooted in specialization advantages, physical laws (so-called 0.6 rule), economies of massed reserves, management capabilities and further residual efficiencies, cf. ibid., paras. 594-599; and Shepherd, *The Economics of Industrial Organization*, op. cit., 170-172.

43 Cf. Monopolkommission, Hauptgutachten VI ..., op. cit., tabs. 40 and 41 at pp. 263 f.; and for a synopsis, Schmidt, *Wettbewerbspolitik und Kartellrecht*, op. cit., 90.

44 Cf. Monopolkommission, Hauptgutachten VI ..., op. cit., paras. 605-609.

of economies impossible, and changes in minimum efficient sizes as a result of frequent changes in make-or-buy decisions.⁴⁵

Summarizing these results, the proposition can be put forward that it is not advisable to yield all of the technical economies since the production flexibility which can be an important management parameter is restricted in this case. Even in the cases in which larger minimum efficient sizes should be attained, this cannot solely be attributed to technical economies. It is additional research and development efficiencies as well as product differentiation advantages that underly present observable concentration tendencies.⁴⁶

The degree of efficiency gains from cost savings may be consistently overstated for two reasons:⁴⁷

- First, the misallocation burden (dead-weight loss) which can be demonstrated by the welfare triangle is underestimated, as has been demonstrated (cf. *supra Williamson's trade-off model*).
- Second, the benefits from economies of scale may not be passed on to consumers if there is not sufficient competitive pressure on the firms; this may be the case primarily with efficiencies attainable in addition to the technical economies and for so-called X-inefficiencies.

If it is assumed - as is done by the current tenet - that meaningful barriers to potential competition do not exist, the latter argument seems crucial for critics of the Chicago School. As has been noted *supra*, economies of large scale production and product differentiation advantages of established over potential entrant firms have a dual character and can be regarded as efficiency advantages or (so-called) natural barriers to entry. According to *Bork* such natural barriers exist,

45 Cf. Monopolkommission, Hauptgutachten VI ..., op. cit., paras. 750-755.

46 Cf. Monopolkommission, Hauptgutachten VI ..., op. cit., para. 755. These economies are difficult to operationalize, however, and hence difficult to take into consideration. Furthermore, it is unclear whether these additional efficiencies show up in general and are significant, cf. Schmidt, *Wettbewerbspolitik und Kartellrecht*, op. cit., 104 f. It is furthermore open to question whether external growth via mergers is necessary to attain these efficiencies.

47 Cf. Shepherd, *The Economics of Industrial Organization*, op. cit., 195.

"(w)hen existing firms are efficient and possess valuable plants, equipment, knowledge, skill, and reputation. (Therefore,) potential entrants will find it correspondingly more difficult to enter the industry, since they must acquire those things".⁴⁸

The ambiguous character of such barriers becomes obvious once again because they can be seen to impede sufficient competitive pressure, whereas they may present efficiencies at the same time.

Whereas the considerations above emphasized the extent of economies in a given state of technology, the additional question has to be raised as to what extent technological progress increases economies in research and development and hence makes corporate mergers and internal growth in size unavoidable.⁴⁹

Basically, economic and financial potentials of large sized companies enable them to respond to product differentiation strategies and competition for innovations in a more appropriate way than rather small firms because of the amount of capital required. There is strong empirical evidence, however, that the ability to innovate is not necessarily associated with the willingness to innovate.⁵⁰ With regard to the basic invention leading to the innovation, there is no empirical evidence whatsoever that the efficiency-causes-size or concentration hypothesis is deterministic in nature.⁵¹ The aforementioned U.S. Hearings came to the conclusion that the attainment of R&D efficiencies cannot necessarily be derived from mergers and internal growth. The reasoning that large sized companies are of extraordinary importance for the general rate of technological progress and economic development may be verified or falsified according to the individual industry analyzed and this

48 Bork, *The Antitrust Paradox*, op. cit., 310 f. This explanation for the assertion that persistent competitive pressure might not become real competitive pressure is based on the fact that most of the newcomers are not able to survive after entry since they are less efficient than established firms. This has been established by simple observation of non-entry over a longer period of time, cf. Posner, *The Chicago School of Antitrust Analysis*, supra, 945.

49 This postulate is called the new defense hypothesis, cf. Schmidt, *Wettbewerbspolitik und Kartellrecht*, op. cit., 84.

50 Cf. Petry, *Technischer Fortschritt*, ..., supra, 282 f.

51 For a variety of examples and additional empirical studies, cf. Schmidt, *Wettbewerbspolitik und Kartellrecht*, op. cit., 97-101.

evaluation may change over a period of time. Hence, economies of R&D cannot justify size and concentration in every single case.⁵²

Empirical evidence suggests that capacity expansions either by internal or by external corporate growth cannot be performed in an unlimited manner without changing the technical characteristics of the cost function, such as the cost gradient and the total level. Starting from a specified quantity of output, total average cost may increase, causing diseconomies of scale.⁵³ Further complications with regard to the evaluation of the benefits and non-technical efficiencies associated with economies from rising industry concentration arise from the fact that increased concentration is associated with a decrease in competitive pressure due to managerial slack, communication, and control problems, etc.⁵⁴ Especially at high levels of concentration, the likelihood of higher costs increases because of the occurrence of such X-inefficiencies that would outweigh economies of scale. Originally, it was argued in this context that the efficiency-losses due to monopolies were underestimated by traditional microeconomic methodology. It was *Leibenstein* who pointed out that a decline of competitive pressure means additional non-allocative efficiency-losses, which have their source in motivation problems and divergent goals among managers, owners, and employees of a firm. The assumption of average cost minimization as the firm's only goal is not tenable under these circumstances.⁵⁵ *Leibenstein's* approach is crucially important for the assessment of productive efficiency, which is mainly determined by economies of scale and transaction-cost efficiencies. Whereas the current theoretical tenet holds that even at high levels of concentration decreasing costs are attainable by economies of scale or related efficiencies, the results of

52 Cf. Petry, Technischer Fortschritt, ..., *supra*, 286.

53 Cf. Herdzina, Wettbewerbspolitik, op. cit., 41.

54 Cf. our considerations on the Williamson trade-off in this contribution. Cf. as well Lande, Robert H., Wealth Transfers as the Original and Primary Concern of Antitrust: The Efficiency Interpretation Challenged, 34 *HastLJ* (1982), pp. 67-151, 79: "(S)ome evidence suggests that the existence of monopolies might curtail overall research and innovation or lead to other undesirable economic consequences."

55 Cf. Leibenstein, Harvey, Allocative Efficiency vs. "X-Efficiency", 35 *AER* 1966, pp. 392 - 407. Cf. as well *Shepherd* who states that "presumably average cost rises eventually because of (1) bureaucracy, from absolute size, and/or (2) x-inefficiency caused by the firm's market power. The constant costs may also mask a significant amount of pecuniary economies, the typical cost curve may slope upward instead of being flat", *Shepherd*, The Economics of Industrial Organization, op. cit., 206.

efficiency considerations may become quite different if Leibenstein's approach is taken into account, since we have to consider a possible trade-off between a positive effect on economies of scale and a detrimental one on X-inefficiencies.⁵⁶

These reflections have shown that size and (external) concentration as independent variables and efficiency as the dependent variable may increase in the same direction up to a certain level. From an overall economic point of view, however, X-inefficiencies and diseconomies of scale may contribute to a misallocation of economic resources after this level is surpassed. External concentration, therefore, is not necessary to achieve efficiencies in every individual case. From an efficiency viewpoint the market solution may be superior in these cases.

Unless non-technical efficiencies - which will be treated infra - change these findings significantly, we are able to make the assertion that economies of scale may not be attained in an unlimited manner in the sense that these economies would require the firms to strive for large market shares. Although the points beyond which economies will not occur substantially (minimum efficient size) are a priori indeterminate for the general case, since they vary from industry to industry, the aforementioned provides evidence that supracompetitive profitability beyond these thresholds is tendentially a result rather of market power than of efficiency. Increased likelihood of an occurrence of X-inefficiencies as concentration rises, tends to support this assertion, and hence tends to provide a theoretical basis for the rejection of the efficiency differential-hypothesis.

56 For an extensive survey on these counteracting effects, cf. Schmidt, *Wettbewerbspolitik und Kartellrecht*, op. cit., 92. With regard to the actual trade-off, Scherer comes to the conclusion that "(t)he evidence is fragmentary, but it is persuasive. 'X-inefficiency' exists, and it is more apt to be reduced when competitive pressures are strong than when firms enjoy insulated market positions. What we do not know is how large are the differences systematically correlated with monopoly power. That X-Inefficiencies attributable to monopoly are at least as large as the welfare losses from resource misallocation seems eminently plausible. And they may well be considerably larger", Scherer, *Industrial market structure ...*, op. cit., 446.

3. The Evidence of Efficiency on the Basis of Merger Performance

We have found no explicit definition of the efficiency criterion within the current theoretical approach,⁵⁷ and even *Bork* had to concede⁵⁸ that efficiency cannot be measured and that substitutes have to be used in order to evaluate whether increases in efficiency have occurred. The question of how efficiency should actually be measured remains unanswered also because efficiencies are presumed to encompass much more than just technical economies. The assertion by advocates of the current tenet that efficiency can only be roughly estimated, leaves room for all kinds of subjective judgments.

The question remains, as to whether efficiencies beyond the technical ones can be measured at all. This makes necessary a method of determining these efficiencies. The most common attempt has been to cover additional efficiencies via an analysis of the effects of mergers. The results of these studies have been ambiguous and have shown that mergers do not always increase efficiency.⁵⁹

Instead of efficiency, improved performance may represent redistributive gains without real efficiency advantages in terms of resource savings, resulting from factors such as from sources of tax avoidance, good bargaining due to imperfect or lopsided information, and market power gains.⁶⁰

With regard to studies based on accounting data, stock market data and changes in resulting market shares of the merging firms, the outcomes of the merger studies performed can be summarized as follows:⁶¹

- As a rule, merging firms are not more profitable than non-merging firms

57 Cf. Scherer, Separating Wheat from Chaff ..., *supra*, 995 f.

58 Cf. *Bork*, The Antitrust Paradox, *op. cit.*, 192, who mentions that "efficiency cannot be studied directly or quantified."

59 For a survey, cf. Fisher/Lande, Efficiency Considerations in Merger Enforcement, *supra*, 1609-1624, who assert that it is mainly technical efficiencies that are important in the case of horizontal and vertical mergers and that additional efficiencies ("synergetic effects") are primarily found with conglomerate mergers (p. 1599 f.); and Mueller, United States' Antitrust: At the Crossroads, *op. cit.*, 226.

60 Cf. Green, Industrial Organization ..., *supra*, 495, who holds that "logically one cannot rule out the possibility that the rise in share value reflects the effects of market power rather than increased efficiency". Cf. also Mueller, United States' Antitrust: At the Crossroads, *op. cit.*, 227 f.

61 Cf. Green, Industrial Organization ..., *supra*, 495; Fisher/Lande, Efficiency Considerations in Merger Enforcement, *supra*, 1611 et seq.; and Mueller, United States' Antitrust: At the Crossroads, *op. cit.*, 226-229.

are;

- there is no single motivation or effect of a merger (such as efficiency);
- whereas stockholders of acquired firms show above-average gains from mergers, stockholders of acquiring firms experience relatively few gains or no gains at all⁶²;
- virtually all of the studies on market shares show that some time after the merger the total proportion of the market was less than the ex ante combined totals, which means that - as a rule - the share of the combined firm in the relevant market in question declined after the merger⁶³; and
- individual case studies on mergers show that there is no unambiguous evidence on whether mergers in general, and horizontal ones in particular, increase the efficiency of the merging firms.⁶⁴

This may finally lead us to the conclusion that aside from observed returns to stockholders of acquired firms there is no empirical evidence for the hypothesis that mergers generally improve the efficiency of the combined

62 It is considered a flaw in the assumptions about the effects of mergers that gains to stockholders are considered to be pure efficiency gains, as noted above.

63 Cf. e.g., Mueller, Dennis C., *Mergers and Market Shares*, 67 RES (1985), pp. 259-267, who reports a significant decline in the after merger combined shares for a sample of 210 acquisitions. From a logical point of view and following the reasoning of the current tenet, the combined share should have been increased as a result of superior efficiency in comparison to competitors. This does not seem to be the case, however. Furthermore, "although firms with large market shares obtained primarily through internal growth tend to be more efficient than average, firms merging to achieve the same shares would not necessarily obtain comparable efficiencies", Fisher/Lande, *Efficiency Considerations in Merger Enforcement*, *supra*, 1609.

64 Cf. e.g., Scherer, *On the Current State ...*, op. cit.; recently also, Ravenscraft, David J., and Frederic M. Scherer, *Mergers, Sell-Offs, and Economic Efficiency*, Washington, D.C. 1987; and Green, *Industrial Organization ...*, *supra*, 496, who summarize the findings in the assertion that "if one examines the post-merger history of many merger partners, one often finds divestiture, sell-offs, abandonments and other signs of failure."

firms in terms of resources used.⁶⁵ This may be so in individual cases, however.

IV. Concluding Remarks

In Part 3 of the contribution we basically confirmed the validity of the traditional approach underlying public policy towards horizontal mergers (concentration-collusion doctrine), although a variety of refinements were found to be important. Strong evidence was found that performance criteria as used in the empirical studies on the concentration-collusion doctrine serve as indications of market power. However, some problems remained in attempting to measure market power by means of profitability. Most importantly, economic returns and other performance measures were found most likely to measure both efficiency and market power effects at the same time, the two sets of factors being hard to disentangle from each other properly.

By comparison, the alternative measurement technique provided by dead-weight loss, which has already been presented, neglects power considerations to a large extent and is characterized by practical difficulties. The qualifications necessary to make use of the approach make the model lose its analytical clarity and applicability. Furthermore, the dead-weight loss is severely handicapped by the fact that it is static as a rule and strictly efficiency-oriented, whereas we prefer a multiple-goal approach. The measure is not able to offer a basis for generalization and it cannot serve as a broad-based concept for the purpose of empirical proof.

The traditional studies based on various performance criteria were found to have a variety of insufficiencies and shortcomings; these, however, do not call into question empirical attempts to test different hypotheses. The findings on the robustness of such studies with regard to changes in the per-

65 The empirical "experience is difficult to reconcile with the conjecture that mergers turned out on average to be profit-increasing and efficiency-enhancing", Ravenscraft, David J., and Frederic M. Scherer, *The Profitability of Mergers*, discussion paper, presented at the Third Meeting on Industrial Economics at the International Institute of Management, Berlin 1986, p. 34. For a recent confirmation cf. idem, *Life After Takeover*, 36 JIE (1987), pp. 147-155, 155, who state again that "the hypothesis that tender offer takeovers are on average efficiency-increasing warrants much more skepticism than it has received thus far in the literatures of economics, corporate finance, and securities law".

formance measure provide evidence for the validity of the traditional studies. Data aggregation biases used to pose the most serious problems for these empirical studies. Due to improved data bases, however, these difficulties have largely been circumvented.

The test of the rival hypotheses has shown that neither the concentration-collusion doctrine nor the new learning hypothesis have made obvious to what extent horizontal industry concentration and the resulting economic performance are based on efficiency and to what extent they are due to market power. Also they have not shown whether industry concentration reflects market power consequences at the same time and hence serves as a basis for an extensive use of that power as a result.

(Relative) market share has been found to enable an incumbent to increase efficiency but also to take advantage of monopolistic discretion by charging higher prices; however, due to a possible lack of competitive pressure, it is not guaranteed that the efficiency gains will also be passed on to consumers. Hence the role of market shares not only serves as a basis for an efficiency explanation but also as a basis for a possible market power explanation. The efficiency-differential hypothesis is defective in that efficiency would imply higher profits, but higher profits do not necessarily imply efficiency.

Market share rather than concentration was found to be the crucial structural element. The supplier with a high market share may be profiting from lower costs as well as from higher prices; however, the customers do not necessarily gain from these increases in efficiency, a fact which contradicts the goal of consumer welfare that is explicitly appealed to by the adherents of current theory. With regard to technical economies, this makes it obvious that the efficiency differential explanation offered by the new learning hypothesis does not find convincing evidence on how one is to distinguish those situations where scale economies only have efficiency effects, from those where the firms enjoying such economies realize that entry into the industry is difficult and thus set high prices.

Furthermore, additional shortcomings invalidated the contents of the efficiency-causes-concentration explanation:

- The approach is characterized by the fact that it tends to underestimate severely or even completely ignores the importance of barriers to competition. Although former empirical results on the importance of barriers to new competition did not justify the emphasis which was put on this element of market structure, barriers to new competition do exist and their importance in deterring sufficient pressure due to potential competition is underestimated by the current tenet.
- Insufficiencies of the data used were heavily exaggerated. Contrary to the implications drawn by some critics, the basic structural relationship estimated, using disaggregated data, turned out to be robust across a wide range of variable definitions, sampling frames, and controls of accounting method variations.
- The existing knowledge on oligopolies is neglected. The acceptance of the correlation between concentration and the interdependence of firms is not enough to settle the question of whether oligopolists must behave in a competitive way or not. In order to answer this question, the existing structural conditions of the market have to be looked into as well (for instance product life cycle, product homogeneity or heterogeneity, degree of information - these being factors which qualify the importance of the number of the firms). The fact that the incumbents in an oligopoly nucleus obviously do not compete against each other, do not outcompete less efficient rivals and hence protect fringe firms by a price umbrella, provides evidence for the original collusion explanation, and is at the same time consistent with the differential-efficiency explanation.
- The general consensus that high profits can persist over a longer period of time when the observed enterprise has cost advantages or related efficiency advantages, i.e. when a superior good is offered or market power is held in comparison to actual or potential competitors, is disregarded or misinterpreted in that it is assumed that this is solely due to efficiency advantages. Sufficient competitive pressure is presumed to exercise persistent downward pressure on prices and profitability in a constant manner, which excludes underlying motives other than efficiency-enhancement.

Technical economies as well as non-technical efficiencies were found to explain existing industry concentration only to a limited extent. This result can be considered a *prima facie* proof that beyond a relatively low threshold level undue market power may be assumed to emerge. At the same time,

firms with non-scale superiorities may increase their share of the market without external corporate growth. The attempt to grow primarily via external growth can also be seen to be in accordance with the assertion that efficiency is not the only motivation of corporate executives (e.g., empire building).

In the case of mergers, increased performance may represent redistributive gains without real efficiency advantages in terms of resource savings. Aside from observed returns to stockholders of acquired firms, there is no empirical evidence for the hypothesis that mergers generally improve the efficiency of the combined firms in terms of resources used.

Part 4: Vertical Mergers: Anticompetitive Effects and the Attainment of Efficiencies

Unlike in the case of policy concerning horizontal mergers, there is no consistent economic approach underlying policy on vertical mergers. For vertical integration as such, no theoretical basis exists which is comparable to the concentration collusion-doctrine in horizontal merger cases.¹ Thus far, antitrust policy has been concerned primarily with the tendency of vertical integration in general and vertical mergers in particular to generate anti-competitive effects by the "establishment of relationships between buyers and sellers which deprive their rivals of a fair opportunity to compete".² Under the 1968 Merger Guidelines the U.S. Department of Justice challenged cases in which the upstream firm held 10% or more of its market and the downstream firm 6% or more and a foreclosure of roughly 10% of customers or sources of supply.³

Recent research has focused on comparisons of the costs arising from the use of different mechanisms for the mediation of economic activities and has emphasized possible economic advantages of contractual ties which lead to cost savings in comparison to other linkages.⁴ This has led to a strong notion among economists that vertical arrangements in general and vertical mergers in particular are efficiency-enhancing, carry little or no anticompe-

1 Cf. Areeda, Phillip, and Donald F. Turner, *Antitrust Law: An Analysis of Antitrust Principles*, vol. 4, Boston, Toronto 1980, § 1000a; Bork, Robert H., *Vertical Integration and Competitive Processes*, in: Weston, Fred, and Sam Peltzmann (eds.), *Public Policy Toward Mergers*, Pacific Palisades, Cal. 1969, pp. 139-149, 142; and Kaserman, David L., *Theories of Vertical Integration: Implications for Antitrust Policy*, 23 AB (1978), pp. 483-510, 483, who regards such a theory of vertical mergers as neither possible nor desirable.

2 House of Representatives Report No. 1191, 81st Cong., 1st Sess. 1949, p. 8. This was operationalized by the Courts through the notion of foreclosure which we will deal with infra: "The primary vice of a vertical merger ... is that by *foreclosing the competitors of either party from a segment of the market otherwise open to them*, the arrangement may act as a clog on competition, which deprives the rivals of a fair opportunity to compete" (italics supplied), *Brown Shoe v. U.S.*, 1962 CCH Trade Cases § 70,366, p. 76,492.

3 Cf. Sullivan, Lawrence A., *Handbook of the Law of Antitrust*, St. Paul, Minn. 1977, p. 664.

4 Cf. Klein, Benjamin, *Transaction Cost Determinants of 'Unfair' Contractual Arrangements*, 70 AER (1980), pp. 356-362; Monteverde, Kirk, and David J. Teece, *Appropriable Rents and Quasi-Vertical Integration*, 25 JLE (1982), pp. 321-328.

titive effects and, therefore, should not be considered (*per se*) illegal.⁵ The possible occurrence of both desirable efficiency effects as well as undesirable anticompetitive effects makes necessary an economic trade-off between these two effects.⁶

With regard to the evaluation of vertical mergers, three important questions thus arise, which we will try to answer in the subsequent course of the inquiry. In this context, we have to determine

- to what extent the transactions-cost approach may serve as an adequate basis for an evaluation of efficiency-effects of vertical mergers;
- how serious and how likely the anticompetitive effects are that are anticipated from vertical mergers under certain conditions; and
- whether we are able to determine at what point vertical mergers become anticompetitive in order to formulate administrative rules or presumptions reasonably precisely?

I. Vertical Integration and Efficiency-Enhancement

Under the conventional microeconomic assumption of zero costs of operating competitive markets, vertical integration, and hence the existence of intra-company coordination of economic activities, poses an anomaly since there is no incentive to integrate under competitive conditions.⁷ Cost savings due to technological linkage in the production process constituted the principal exception to this view. The underlying reasoning is that "successive processes which, naturally, follow immediately in time and place dictate certain efficient manufacturing configurations; these, in turn, are believed to have common ownership implications"⁸, and hence pose an incentive to integrate.

5 Cf., e.g., Areeda, Phillip, and Donald F. Turner, *Antitrust Law: An Analysis of Antitrust Principles*, vol. 3, Boston, Toronto 1978, § 726b; Posner, Richard A., *The Chicago School of Antitrust Analysis*, 127 UPLR (1979), pp. 925-952, 937 f.; Williamson, Oliver E., *Assessing Vertical Market Restrictions: Antitrust Ramifications of the Transaction Cost Approach*, 127 UPLR (1979), pp. 953-993, 992 f., although not considered Chicagoan.

6 Cf., e.g., Areeda/Turner, *Antitrust Law ...*, vol. 4, op. cit., § 1000a. As has already been emphasized, this is a general problem in economics, cf. again Herdzina, Klaus, *Wettbewerbspolitik*, 2nd ed., Stuttgart 1987, pp. 35 ff.

7 Cf. Williamson, Oliver E., *The Vertical Integration of Production: Market Failure Considerations*, 61 AER (1971), pp. 112-123, 112.

8 Williamson, Oliver E., *Markets and Hierarchies: Analysis and Antitrust Implications*, New York 1975, p. 83; and cf. Bain, Joe S., *Industrial Organization*, 2nd ed., New York et al. 1968, p. 381; and Hovenkamp, Herbert, *Economics and Federal Antitrust Law*, St. Paul, Minn. 1985, p. 193.

Nevertheless, this approach was not seen to suffice in explaining why economic entities would integrate some of the market activities. Disagreeing with the technological interdependencies approach, Coase stated that it was due to "costs of using the price mechanism"⁹ that economic entities had an incentive to integrate some of the market activities to be carried out at lower costs by a joint organization.

1. Transaction Costs and Different Mechanisms for the Organization of Economic Exchange

a. Economic Exchange via Markets: Costs of Using the Price Mechanism

The vertical component of productive efficiency is associated with the transaction-cost advantages that are generated from vertical integration. The coordination of economic activities and the allocation of economic resources can be carried out by different mechanisms. According to the profit maximization principle advocated by adherents of the current tenet, the firm will choose the most advantageous mechanism.¹⁰ If the coordination is carried out by using the market mechanism, transaction-costs arise since the use of price as an instrument of coordination is assumed to entail costs. According to the original approach presented by Coase, transaction-costs consist of several components:¹¹

- **search and information costs**, due to the fact that the production of relevant data or making this data available to the economic entity is costly;

⁹ Coase, Ronald, *The Nature of the Firm*, 4 *Economica* (1937), pp. 386–405, 386. Cf. as well Robins, James A., *Organizational Economics: Notes on the Use of Transaction-Cost Theory in the Study of Organizations*, 32 *ASQ* (1987), pp. 68–86, 69: "In basic terms, transaction costs are those costs associated with an economic exchange that vary independent of the competitive market price of the goods or services exchanged."

¹⁰ For a detailed survey on these different mechanisms of coordination cf. Ouchi, William G., *Markets, Bureaucracies, and Clans*, 25 *ASQ* (1980), pp. 129–141; for the basic work on different mechanisms of economic coordination, cf. Coase, *The Nature of the Firm*, *supra*; and *Ibid.*, 386: "The operation of a market costs something and by forming an organisation and allowing some authority ('an entrepreneur') to direct the resources certain marketing costs are saved."

¹¹ Cf., e.g., Bössmann, Eva, *Weshalb gibt es Unternehmungen?: Der Erklärungsansatz von Ronald H. Coase*, 137 *JITE* (1981), pp. 667–673, 668 f.; Kasserman, *Theories of Vertical Integration ...*, *supra*, 485; and Schmidt, Ingo, *Wettbewerbspolitik und Kartellrecht: Eine Einführung*, 2nd ed., Stuttgart 1987, p. 94.

- **negotiation and monitoring costs**, arising from the contracting process or from activities that attempt to enforce post-contractual performance;
- **costs of reduced flexibility** that are associated with the uncertainty of future events as a result of transaction-specific investments; and
- **costs imposed on market transactions by governments or the public** that do not apply to intra-corporate transfers of economic activities.

The original approach was extended mainly by Oliver E. Williamson who attempted to provide a coherent framework for inquiring into the determinants of vertical integration in different industries.¹² The reasoning underlying this approach is that the achievement of transaction-cost advantages regarding the elimination of monopoly distortions, technical complementarities, supply reliability, and economies in the acquisition of information are the essential reasons for vertical integration.¹³ The causes of inability of the market to perform its functions under certain circumstances, leading to the aforementioned outcomes, are presented by the so-called **organizational failures framework** provided by Williamson. Essentially, three conditions are responsible for incentives to integrate:¹⁴

- Conditions of **uncertainty** and/or **complexity**, and the **bounded rationality** of human beings. Man is tendentially rational but only limitedly so. Thus "it is only because individual human beings are limited in knowledge, foresight, skill, and time that organizations are useful instruments of human purpose".¹⁵
- **Opportunism** as an extended form of self-interest on the part of economic agents which leads to attempts by economic agents to make false, empty, and therefore self-disbelieved threats and promises in order to attain individual advantages not included in a contract. This may be particularly

12 Cf. Williamson, Markets and Hierarchies ..., op. cit.; Idem, Transaction-Cost Economics: The Governance of Contractual Relations, 22 JLE (1979), pp. 233-261; and idem, The Vertical Integration of Production ..., supra.

13 Cf. Levy, David T., The Transaction Cost Approach to Vertical Integration: An Empirical Examination, 67 RES (1985), pp. 438-445, 438.

14 Cf. Williamson, Markets and Hierarchies ..., op. cit., 20-40; and for a summarical survey, Bössmann, Weshalb gibt es Unternehmungen? ..., supra, 671-673. For a survey on alternative and complementary explanatory approaches, cf. Williamson, Oliver, Antitrust Economics, Mergers, Contracting, and Strategic Behavior, Oxford 1987, p. 56 note 3.

15 Simon, Herbert A., Models of Man, New York 1957, p. 199 and: "The capacity of the human mind for formulating and solving complex problems is very small compared with the size of the problems whose solution is required for objectively rational behavior in the real world" (p. 198).

- attractive in cases of **small-numbers bargaining** or in case of **uncertainty** about the final results of the contract.¹⁶
- Conditions of **Information Impactedness** which arise, "when true underlying circumstances relevant to the transaction, or related set of transactions, are known to one or more parties but cannot be costlessly discerned by or displayed for others".¹⁷

Since the operationalization and determination of costs arising from transactions seems an unsolvable problem, an attempt has been made to list transaction specific market characteristics as criteria for the determination of the extent of vertical integration. According to *Richardson*, the form of exchange depends on the transaction to be carried out.¹⁸ If the economic activities to be performed are complementary and similar in their nature, a pooling of the activities into a corporation seems advisable.

Comparable but advanced criteria were set up by *Williamson* who extricated three different characteristics for the determination of integrative cases:¹⁹

- The frequency with which bilateral economic transactions are repeated determines the incentive to integrate. Depending on the frequency, different contractual linkages can be chosen;
- the extent to which bilateral economic transactions require transaction specific investment determines the incentive to integrate. The larger the extent of idiosyncratic investment for a sequence of transactions within a contract, the stronger the incentive to intra-company organization; and
- the future uncertainty associated with bilateral economic transactions determines the incentive to integrate. There is a large degree of uncertainty associated with the quality of goods and services purchased, and also uncertainty about the development of relevant data in the future.

The pattern set according to the first two criteria can be summarized in the following synopsis:

16 Cf. Kaserman, *Theories of Vertical Integration ...*, *supra*, 487; and as well Goffman, I., *Strategic Interaction*, Philadelphia 1969, p. 105.

17 Williamson, *Markets and Hierarchies ...*, *op. cit.*, 31.

18 Cf. Richardson, G.B., *The Organisation of Industry*, 82 EJ (1972), pp. 888 f.

19 Cf. Williamson, Oliver E., *Economic Organisation: Firms, Markets and Policy Control*, Brighton, Sussex 1986, pp. 105-118; and *idem*, *On the Nature of the Firm: Some Recent Developments*, 137 JITE (1981), pp. 675-680, 676.

Fig. 8: Means of Governance as a Result of Investment Characteristics and Transaction Frequency

		Investment Characteristics		
		Non-specific	Mixed	Idiosyncratic
Frequency	Occasional	Market governance (Classical contracting)	Trilateral governance (neoclassical contracting)	
	Recurrent		Bilateral Unified governance (Relational contracting)	

Source: Williamson, Oliver E., Economic Organisation: Firms, Markets and Policy Control, Brighton, Sussex 1986, p. 117.

b. Economic Exchange via Organizations: Costs of Using Internal Organization

However, in contrast to the aforementioned costs of using the price mechanism in markets, there has to be some explanation as to explain why economic transactions are not performed by firm organizations altogether. Due to costs associated with the exercise of the internal entrepreneurial function, vertical integration leads to costs resulting from the internal organizing of economic transactions:²⁰

"Under certain conditions, markets are more efficient because they can mediate without paying the costs of managers, accountants, or personnel departments. Under other conditions, however, a market mechanism becomes so cumbersome that it is less efficient than a bureaucracy."

These costs associated with the use of the internal entrepreneurial function comprise primarily the following components:²¹

- decreasing returns to scale to the entrepreneurial function;
- increased likelihood of inefficient resource allocation due to an increased organizational size; and

20 Ouchi, Markets, Bureaucracies, and Clans, *supra*, 129 et seq.

21 Cf. Coase, The Nature of the Firm, *supra*; Kaserer, Theories of Vertical Integration ..., *supra*, 486; Schmidt, Wettbewerbspolitik und Kartellrecht, *op. cit.*, 95; and Williamson, Markets and Hierarchies ..., *op. cit.*, 117-131.

- a rising supply price of one or more inputs to the production process as the integration process proceeds.

Often the defects associated with market exchanges have to surmount a non-trivial threshold until internal organization offers clear cut efficiency advantages.²² It is the primary task of antitrust theory to provide evidence on the level of that threshold in order to perform a possible efficiency trade-off.

2. Efficiency-Enhancement as the Underlying Reasoning for Vertical Integration

According to current theory, vertical strategies in general and vertical mergers in particular, are advantageous for the economic agents performing the integration since the anticipated costs of organization are lower than the transaction-costs that arise through use of the price mechanism. It has been asserted that vertical market restrictions should be assumed to enhance efficiency per se. There is virtually no "reason to assume that a vertical merger which lowers costs and prices, thus benefitting consumers, is 'unfair' to rivals in any reasonable antitrust sense of that term".²³

According to the assertion that efficiency-enhancement is the primary goal of competitors, the best strategy for the firm is to compare market transaction and internal organization costs and to merge vertically only to the extent that transaction-costs are equal to the costs of organizing. Each of the separate stages of the production and distribution process is autonomous, and in principle market contracts could be used to bring economic activity at successive stages into adjustment. The limits of vertical integration, however, are found in that the successive interfaces are organized

22 Cf. Williamson, Markets and Hierarchies ..., op. cit., 130.

23 Areeda/Turner, Antitrust Law ..., vol. 4, op. cit., § 1002. This has been emphasized strongly with regard to the Brown Shoe decision, cf. Bork, Robert H., and Ward S. Bowman, The Crisis in Antitrust, 65 CLR (1965), pp. 363-376, 372: "The Brown Shoe case employed the theory of exclusionary practices to outlaw vertical integration that promised lower prices, ..., and the theory of 'social purpose' to justify the fact that the decision prevented the realization of efficiencies by a merger, which, realistically viewed, did not even remotely threaten competition."

In a way that economizes on transaction costs.²⁴ Thus, the optimal degree of vertical integration is discovered by an optimization calculus, based on the principles that

"a firm will tend to expand until the costs of organising an extra transaction within the firm become equal to the costs of carrying out the same transaction by means of an exchange on the open market or the costs of organising in another firm".²⁵

The reasoning underlying the assertion of efficiency-enhancement as the sole purpose of business conduct is identical to that underlying the evaluation of other vertical strategies, as is the case with tying arrangements.²⁶

The crucial question that remains is whether efficiency really represents the sole motivation for vertical integration or whether vertical integration is also performed because vertical mergers can be a source and carrier of market power.²⁷ If this were the case, the aforementioned optimization calculus would lose its explanatory power with regard to the transaction mechanism chosen. Even if the costs of an economic transaction by the market were lower than the intra-corporate coordination costs for an economic transaction, there would remain a motivation to merge until the excess profits from a monopoly or limit price strategy equalled the total cost difference resulting from the two transaction mechanisms.²⁸ This in fact entails the

24 Cf. Williamson, Assessing Vertical Market Restrictions ..., supra, 958 f. Furthermore, there are limitations to an internalization of economic transactions (e.g., organizational span of control) which are widely accepted, cf. Blair, Roger D., and David L. Kaserman, Law and Economics of Vertical Integration and Control, New York 1983, p. 25.

25 Coase, The Nature of the Firm, supra, 396.

26 Cf. Posner, The Chicago School ..., supra, 936. For a thorough and critical analysis of the current tenet, cf. Schmidt, Ingo, and Jan B. Rittaler, Die Chicago School of Antitrust Analysis: Wettbewerbstheoretische und -politische Analyse eines Credos, Baden-Baden 1986, pp. 84-86.

27 Cf. Bain, Industrial Organization, op. cit., 178 f., who denotes that mergers even happen in cases where cost savings are not attainable; and Kaysen, Carl, and Donald F. Turner, Antitrust Policy: An Economic and Legal Analysis, 3rd print., Cambridge 1971, p. 120. Furthermore, it is asserted that efficiency-enhancement used to be the primary intention of economic agents at the turn of the century when the exploitation of mass economies in production and distribution was started, cf. Chandler Jr., Alfred D., The Visible Hand: The Managerial Revolution in American Business, 5th print., Cambridge, Mass. 1980, pp. 337-339.

28 Cf. Dirrheimer, Manfred J., Karin Wagner and Thomas Hübner, Vertikale Integration in der Mineralöl- und chemischen Industrie, Meisenheim am Glan 1981, p. 14.

consideration of time-lags in market adjustment processes and a questioning of the presumption of a market mechanism which works frictionlessly.

3. Efficiency Gains vs. Anticompetitive Consequences: Necessity for a Trade-Off?

Current theory presupposes on the one hand that efficiency-enhancement is the competitor's only goal and on the other that consumer welfare via an increase in business efficiency is the legislator's only intent. If both of the presumptions are called into question, it becomes obvious that a possible trade-off in terms of conflicting goals may involve a positive level (efficiency-enhancement vs. anticompetitive consequences) and a normative one (consumer welfare vs. other public goals), the treatment of which has to be carried out separately.

Regardless of the likelihood and force of anticompetitive consequences, not only the achievement of efficiencies has to be demonstrated but it has to be shown that competition is not significantly impaired by vertical integration (e.g., ease of entry, low minimum efficient scale at the foreclosing level).²⁹

The achievement of efficiencies has to be demonstrated because we may not presume a priori that efficiency-enhancement is the only objective of an economic agent, at least not in the sense of overall economic efficiency that translates on a one-to-one basis into consumer welfare.³⁰ Furthermore, consumer welfare in the definition of current theory does not equal economic welfare, as the term is used by independent scholars for the evaluation of vertical integration. Thus, we have to modify considerably the unrealistic qualifications of current theory, i.e. bear in mind that real world markets do not work in a frictionless way, barriers to competition exist and are often significant; and that a comparison of organization costs with transaction costs of the market is often unfeasible.

Furthermore, internal vertical growth is often considered superior in terms of efficiency achievement; this becomes even more important in the sense

29 Cf. Sullivan, *Handbook of the Law of Antitrust*, op. cit., 668.

30 At the same time, welfare effects of vertical integration are not determinable in an unambiguous manner. They have to be evaluated according to particular features of the actual market situation, cf. Blair/Kaserman, *Law and Economics of Vertical Integration and Control*, op. cit., 82; and Warren-Boulton, Frederick, *Vertical Control of Markets: Business and Labor Practices*, Cambridge, Mass. 1978, p. 109.

that internal growth is one principal way of expanding business action legally:³¹

"When a corporation chooses to grow by building it expects to face tests in the market for the product over the years required to establish and develop a new operation. It must fight its way in, that is, compete to succeed, and not buy its way in. I consider this a far better market test ... than the 'market test' involved in a merger for the market for firms is highly imperfect ..."

On a normative level, public goals other than just consumer welfare have to be taken into account.³² This has to be considered a legitimate concern because the Incipency doctrine still considered valid by the courts must be viewed as a result of the legislator's willingness to maintain unconcentrated structures and eventually sacrifice efficiencies in order to maintain competition. This was demonstrated *supra* and applies to vertical integration just as well. Currently this is expressed by presumptive rules of illegality of vertical mergers.³³

A trade-off is certainly needed for the determination of the counteracting effects of vertical integration or vertical mergers in particular. However, it has to be performed on a positive as well as on a normative level of analysis, including a critical appraisal of the shortcomings of current theory on a positive level and the intentions of legislation on the normative one.

31 Heflebower, Richard B., Comments on the F.T.C. Staff Document: Economic Report on Mergers and Vertical Integration in the Cement Industry, Washington D.C. 1966, quoted from Mueller, Willard, Public Policy Toward Vertical Mergers, in: Weston, Fred, and Sam Peltzmann (eds.), Public Policy Toward Mergers, Pacific Palisades, Cal. 1969, pp. 150-166, 165 f.; cf. as well Areeda/Turner, Antitrust Law ..., vol. 3, op. cit., § 727d,e and *idem*, Antitrust Law ..., vol. 4, op. cit., § 1000c, who note that this may eventually lead to a resource waste.

32 This distinction between a normative and a positive view is emphasized in that "(a)lternative views of the objectives of public policy can have a considerable effect on the determination of general policy guidelines and on the degree of preference for an active interventionist policy approach. Differing conclusions can also result, however, from different assumptions or beliefs on questions of fact", cf. Warren-Boulton, Vertical Control of Markets ..., op. cit., 165.

33 Cf. Areeda/Turner, Antitrust Law ..., vol. 4, op. cit., § 1011a; and Sullivan, Handbook of the Law of Antitrust, op. cit., 664, who mentions a market share of 15% and a market share foreclosed on either level of roughly 10-12%.

II. Empirical Evidence on the Extent of Vertical Integration and Associated Efficiency Advantages

1. The Measurement of the Extent of Vertical Integration

In order to draw conclusions on the effects of vertical integration, it is necessary to determine the extent of vertical integration along the different lines of production and distribution.¹ Only if the degree of vertical integration, the essential independent variable, is precisely known, can we possibly determine and isolate particular consequences of an increase in the degree of vertical integration via econometric models. In this context, the degree of vertical integration is determined by the extent to which a particular firm substitutes intracorporate production and coordination for market transactions.²

The pioneering work on the issue has been provided by *Adelman*, who proposed value added as a percentage of sales revenues, representing a sort of make-or-buy ratio, an increase of which would indicate an increase in the degree of vertical integration et vice versa.³ The crucial advantage of this index is that neither the number of levels in the chain of production and distribution has to be calculated, nor their relative weight concerning the total number of the stages along the chain. However, the index has numerous disadvantages:⁴

- The fact is systematically neglected that with increasing completeness of the product through successive stages of production the degree of product heterogeneity as well as corresponding revenues increase. This leads to an overestimation of the degree of integration at prior stages of the process;

1 For a detailed survey on the different approaches, cf. Fisher, Alan A., and Robert Sciacca, An Economic Analysis of Vertical Merger Enforcement Policy, in: Zerbe Jr., Richard O. (ed.), Research in Law and Economics, vol. 6: Antitrust and Regulation, Greenwich, London 1984, pp. 1-133, 64-68.

2 Cf. Fisher/Sciacca, An Economic Analysis of Vertical Merger Enforcement Policy, op. cit., 64.

3 Cf. Adelman, Maurice A., Concept and Statistical Measurement of Vertical Integration, in: Stigler, George J. (ed.), Business Concentration and Price Policy, Princeton 1955, pp. 281-322.

4 Cf. Dirrheimer/Wagner/Hübner, Vertikale Integration in der Mineralöl- und chemischen Industrie, op. cit., 28 f.

- vertical mergers which change the degree of integration show different results, depending on whether one takes the acquiring firm or the acquired firm as one's point of departure; and
- the fact is neglected that the census value added is also a function of labor and capital intensity, which may lead to an overestimation of the degree of integration in the case of labor intensive process chains, et vice versa.

There have been attempts to modify the index, albeit without any great degree of success.⁵ None of the subsequently developed indexes using relative employment, percentage of firms in an industry having two or more stages of production, vertical Herfindahl Index, or input-output studies have overcome the main difficulties of empirical attempts to determine the degree of vertical integration; they suffer from one or all of the following deficiencies: inconsistency with economic theory, a lack of operability, and limited usefulness with regard to economic and policy analysis.⁶ This has evidently handicapped studies using indexes on the degree of vertical integration as an independent variable in econometric models.⁷

2. The Empirical Evidence on Efficiency-Enhancement

Empirical studies attempting to find evidence of the validity of the transaction-cost approach and data on the extent of actual cost savings in the case of increased vertical integration may be placed in two categories:

- Studies which attempt to isolate transaction-specific market characteristics believed to act as incentives for vertical integration and in so doing attempt to determine the corresponding degree or change of vertical integration;⁸ and

5 Cf., e.g., Tucker, Irvin B., and Ronald P. Wilder, Trends in Vertical Integration in the U.S. Manufacturing Sector, 26 JIE (1977), pp. 81-94.

6 Cf. Fisher/Sciaccia, An Economic Analysis of Vertical Merger Enforcement Policy, op. cit., 68.

7 Currently, the census value added in relation to the sales of a firm is used as the most appropriate indicator of the extent of vertical integration, cf., e.g., Monopolkommission, Hauptgutachten der Monopolkommission VI: Gesamtwirtschaftliche Chancen und Risiken wachsender Unternehmensgrößen, Baden-Baden 1986, tab. II.6, and paras. 233-235 for the qualifications necessary.

8 Transaction-specific market characteristics are supposed to serve as a proxy variable for anticipated cost savings that may not be operationalized quantitatively.

- studies that attempt to quantify savings in transaction costs in the case of a change in the mechanism of economic coordination and which amounts to a change in the degree of vertical integration.

Whereas the former category represents an indirect attempt to determine the extent to which economic entities economize on transaction costs, the latter represents a direct and quantifiable attempt to do this.

a. Studies on Transaction-Specific Market Characteristics

A variety of empirical studies have tried to find support for the implications of the transaction-cost approach by citing evidence that transaction-cost specific market characteristics pose an incentive for vertical integration:

- In the case of the existence of idiosyncratic capital, represented by specialized knowledge in the automobile industry, it was hypothesized that vertical integration would increasingly occur if the production process resulted in idiosyncratic and hardly transferable know-how, such as special features of the organizational structure, the organization of the production process, or the use of special machines and tools. Since opportunistic behavior on behalf of a highly specialized supplier to the automobile industry could possibly be expected in order to reap quasi rents, and this in turn would result in **supplier switching costs** for the automobile manufacturer, there was found to be a strong incentive for vertical integration on behalf of the automobile manufacturer in order to avoid opportunism and uncertainty.⁹ Tendentially, this was enforced in the case of a small number of economic agents at the suppliers' stage.
- With regard to **small numbers** of participants at one of the stages in a chain of production and distribution, it has been found that there is a "positive relationship between vertical integration and the fewness of

⁹ Cf. Crandall, Robert, Vertical Integration and the Market for Repair Parts in the United States Automobile Industry, 26 JIE (1967/68), pp. 212-234; and Monteverde, Kirk, and David J. Teece, Supplier Switching Costs and Vertical Integration in the Automobile Industry, 13 BJE (1982), pp. 206-213, esp. 206. This was confirmed for the relationship between research and development and vertical integration, cf. Armour, Henry Ogden, and David J. Teece, Vertical Integration and Technological Innovation, 62 RES (1980), pp. 470-474.

firms" which "supports the implications of the transaction cost approach".¹⁰

The results of the empirical studies are based on the premise that motivation for vertical integration other than efficiency do not exist. Only to this respect did they confirm the implications of the transaction-cost approach. However, there may be some other causal factors that are responsible for an incentive to integrate. Although efficiency increases through economizing on transaction costs may result from vertical integration, we are neither sure whether these gains are passed on to consumers as a result of sufficient competitive pressure, nor do these studies elaborate on possible anticompetitive effects as a result of increased vertical integration.¹¹ Furthermore, market power effects are largely neglected.

b. Studies on Actual Cost Savings

Empirical studies that attempt to measure the actual extent of cost savings from increased vertical integration directly do not distinguish external vertical growth by mergers. Thus we have to accept a lack of knowledge regarding the comparison of cost savings associated with vertical mergers on the one hand and other forms of vertical integration on the other.¹²

None of the empirical studies on costs savings from increased vertical integration show quantitative results on marginal transaction-costs across different mechanisms of coordination through the various stages in the chain of production and distribution.¹³ This seems especially important with regard to the isolation of motives underlying an increase in vertical integration. In the case of a net increase in efficiency there would be an affirmation of the efficiency-enhancement hypothesis, although we cannot be sure whether this increase is passed on to consumers as the current tenet contends. However, empirical findings showing a decrease in efficiency in the case of increased vertical integration would suggest a motivation other than efficiency-enhan-

10 Levy, The Transaction Cost Approach to Vertical Integration ..., *supra*, 443 f., and cf. Tucker/Wilder, Trends in Vertical Integration ..., *supra*.

11 This will be done infra in subsection III, after presentation of the deficiencies of the transaction cost approach concerning antitrust purposes.

12 Cf. Fisher/Sciacca, An Economic Analysis of Vertical Merger Enforcement Policy, *op. cit.*, 68.

13 Cf. Bössmann, Weshalb gibt es Unternehmungen? ..., *supra*, 672.

cement. With regard to this respect, empirical studies are scarce and their results are ambiguous, to say the least.¹⁴

The main obstacle to unambiguous conclusions is the problem of distinguishing efficiency or cost saving effects from all other consequences, such as market power, price discrimination, evasion of regulation, and the like.¹⁵ In a study on the effects of vertical integration on the basis of the Federal Trade Commission Line of Business data, which used an Index of vertical integration based on internal transfers as a percentage of the total of external sales and internal transfers, *Ravenscraft* concludes that transaction cost economies exist. However, further studies are considered necessary in order to determine countervailing effects of monopoly power that are necessary for a public policy trade-off.¹⁶ The crucial deficiency seems to be that the results are compatible with an efficiency as well as with a market power explanation. This becomes obvious if one compares the two polar positions in this field. Whereas *Chandler* attempts to interpret "the historical process of American business as including vertical integration as a part of a long-run strategic process, contributing to the creation of oligopolistic structures and entry barriers"¹⁷, *Williamson* reinterpreted the evidence as being consistent with the transaction cost approach, holding that the primary effect of the increase in vertical integration was lower costs.¹⁸

14 Cf. Robins, *Organizational Economics* ..., *supra*, 82; and for the studies, Demsetz, Harold, *The Cost of Transacting*, 82 QJE (1968), pp. 33-53; Dirrheimer, Manfred J., *Vertical Integration: Transaction Cost Advantages versus Market Power Disadvantages*, unpublished paper, International Institute of Management, Berlin 1984; Maddigan, Ruth J., *The Measurement of Vertical Integration*, 63 RES (1981), pp. 328-336; and *Ravenscraft*, David J., *Economics of Integration*, unpublished paper, Federal Trade Commission, Washington, D.C. 1982. There are a number of further case studies presenting qualitative results, cf. Bössmann, *Weshalb gibt es Unternehmen?* ..., *supra*, 672.

15 Cf. Dirrheimer, *Vertical Integration* ..., *supra*; Fisher/Sciaccia, *An Economic Analysis of Vertical Merger Enforcement Policy*, op. cit., 72; and Maddigan, *The Measurement of Vertical Integration*, *supra*.

16 Cf. *Ravenscraft*, *Economics of Integration*, *supra*; this is affirmed by the studies of Dirrheimer, *Vertical Integration* ..., *supra*; and Maddigan, *The Measurement of Vertical Integration*, *supra*.

17 Fisher/Sciaccia, *An Economic Analysis of Vertical Merger Enforcement Policy*, op. cit., 69 f.; and for the original source, *Chandler*, *The Visible Hand* ..., op. cit.

18 Cf. Williamson, *Assessing Vertical Market Restrictions* ..., *supra*, 968-974.

3. A Critical Review of the Applicability of the Transaction-Cost Approach to an Efficiency Analysis of Vertical Integration

The crucial issue is whether the analysis of transaction-cost advantages along various degrees of vertical integration and different transaction-cost specific market characteristics is operational and practical, and whether it is able to supply detailed prognoses on the efficiency consequences that will actually result from vertical mergers.¹⁹

The use of marginal transaction-cost approach, which leads to the calculus on market transactions versus intra-organizational transactions, seems plausible at first sight. However, it remains without explanatory power and thus an empty box as long as it is not possible to determine exact cost levels and margins necessary to perform the trade-off.²⁰

Furthermore, the general applicability of the transaction-cost approach and similar approaches to a theory of institutional change has to be questioned fundamentally. It is held that the microeconomic concept of efficiency has to been seen as crucially important for the application of the transaction-cost approach and that the ability of the price system to alter the structure of systems of economic exchange in the direction of efficient economic arrangements depends on sufficient competitive pressure. If it is realistically assumed, however, that economic equilibria are absent in most if not all of our markets, and, furthermore, that market imperfections and oligopolistic structures prevail, "economic logic supports no causal inferences about the role of efficiency in determining social or organizational structure".²¹ Market imperfections make it much less likely that the most efficient competitors will survive in the end. Concerning the assumption of an essentially frictionless and perfectly competitive market, as assumed by the adherents of current theory, there is strong evidence that the imperfections actually found in reality may finally be responsible for the fact that "financial and market

19 Cf. Schmidt/Rittaler, Die Chicago School of Antitrust Analysis ..., op. cit., 50.

20 Cf. Bössmann, Weshalb gibt es Unternehmungen? ..., supra, 672.

21 Robins, Organizational Economics ..., supra, 71, and ibid., 74: "Transaction-cost analysis adopts a model that has clear meaning for organizations only in perfect markets and applies it to highly imperfect situations. The role played by efficiency is especially problematic in light of how little the neoclassical concept says about the behavior of individual organizations."

power, not economic efficiency, may determine the winners in the competitive race".²²

As long as net efficiency gains are concluded from an increase in the degree of vertical integration, motivations other than efficiency-enhancement are simply defined away for the purpose of analytical clarity and on the basis of a false assumption that economic agents only have consumer welfare on their minds. We have emphasized *supra* that efficiency does not represent the sole motivation for any kind of internal and external corporate growth and this is also the case for vertical integration. Vertical integration in general and vertical mergers in particular can be a source and carrier of market power.²³ If this were be the case, the aforementioned optimization calculus would lose its explanatory power with regard to the transaction mechanism chosen. Even if a net efficiency loss in the short run resulted from the integration, there would remain a motivation to merge, until excess profits from a monopoly or limit price strategy equalled the total cost difference resulting from the two transaction mechanisms. This would be so because of the belief that monopoly power which could be exploited in the time periods after the merger had occurred could be attained.²⁴ Such a rationale is ruled out by the adherents of current theory, however, since persistent competitive pressure and frictionlessly working markets will not allow competitors to reap monopoly advantages, as a price raise attracts newcomers immediately and the latter provide competition which erodes excess profits.

The assertion that meaningful barriers to competition do not exist, and hence that sufficient competitive pressure is believed to be persistent, regardless of the existing structural features of the markets involved in vertical integration²⁵, tends to define market power problems away and understates the likelihood of anticompetitive consequences. The absence of power

22 Mueller, Public Policy Toward Vertical Mergers, *op. cit.*, 165; and again Robins, Organizational Economics ..., *supra*, 79: "In the absence of perfect markets for all inputs to production, the assumption that firms will be pushed in the direction of a common, transaction-cost minimizing organizational form is unwarranted."

23 Cf. Bain, Industrial Organization, *op. cit.*, 178 f.; and Kaysen/Turner, Antitrust Policy ..., *op. cit.*, 120.

24 Cf. again Dirrheimer/Wagner/Hübner, Vertikale Integration in der Mineralöl- und chemischen Industrie, *op. cit.*, 14.

25 Cf. Areeda/Turner, Antitrust Law ..., vol. 3, *op. cit.*, § 724a.

results in efficiency and efficiency is synonymous with consumer welfare. However, an examination of actual or supposed increases in business efficiency, whether they relate to allocative or productive efficiency, is a reflection of a comparative-static way of thinking. The aim of any realistic antitrust policy must be to secure the existence of sufficient competitive pressure to force firms to be dynamic, innovative and to adjust, as well as to compel them to actually pass on their internal welfare gains to the economy as a whole. Concerning the Brown Shoe case, for instance, it is correctly noted that

"(t)he recognition that integrated and chain operations may result in benefits to consumers in no way proves that the Brown-Kinney merger actually resulted in such benefits; or that the merger route is the only way to achieve such benefits; or, finally that even if such benefits, in fact, achieved by this merger, they would have been passed on to consumers" (citation omitted, italics supplied).²⁶

The terms 'transaction-costs' and 'organization costs' are difficult to handle, and in specific cases they can neither be determined in a precise manner empirically nor quantitatively measured. The terms are largely used in a way that allows justification of certain phenomena ex post; this leads to the possibility that any development may be justified - but only ex post and crudely. As a result, the concept tends to become tautologous: a process that can be observed is efficient because it developed the way it has!²⁷

Only the restrictive premises of current theory are responsible for the misinterpretation of the transaction cost approach, and these are essentially provided by Coase and Williamson. On realistic premises and assumptions, the

26 Mueller, Public Policy Toward Vertical Mergers, op. cit., 162. The passing on of efficiency gains is neglected on the basis of the assumptions dealt with supra. With regard to vertical integration, recent studies, however, have found "evidence that higher intermarket contact between firms, combined with medium to high concentration levels, increases the probability of collusion", Fisher/Sciaca, An Economic Analysis of Vertical Merger Enforcement Policy, op. cit., 70. We will deal with anticompetitive consequences of vertical integration infra.

27 This seems to be analogous with the circular logic which we have criticized concerning the premises and assumptions of the current tenet supra. Cf. also, Bössmann, Weshalb gibt es Unternehmungen? ..., supra, 672 f.; Robins, Organizational Economics ..., supra, 72, who state that Williamson himself holds that the transaction cost approach is virtually able to explain any economic change if it is not operationalized further; cf. as well, Schmidt/Rittaler, Die Chicago School of Antitrust Analysis ..., op. cit., 50.

generality of the pro-efficiency argument is not tenable. As has been emphasized, the uncritical use of market models as well as the implicit analogy with neoclassical economics and perfect competition is unwarranted.²⁸

III. An Evaluation of Possible Anticompetitive Consequences Resulting from Vertical Integration

1. The Reasoning Underlying Anticipated Anticompetitive Consequences: Foreclosure of Actual and Potential Competitors

The presumption of illegality of particular vertical mergers is based on the notion of foreclosure of actual or potential competitors. In the Brown Shoe case the U.S. Supreme Court held that "(e)very extended vertical arrangement by its very nature, for at least a time, denies to competitors of the supplier the opportunity to compete for part or all the trade of the customer party to the vertical arrangement".¹ Thus, foreclosure may be assumed if the integrated firms uses its vertically integrated market position to deny comparably efficient non-integrated competitors equal access to the markets for consumers and/ or suppliers. As a result, competitor firms that are not integrated face a smaller output level or market share than would be the case if vertical integration had not been performed.² The extent of the market that is removed from the competitors at the two successive stages of a particular vertical merger determines the degree of foreclosure:³

28 Cf. Fisher/Sciaccia, An Economic Analysis of Vertical Merger Enforcement Policy, op. cit., 71; and Robins, Organizational Economics ..., supra, 70.

1 Brown Shoe v. U.S., 1962 CCH Trade Cases § 70,366, p. 76,492. Cf. as well Blair/Kaserman, Law and Economics of Vertical Integration and Control, op. cit., 147-151; and Schmidt, *Wettbewerbspolitik und Kartellrecht*, op. cit., 178.

2 Cf. Fisher/Sciaccia, An Economic Analysis of Vertical Merger Enforcement Policy, op. cit., 38; and Hamilton, James L., and Soo Bock Lee, Vertical Merger, Market Foreclosure, and Economic Welfare, 53 SEJ (1986), pp. 948-961, 949; and Schmidt, Ingo, US-amerikanische und deutsche Wettbewerbspolitik gegenüber Marktmacht, Berlin 1973, p. 142.

3 Comanor, William S., Vertical Mergers, Market Power, and the Antitrust Laws, 57 AER (1967), pp. 254-265, 256. For one of the early cases, cf. as well, U.S. v. E.I. du Pont de Nemours & Co., 1957 Trade Cases § 68,723.

"If ... a firm with 50 percent of the market at an early stage acquires another who holds 10 percent market share at the only succeeding stage, then as a result of the merger, rivals of the latter firm are said to be foreclosed potentially from half of the market for needed supplies, while rivals of the former are foreclosed from about 10 percent of the market for their input. In this manner, moreover, the theory is symmetrical and is used to refer to either stage of production."

Regarding real cases of vertical integration, three typical forms of foreclosure may be discerned:⁴

- a firm that possesses market power on an input market and, at the same time, acts as a supplier on the final product market, may impede market access for non-integrated competitors to the input market on the final product market and thus may extend market power from one stage to the other;
- non-integrated firms competing on the input market may be disadvantaged by the fact that a vertically integrated competitor impedes their access to subsequent stages in the production and distribution process; and
- potential competitors may be impeded from entering the market because of increased capital requirements and specialized know-how. This may even be enforced by a need to enter vertically integrated chains of production and distribution in order to avoid competitive disadvantages.

Concerning cases in which market power is absent in horizontal terms, there seems to be general agreement that vertical integration is not likely to have anticompetitive effects.⁵ However, the rather small market shares that were used by courts to demonstrate that significant parts of the markets were foreclosed to rivals, have been challenged by scholarly commentary. In this context, the view is put forward that actual and potential competitors cannot possibly be foreclosed since vertical integration as well as exclusionary practices are efficiency motivated, and frictionlessly working markets without barriers to entry would immediately restore sufficient competitive pressure.⁶ Furthermore, the underlying reasoning of the foreclosure argument would be strongly in contrast to neoclassical price theory and the profit

4 For a different classification cf. Fisher/Sciacca, An Economic Analysis of Vertical Merger Enforcement Policy, op. cit., 38, who distinguish between a case of 'self-dealing' and cases of 'discriminatory transfer pricing'.

5 Cf., e.g., Areeda/Turner, Antitrust Law ..., vol. 4, op. cit., § 1004c.

6 Cf. Bork, Vertical Integration and Competitive Processes, op. cit., 148.

maximizing principle that is a logical consequence of the homo oeconomicus presumption. Thus, it is concluded that the

"concern about possible market foreclosure is misplaced. A manufacturer may, in certain circumstances, improve his market position by buying retail outlets and foreclosing them to his rivals. But, wherever he can do this, there are alternative ways of enhancing his market power which are distinctively superior to market foreclosure, which obtain all the advantages of foreclosure and avoid the costs specific to this practice. This being so, we should not expect foreclosure to be important as a predatory tactic".⁷

Important antitrust cases have shown, however, that cases of foreclosure occur and that the actual share of the market that is foreclosed may be substantial.⁸

In the Volkswagen spare parts case, for instance, the Volkswagen automobile company had induced company affiliated repair shops to use original brand Volkswagen spare parts. These company affiliated repair shops accounted for 50 percent of the relevant market of spare parts compatible to Volkswagen automobiles. The German Federal Cartel Office held that all other producers of Volkswagen spare parts as well as spare part wholesalers would be unduly impeded by being foreclosed from the 3.400 company affiliated repair shops representing 50 percent of the otherwise accessible relevant market.⁹

The particular anticompetitive effects became even more obvious in the Ford Motor Company case.¹⁰ In this case, the U.S. Supreme Court held unlawful the acquisition of the Electric Autolite Company – one of the two unintegra-

7 Peltzmann, Sam, Issues In Vertical Integration Policy, in: Weston, Fred, and Sam Peltzmann (eds.), Public Policy Toward Mergers, Pacific Palisades, Cal. 1969, pp. 167-176, 168. Somewhat more moderate, cf. Bork, The Antitrust Paradox, op. cit., 238: "Whether or not one believes in the Law's foreclosure theory, *all so-called vertical merger cases should be handled through the application of horizontal merger standards*" (italics in original).

8 Cf., e.g., Ford Motor Co. v. U.S., 1972 CCH Trade Cases, § 73,905; and VW-Identteile, WuW/E BGH, pp. 1829 ff.

9 Cf. VW-Identteile, WuW/E BKartA, pp. 1781 ff., however, this was not accepted by the German Federal Supreme Court on account of the argument that Volkswagen had a right to protect its quality standards by company affiliated repair shops. Foreclosure was accepted since it was not considered an undue instrument to attain this objective, cf. again VW-Identteile, WuW/E BGH, pp. 1829 ff.

10 For a discussion of the case, cf. Schmidt, US-amerikanische und deutsche Wettbewerbspolitik ..., op. cit., 138 f.; and for the case, Ford Motor Co. v. U.S., op. cit.

ted spark plug manufacturers - by the Ford Motor Company that manufactures automobiles. Before the merger, Ford had purchased all of the spark plugs from independent manufacturers. This accounted for roughly 10 percent. The primary intent of the acquisition was to get a hold of a part of the profitable aftermarket for replacement of defective or worn out plugs. Concerning the installation of original equipment, the market structure was characterized by a bilateral tight oligopoly. In the spark plug market Autolite held 15 percent of the market, General Motors, the largest U.S. automobile producer 30 percent, and Champion the other independent manufacturer, 50 percent. General Motors, Ford, and Chrysler as the main purchasers of spark plugs accounted for 90 percent of the original equipment market.

The vertical merger was perceived to transmit the rigidity of the oligopolistic structure of the automobile industry to the spark plug industry and decreased the likelihood of competition between the former independents, Autolite and Champion.¹¹

The essential anticompetitive consequences from the vertical merger were seen by the Court in the following factors:

- the disappearance of Ford as the largest purchaser of original equipment spark plugs eliminated the tempering influence on the aftermarket for spark plugs; and
- the vertical merger impeded the access of newcomers in spark plugs production substantially because it foreclosed 10 percent of the total market for spark plugs.

Before elaborating on the possible anticompetitive effects more precisely, we will take a brief look at the effects of foreclosure on economic welfare.

Whereas recent work in vertical integration has emphasized the effects of vertical integration on resource allocation and economic welfare, the U.S. Supreme Court has not made any attempt to reveal the nature of the relationship between the degree of foreclosure and the extent of economic wel-

11 Cf. Bork, *The Antitrust Paradox*, op. cit., 235, and *Ibid.*, 237: "The *Ford-Autolite* opinion fails to establish a valid theory of vertical foreclosure. It is almost certainly merely another example of efficient integration destroyed through reliance on an incorrect economic theory" (*italics original*).

fare.¹² No problem emerges if the degree of foreclosure is negatively correlated with the extent of attainable economic welfare in the sense that if the share of the market foreclosed to actual and potential competitors increases, then economic welfare decreases. This is the essential reasoning behind the pejorative label attached to foreclosure. A trade-off becomes necessary, however, if "whatever bad effects of foreclosure exist are at least partially offset by the lower prices and higher output levels vertical integration brings".¹³

Recent empirical work provides evidence for the necessity of a trade-off between the pure foreclosure effect and possible advantageous effects on economic welfare. Furthermore, empirical evidence suggests that "market foreclosure can be a poor indicator of the economic welfare effect of vertical merger ... (and) economic welfare is enhanced even though non-integrated firms are 'foreclosed'".¹⁴ Thus, it seems necessary to postulate conditions under which reliable statements are possible about the net effects associated with such a trade-off, thereby facilitating a reasonable judgment on vertical mergers in the light of possible counteracting effects.¹⁵

Thus foreclosure may well be seen as a relevant criterion in the decision to give legal screening to vertical merger cases, it does not, however, seem to constitute an adequate criterion to condemn any vertical merger *a priori*.¹⁶

12 Cf., e.g., Hamilton/Lee, Vertical Merger, Market Foreclosure, and Economic Welfare, *supra*, 948; and Blair/Kaserman, Law and Economics of Vertical Integration and Control, *op. cit.*, 153.

13 Allen, Bruce T., Vertical Integration and Market Foreclosure: The Case of Cement and Concrete, 14 JLE (1971), pp. 251-274, 255.

14 Hamilton/Lee, Vertical Merger, Market Foreclosure, and Economic Welfare, *supra*, 960; cf. as well Blair/Kaserman, Law and Economics of Vertical Control, *op. cit.*, 153.

15 Cf. Hamilton, James L., and Soo Bock Lee, The Paradox of Vertical Integration, 53 SEJ (1986), pp. 110-126, 125, who state that the paradox between foreclosure and economic welfare is not generally valid and identify barriers to entry and collusion as the essential conditions to determine the net effects: "(R)elaxing the input monopoly assumption demonstrates that vertical integration can have a much wider range of possible welfare outcomes than previous models have shown ... whether or not integration enhances barriers or collusion makes all the difference. In empirically relevant settings, no paradox exists to neutralize any anticompetitive effects."

16 In fact, foreclosure is considered largely a symptom rather than a cause because it is believed not to have sufficient microeconomic foundation, cf. Blair/Kaserman, Law and Economics of Vertical Control, *op. cit.*, 150; and along the same line, Dirrheimer/Wagner/Hübner, Vertikale Integration in der Mineralöl- und chemischen Industrie, *op. cit.*, 20.

2. Particular Anticompetitive Effects Associated with Foreclosure

It is largely disputed to what extent vertical integration carries a potential for anticompetitive consequences. Whereas scholars that are associated with the traditional approach emphasize the anticompetitive potential of vertical mergers, Chicago scholars insist on an efficiency-enhancement potential of vertical arrangements.¹⁷

a. Price and Output Consequences

In classical monopoly theory, a decrease in output and an increase in price are considered to be the consequences of a monopoly. Vertical integration that is characterized by a supplier/buyer relationship along distinct chains of production and distribution down to the consumer is perceived not to alter market concentration, and hence not have direct price/quantity consequences. Thus, "(v)ertical integration does not, of itself, increase the percentage of the market controlled by a firm".¹⁸

This is an acceptable standpoint, if one refers to the narrow concept of price and quantity, i.e. to market concentration in the sense of an index of concentration not altered by an increase in vertical integration.¹⁹ However, if one takes into account possible leverage effects resulting from the fact that firms possess horizontal market power in their original market and un-

17 Cf. Scherer, Industrial market structure ..., op. cit., 303, who mentions that members of the Chicago School view vertical integration as either socially desirable or innocuous: "Vertical integration is perceived as enhancing efficiency by dissolving bilateral monopoly bargaining stalemates, eliminating double marginalization by vertical chain monopolies, and minimizing input substitution distortions."

18 Bork, Vertical Integration and Competitive Processes, op. cit., 142, and ibid., 143, furthermore holding that "a vertical acquisition can never create or increase a restriction of output. By cutting costs and creating efficiencies it can result in an increase in output"; and cf. Areeda/Turner, Antitrust Law ..., vol. 4, op. cit., § 1000a. For some basic discussion of the issue, cf. Westfield, Fred M., Vertical Integration: Does Product Price Rise or Fall?, 71 AER (1982), pp. 334-346.

19 Cf., e.g., Mueller, Public Policy Toward Vertical Mergers, op. cit., 151, who is not a scholar of the current tenet: "Vertical integration, as such, does not confer market power on the integrated firm. After all, few American enterprises are more vertically integrated than the farmer selling his apples at a roadside stand. But he gains no market power merely because he controls all stages of production and distribution from the orchard to the ultimate consumer."

der certain circumstances are able with a certain time-lag to transfer this market power via vertical merger to an originally competitive market, prices and quantity may change as a result of that leveraged market power.²⁰ This, in turn may make possible all the evils associated with discretionary behavior as a consequence of market power, such as price discrimination, supply squeeze, a raise of barriers to entry, and even the facilitation of collusive behavior on a second stage level.²¹ Instead of only considering a firm's market power as this is reflected by price/quantity conditions, it seems advisable to emphasize a firm's market position as defined by its ability to "behave persistently in a manner different from the behavior that a competitive market would enforce on a firm facing otherwise similar cost and demand conditions".²² This market position is not necessarily identical with the market share the firm holds.

It is commonly held that in the case of sufficient competition on both the markets involved in a vertical merger the competitive consequences of a vertical merger are either neutral, because significant anticompetitive consequences cannot be determined, or pro-competitive because of the efficiency gains associated with the merger, the passing on of which is secured by sufficient competitive pressure.²³

20 Cf. e.g., Kaserman, *Theories of Vertical Integration ...*, supra, 497, who asserts that "(t)here is a possibility, ..., that such integration may serve to solidify or expand the monopoly power that provided the original catalyst for vertical combination"; and Kaysen/Turner, *Antitrust Policy ...*, op. cit., 121: "Firms possessing significant market power at one stage in a production chain, by integrating backward or forward, spread that power to lower and higher stages."

21 Cf. Areeda/Turner, *Antitrust Law ...*, vol. 4, op. cit., § 1007; and Kaserman, *Theories of Vertical Integration ...*, supra, 497 note 38, who notes that it may well be difficult to trace the origin of such power ex post: "(I)f we view a vertically integrated firm possessing monopoly power at successive stages of production, it may be very difficult to determine the direction of causation between the integrated structure and the monopoly power."

22 Kaysen/Turner, *Antitrust Policy ...*, op. cit., 75. The ability, then, to extend a market position from the original stage in the chain of production and distribution to another stage strongly relies on the horizontal market power the vertically integrated firm possesses at the original stage, cf. Areeda/Turner, *Antitrust Law ...*, vol. 4, op. cit., § 1005; Comanor, *Vertical Mergers*, ..., supra, 255; and Dirrheimer/Wagner/Hübner, *Vertikale Integration in der Mineralöl- und chemischen Industrie*, op. cit., 20 and 25.

23 Cf. Areeda/Turner, *Antitrust Law ...*, vol. 3, op. cit., § 724 and 724a.

Paradoxically, the case of a vertical merger of two monopolists is associated with an increase in the final product's output and a decrease in the final product's price. It is assumed that prior to a vertical integration the output monopolist would have an incentive to buy less of the input and to substitute for other, less efficient, inputs to the greatest possible extent, whenever the input monopolist raised its price. This would increase the final product's price and decrease its output. This distortion in the allocation of resources is believed to be corrected in the case of a vertical merger because the combined monopolist cannot charge a monopoly price twice, and hence would charge an internal transfer price that would amount to his marginal costs for the input. Monopoly pricing is assumed to have been substituted for competitive pricing.²⁴

At least two essential qualifications have to be made to this line of reasoning, however:

- If we depart from the assumption of a use of inputs in fixed proportions and assume that the inputs may be combined in variable proportions²⁵, the user firm at the second stage starts to substitute other inputs for the monopolist input. Although an independent non-integrated second stage buyer of the input minimizes total costs, he does so on the basis of artificially high input prices which means that inputs are not combined as efficiently as they would be if inputs were priced at marginal costs. Less efficient substitute inputs thus compete with the monopolized input, which leads to efficiency in the case of the vertically integrated buyer relying on the monopolized input priced at marginal costs, but leads to a market power effect in the case of an independent non-integrated user firm.²⁶

24 Cf. primarily Machlup, Fritz, and Martha Taber, Bilateral Monopoly, Successive Monopoly, and Vertical Integration, 27 *Economica* (1960), pp. 101-119, esp. 102; and Fisher/Sciacca, An Economic Analysis of Vertical Merger Enforcement Policy, op. cit., 18. This is not accepted, however, by Blair/Kaserman, Law and Economics of Vertical Control, op. cit., 31-36; and Warren-Boulton, Vertical Control of Markets ..., op. cit., 75 f.

25 Cf. Blair/Kaserman, Law and Economics of Vertical Control, op. cit., 82; and Warren-Boulton, Vertical Control of Markets ..., op. cit., ch. 4, particularly p. 92, who holds that in the case of variable proportions "vertical control results in higher prices for the consumers of the final product and reduced demand for nonmonopolized inputs."

26 Cf. Mallela, Parthasaradhi, and Babu Nahata, Theory of Vertical Control with Variable Proportions, 88 *JPE* (1980), pp. 1009-1025; and Vernon, John, and Daniel Graham, Profitability of Monopolization by Vertical Integration, 79 *JPE* (1971), pp. 924 f.

Recent empirical studies have tried to verify these implications. They have concluded that it seems impossible to forecast which of the two effects at work will prevail. The potential for a net price raising effect is greatest in cases of non-integrated second stage buyers' intermediate substitution possibilities.²⁷

- The second qualification necessary concerns the aforementioned extreme structural conditions that are assumed. Real markets are often characterized by monopolistic imperfections or oligopolistic conditions along all the stages in a chain of production and distribution.²⁸ Under these circumstances, however, a vertically integrated firm along all of the stages "can earn a larger profit than can be obtained by monopoly pricing at all ... stages independently".²⁹ The underlying reasoning is that monopoly rents of the upstream producer become costs to the downstream buyer and this will change marginal costs and result in below-monopoly output of the final product. In these oligopoly cases anticompetitive output and price consequences are likely to result.³⁰

Summarizing, we are able to conclude that, in analogy to the horizontal case, vertical integration may be accompanied by efficiency-enhancing effects but also by detrimental price/quantity effects.³¹ These two effects are interwo-

27 Cf., e.g., Waterson, Michael, Vertical Integration, Variable Proportions and Oligopoly, 92 EJ (1982), pp. 129-144. However, ambiguities are persistent since only a marginal change in the underlying conditions may end in contrary results, cf Fisher/Sciaccia, An Economic Analysis of Vertical Merger Enforcement Policy, op. cit., 21.

28 Cf. Mueller, Public Policy Toward Vertical Mergers, op. cit., 153: "In the real world vertical integration generally occurs in that broad range of structural situations between the polar extremes of perfect competition and monopoly."

29 Kaserman, Theories of Vertical Integration ..., *supra*, 496; and for the original source of the reasonings, cf. Spengler, Joseph J., Vertical Integration and Antitrust Policy, 58 JPE (1950), pp. 347-352.

30 Cf., e.g., Salop, Steven C., and David T. Scheffman, Strategic Interaction in Multiple Markets: A Beginning to a General Theory of Dominant Firm Industries, unpublished paper, Federal Trade Commission, Washington, D.C. 1981, cited from Fisher/Sciaccia, An Economic Analysis of Vertical Merger Enforcement Policy, op. cit., 20.

Cf. again Mueller, Public Policy Toward Vertical Mergers, op. cit., 155, who concludes that in such real cases "we must evaluate the structure of the markets in which integration occurs and then determine how the integration may affect the structure and behavior of the industries involved. In sum, determining the effects of vertical integration is essentially an empirical, not a theoretical, question."

31 Cf. e.g., Warren-Boulton, Vertical Control of Markets ..., op. cit., 92 and 109.

ven in a complex interaction. We should thus be cautious in our judgments because efficiency effects may present themselves quickly but anticompetitive effects may occur with a certain time-lag.³²

b. Price and Supply Squeeze

A further anticompetitive option exists for firms in a customer-competitor situation with market power at one stage.³³ This is the case if the integrated firm produces more than it uses for self-dealing at one stage in the chain of production and distribution and hence sells the excess supply to non-integrated competitors at the subsequent stage. Thus, the firm's customers become its competitors.³⁴ This is the common basis for a distinct strategy of impairment of competitors that may be adopted by an integrated firm in order to exert a squeeze on prices or supplies of non-integrated competitors.³⁵

Vertically integrated producers are able to exert a price squeeze by decreasing the margin between the price for raw materials and the final product.³⁶ Essentially, this may be done in three ways:³⁷

- The **single price-squeeze** strategy increases the price for raw materials and maintains the price for the final product or it leaves the prices for

32 Cf. Fisher/Sciaccia, An Economic Analysis of Vertical Merger Enforcement Policy, op. cit., 21; and Kaserman, Theories of Vertical Integration ..., supra, 497 and 501.

33 Cf. Monopolkommission, Hauptgutachten der Monopolkommission I: Mehr Wettbewerb ist möglich, 2nd ed., Baden-Baden 1977, para. 920.

34 Cf. Edwards, Corwin, Vertical Integration and the Monopoly Problem, 17 JoM (1952/53), pp. 404-410, 409. Price-squeezing does not have to be an explicit strategy of an integrated firm; it can also happen due to a shortage of raw materials: this will make raw material prices increase, whereas the final product price is kept constant by the integrated firm.

35 Cf. Comanor, Vertical Mergers, ..., supra, 254; Monopolkommission, Hauptgutachten der Monopolkommission I ..., op. cit., para. 920. Cf. as well House of Representatives Report No. 1191, op. cit., at p. 80: "... vertical integration may have certain or other economic effects which may also be important in Section 7 litigation. Thus, it may afford the merged company an opportunity to impose a 'price squeeze' on non-integrated suppliers".

36 Cf. Areeda/Turner, Antitrust Law ..., vol. 3, op. cit., § 728c; Comanor, Vertical Mergers, ..., supra, 254 f.; Mueller, Public Policy Toward Vertical Mergers, op. cit., 152; and Schmidt, US-amerikanische und deutsche Wettbewerbspolitik ..., op. cit., 140.

37 Cf., e.g., Adams, Walter, Vertical Power, Dual Distribution and the Squeeze: A Case Study in Steel, 9 AB (1964), pp. 493-508; Bain, Joe S., Industrial Organization, 2nd ed., New York et al. 1968, p. 362.

- raw materials constant and lowers the price for the final product;
- the **double price-squeeze** simultaneously increases the price for raw materials and decreases the price for the final product, which allows the squeezing firm to determine the profits or losses of the non-integrated competitors; and finally
- the **semi-price squeeze** enables the integrated firm to strengthen its financial capabilities by selling the raw materials at a profit, whereas the non-integrated competitor suffers from subaverage profits, which in turn will protect the integrated firm from aggressive price competition at the final product stage.

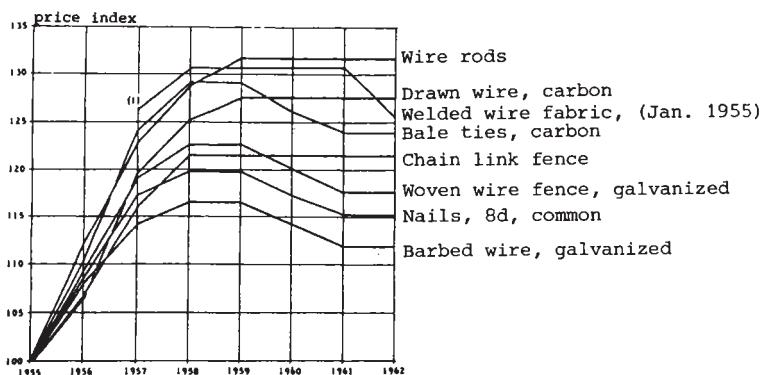
A price squeeze is generally assumed to occur only under very rare conditions or to be altogether unlikely³⁸. However, there are a number of case studies that show the empirical relevance of the problem.

For instance, between 1955 and 1962 non-integrated competitors were exposed to a single as well as to a double price squeeze in the steel industry in the United States. After 1955 price increases for wire rods were much higher than those for drawn wire and wire fabrics. The double price squeeze started in 1959 when the prices for wire rods and drawn wire remained on a high level, whereas the prices for wire fabrics such as welded wire, woven wire fences, nails, bale ties and barbed wire partly declined substantially.³⁹ These price squeezes were also employed by integrated steel producers in the U.S. to discourage price cutting by less integrated wire product makers in the final product stage. In order to achieve this, integrated steel producers used a mixture of domestic and imported inputs:⁴⁰

38 Cf., e.g., Areeda/Turner, Antitrust Law ..., vol. 3, op. cit., § 728c; and Peltzman, Issues in Vertical Integration Policy, op. cit., 171.

39 Cf. Adams, Vertical Power, Dual Distribution and the Squeeze ..., supra, 499. Cf. as well Comanor, Vertical Mergers, ..., supra, 255, and Scherer, Industrial market structure ..., op. cit., 304-306 for further examples. For the most important court cases cf. U.S. v. Aluminum Co. of America, 1965 Trade Cases § 71,243; and Kennecott Copper Corp. v. U.S., 1965 Trade Cases § 71,458.

40 Cf. Adams, Walter, and Joel Dirlam, Steel Imports and Vertical Oligopoly Power, 54 AER (1965), pp. 626-655.

Fig. 9: Squeezing in the Steel Industry

Source: Adams, Walter, Vertical Power, Dual Distribution and the Squeeze. A Case Study in Steel, 9 AB (1964), pp. 493-508, 501.

Vertically integrated producers are often able to exert a supply squeeze upon non-integrated customers by denying supply to these customers in times of supply shortage.⁴¹ Integrated firms absorb an increased share of the input factors of the production process which leads to quantitative restrictions on input for non-integrated competitor or to the utilization of raw materials and factors of production that are of poor quality. This was the case, for instance, when major petroleum companies denied pipeline access and product supplies to non-integrated refiners and marketers during the two periods of worldwide supply shortages of crude oil.⁴² The occurrence of supply squeezes is rejected or deemed unlikely by scholars who are adherents of the current theoretical approach.⁴³ As the supply stage is assumed to be competitive, shortages can by nature only be temporary. Integrated firms may not alleviate supply shortage in such situations, unless they are willing to accept the loss in purchases of their non-integrated competitors in times after the shortage because "(a) free market knows no 'permanent shortage.' When demand exceeds supply, price will rise

41 Cf. Monopolkommission, Hauptgutachten der Monopolkommission I ..., op. cit., para. 920; and Scherer, Industrial market structure ..., op. cit., 304.

42 Cf. Scherer, Industrial market structure ..., op. cit., 304, who holds that these tactics had only transitory success in keeping independent refiners and retailers in line. For the different forms of supply squeeze, cf. Areeda/Turner, Antitrust Law ..., vol. 3, op. cit., § 728b.

43 Cf. Areeda/Turner, Antitrust Law ..., vol. 4, op. cit., § 1003d; Bork, The Antitrust Paradox, op. cit., 243.

to the market clearing level. At that price there will be no 'shortage'.⁴⁴ A permanent supply shortage may not be expected on markets without governmental or public price regulation, because price/quantity are redefined at the clearing level. If this process is impeded by regulatory action, this is not considered an antitrust problem but one of regulation. Even if the number of unIntegrated efficient rivals decreases as a result of a permanent supply shortage, the integration of the other firms will not lead to a doubling of monopoly profits because of the assumptions on price and output made *supra*.⁴⁵ We have documented, however, that the assumptions as well as the conclusions are quite often not as unambiguous as asserted.

Regardless of the reasoning of current theory, there are a variety of reasons why price as well as supply squeezes may pose a serious problem to non-integrated competitors of vertically integrated firms:

- A price squeeze leads the principle of 'survival of the most efficient' ad absurdum because the efficiency of non-integrated firms is actually no longer a guarantee for actual survival in the market because some competitors may have to leave the market, although they might be more efficient than their integrated rivals.
- Once again the Chicago view is based on the unrealistic premises of a non-existence of barriers to entry and the existence of perfectly competitive markets. By ignoring time-lags and impediments to potential competitors current theory neglects the fact that vertically integrated firms may forego present profits in order to earn above average profits in the long run.⁴⁶
- Price squeezes may occur in competitive markets as well, as Areeda and Turner suggest⁴⁷, but there has to be a certain amount of market power to make this price squeeze anticompetitive, because the existence of market power makes it far less likely that competitive forces are at work and efficiency gains passed on to consumers.⁴⁸
- The assumption that forward integration by a monopolist eliminates monopoly profits at the second stage is based on restrictive assumptions. It cannot always be assumed that increased output due to vertical integra-

⁴⁴ Areeda/Turner, Antitrust Law ..., vol. 4, op. cit., § 1003d.

⁴⁵ Cf. Areeda/Turner, Antitrust Law ..., vol. 4, op. cit., § 1003.

⁴⁶ Cf. Sullivan, Handbook of the Law of Antitrust, op. cit., 659.

⁴⁷ Cf. Areeda/Turner, Antitrust Law ..., vol. 3, op. cit., § 728c1.

⁴⁸ Cf. Comanor, Vertical Mergers, ..., *supra*, 255.

tion occurs, and even if it does occur, that it outweighs the effects of the supply squeeze.

- Independent competitors may often be squeezed because the integrated rival is more efficient, but the main problem of antitrust theory remains centred on the separation of efficiency from market power effects. The latter do in fact occur, because markets do not work frictionlessly, as demonstrated supra.
- Whether or not shortages that lead to a supply squeeze are temporary is not the crucial point for a competitor that has been driven out of the market as a result of an actual supply shortage, unless markets are assumed to work frictionlessly. A large number of independent gas stations were driven out of the market especially during the first oil crisis in Germany because the large oil companies were integrated into refining and refused to supply independent stations.⁴⁹
- Long-run implications of vertical integration on market structure are understated by adherents of current theory because of the restrictive assumptions made. A loosening of the assumptions will demonstrably lead to different results and therefore different conclusions.⁵⁰

c. Price Discrimination

Price discrimination is a pricing strategy by competitors which allows an economic agent to sell or purchase different units of an economic good or service "at price differentials not directly corresponding to differences in supply costs".⁵¹ In a perfectly competitive market price discrimination is not a profitable strategy since price is determined by the market forces and the economic agent as an element of atomistic industry structure does not have discretionary power to change data. Commonly, three different conditions

49 Cf. Erstes Benzinpreisverfahren, in: Bundeskartellamt, Tätigkeitsbericht 1967, BTDr. V/2841, p. 41; and Schmidt, Wettbewerbspolitik und Kartellrecht, op. cit., 140 f.

50 Cf., e.g., Mueller, Public Policy Toward Vertical Mergers, op. cit., 152.

51 Scherer, Industrial market structure ..., op. cit., 315, who states that this is not restricted to sales of identical product units to different buyers at varying prices but also includes the sales of identical units to the same buyer. For a further definition and a survey, cf. Koutsoyannis, Anna, Modern Microeconomics, 2nd ed., 2nd reprinting, London et al. 1981, p. 192-201.

may be distinguished in this context that must be satisfied for a seller to be able to practice price discrimination:⁵²

- the seller must possess a minimum amount of market power at one stage in order to have some control over prices since the prices are data in perfectly competitive markets;
- buyers must be segregated from each other into different price segments according to their different price elasticities of demand or into discrete classes with varying prohibitive prices; and
- buyers in different price segments must be separated from each other in a way that makes arbitrage from low-price customers to high-price customers difficult or impossible.

One of the consequences of vertical integration that is largely neglected or underestimated by adherents of current theory may be the facilitation of price discrimination.⁵³ Whether price discrimination may be facilitated depends essentially on the properties of the particular goods involved. Some properties of economic goods, such as high storage or re-packaging costs, or the impossibility of concealing a resale from a low-price to a high-price segment, are likely to prevent customers from different segments from arbitrage. However, if goods are traded among independent stages which do not possess these properties, vertical integration may enable a firm to install an equivalent mechanism and thus enforce price discrimination.⁵⁴

52 Cf. Hovenkamp, *Economics and Federal Antitrust Law*, op. cit., 200; Kayser/Turner, *Antitrust Policy* ..., op. cit., 77 f.; Scherer, *Industrial market structure* ..., op. cit., 315. For a survey on the strategy and a comparison of U.S. American and German policy towards price discrimination, cf. Schmidt, *Wettbewerbspolitik und Kartellrecht*, op. cit., 90-92; and ibid., *US-amerikanische und deutsche Wettbewerbspolitik* ..., op. cit., 283-310.

53 Cf., e.g., Areeda/Turner, *Antitrust Law* ..., vol. 3, op. cit., § 725e; and ibid., *Antitrust Law* ..., vol. 4, op. cit., § 1012c; Hovenkamp, *Economics and Federal Antitrust Law*, op. cit., 199 f.; Kaserman, *Theories of Vertical Integration* ..., supra, 503; and Warren-Boulton, *Vertical Control of Markets* ..., op. cit., 75.

54 Cf. the polish-sausage example by Hovenkamp, *Economics and Federal Antitrust Law*, op. cit., 200, who holds that the best way to enforce price discrimination and to prevent arbitrage for a monopoly manufacturer of polish sausages selling to grocery stores (home consumption) at a low price and to concessionaires (public events) at a high price, is to vertically integrate into the concessions business itself and sell the sausages at high prices directly at public events and to grocery stores at low prices.

A difference in price elasticities of demand among segregated customer segments of an input monopolist enables the monopolist to increase monopoly profits by price discrimination if he acquires the buyer that faces the relatively highest of the price elasticities of the segregated market segments. This reduces the incentive for arbitrage.⁵⁵ Concerning the U.S. automobile industry, for instance, a strong incentive for backward vertical integration was found to exist if price elasticity of demand on the market for new automobiles and spare parts differed from each other. This incentive was found to exist as long as the two economic goods were complementary to each other, as in the case of automobiles and spare parts, and the automobile market was characterized by a higher price elasticity of demand than the market for spare parts.⁵⁶

If we hypothetically assume that economic efficiency and welfare are the only real objectives of antitrust, then knowledge of the net effects on economic efficiency and welfare that determine the benefits or evils of price discrimination due to vertical integration is essential to the evaluation of vertical integration.⁵⁷

Although vertical integration seems to facilitate price discrimination, no generalizations are feasible, however. Price discrimination may have pro-competitive effects or effects which are detrimental to competition, depending on the many forms of price discrimination and their effects on different performance criteria.⁵⁸ Furthermore, price discrimination may lead to a conflict between first line, second line, and possibly third and fourth line competition. For instance, price discrimination may lead to a revitalization of competition in homogeneous oligopoly markets (first line) but to a disadvanta-

55 Cf. Hovenkamp, Economics and Federal Antitrust Law, op. cit., 200; and Kaserman, Theories of Vertical Integration ..., supra, 503; and empirically Crandall, Robert, Vertical Integration and the Market for Repair Parts ..., supra.

56 Cf. again Crandall, Robert, Vertical Integration and the Market for Repair Parts ..., supra.

57 It is unambiguous that price discrimination cause a transfer of wealth from consumers to producers, cf. Scherer, Industrial market structure ..., op. cit., 319: "Price discrimination causes a redistribution of income toward the discriminator and away from its customers."

58 Some of the authors believe the effects to be generally beneficial rather than adverse, cf. Areeda/Turner, Antitrust Law ..., vol. 3, op. cit., § 725e; and Bork, The Antitrust Paradox, op. cit., 240: "The law should be indifferent to this possible use of vertical integration...". For a survey on the different forms and their effects, cf. Scherer, Industrial market structure ..., op. cit., 317-319, and 325-333.

ging of firms that are excluded from the purchase at favorable conditions by price discrimination (second line).⁵⁹ This raises the question of whether there is injury to competitors or injury to competition or injury to both, and if they are in conflict, which actually outweighs which.⁶⁰

"Two sharply different objectives have been incorporated in present law, without recognition of their difference. One is to prevent discriminations injurious to market competition in the secondary line. This is the counterpart of the objective of the law in the primary line. ... The second objective is to assure equality of opportunity for all competing enterprises that buy goods from the same seller. ... Although inequalities of opportunity may be of a kind and scope that have anticompetitive effects, there may also be inequalities that have no necessary relation to the maintenance of competition."

Hence, price discrimination may not be judged as per se beneficial or per se detrimental to competitors and/or competition. An evaluation depends on the object to be protected, the objectives to be attained and the existence of the aforementioned conditions that make price discrimination feasible.⁶¹ With regard to the price discrimination potential as a result of vertical integration, the extent of horizontal market power that the acquiring firm holds seems of primary importance.⁶²

The assertion that vertical integration is beneficial in general is further weakened by the evidence of possible output consequences which are believed to outweigh possible price raising effects and which we have treated supra. If it can no longer be assumed that vertical mergers are output increasing, the net effect of a vertical merger is completely indeterminate for the general case.⁶³

59 Cf. Schmidt, *Wettbewerbspolitik und Kartellrecht*, op. cit., 122 f.; and idem, *US-amerikanische und deutsche Wettbewerbspolitik ...*, op. cit., 91.

60 Edwards, Corwin D., *The Price Discrimination Law: A Review of Experience*, Washington D.C. 1959, pp. 638 f.

61 Cf. again Scherer, *Industrial market structure ...*, op. cit., 334: "Discrimination always causes a redistribution of income whose merits cannot be assessed without invoking value judgments. Some forms of discrimination increase the efficiency of resource allocation compared to simple monopoly, others are essentially neutral, while still other types ... lead to serious inefficiencies ... Given these complexities, it is necessary to judge particular cases of discrimination on their individual merits."

62 Therefore, under the German ARC price discrimination is only illegal if firms with market power are involved (cf. sec. 26 para. 2 ARC).

63 As asserted by Areeda/Turner, *Antitrust Law ...*, vol. 4, op. cit., § 1012c; and Bork, *The Antitrust Paradox*, op. cit., 240; Blair/Kaserman, *Law and Economics of Vertical Control*, op. cit., 124; and Warren-Boulton, *Vertical Control of Markets ...*, op. cit., 80.

d. Impediments to New Competition

There is no consensus on the question of whether an increase in the degree of vertical integration also raises barriers to entry. Aside from the fundamental differences between the traditional theoretical approach and the theory underlying current antitrust policy in the U.S. which we already treated supra, studies on the impact of vertical integration on barriers to entry are also rare, so that there is no evidence, either theoretical or empirical, for the general case.⁶⁴

In the case of a barrier-raising effect of vertical integration, the assertion that there is no direct short-run increase in market share as a consequence of vertical integration may still hold, but is weakened under the impression that market power could emerge or be increased as a result of the protection of barriers to entry. Hence one of the most common competitive objections to vertical integration is that it may raise barriers to entry to at least one of the relevant stages after vertical integration.⁶⁵ To the extent that vertical integration impedes entry, there is an incentive to internalize successive stages of the production and distribution process, even if short-run profits suffer, because the preservation of a powerful market position may help to extract monopoly rents for a longer period of time.⁶⁶

64 Cf., e.g., Fisher/Sciacca, An Economic Analysis of Vertical Merger Enforcement Policy, op. cit., 44; and Kaserman, Theories of Vertical Integration ..., supra, 505. Vertical Integration may be seen as an impediment to dynamic competition as such, however, cf. Monopolkommission, Hauptgutachten der Monopolkommission I ..., op. cit., para. 920.

65 Cf., e.g., Fisher/Sciacca, An Economic Analysis of Vertical Merger Enforcement Policy, op. cit., 42-44; Kaserman, Theories of Vertical Integration ..., supra, 505; Koch, James V., Industrial Organization and Prices, 2nd ed., Englewood Cliffs, N.J., 1980, p. 264; and even Stigler, who is closely associated with the Chicago School, admits this concerning the aspect of capital raising disadvantages among newcomers: "(I)t is possible that vertical integration increases the difficulty of entry by new firms, by increasing the capital and knowledge necessary to conduct several types of operations rather than depend on rivals for supplies or markets", Stigler, The Organization of Industry, op. cit., 138.

66 Comanor, Vertical Mergers, ..., supra, 261; Blair/Kaserman, Law and Economics of Vertical Control, op. cit., 44-46; and Warren-Boulton, Vertical Control of Markets ..., op. cit., 75 f. Cf. similarly, Hovenkamp, Economics and Federal Antitrust Law, op. cit., 207, although he plays down the role of barriers as a result of vertical integration.

"To the firm, entry barriers are an asset which has value similar to that of a new machine or a well-received trademark, and, therefore, firms can be expected to adopt policies which can be explained only as an 'investment in entry barriers'. ... In this fashion, there may be a conflict between long-run behavior designed to promote entry barriers and a short-run profit maximizing behavior."

Whereas barriers to entry played a significant role in court cases in the attempt to determine whether market power would actually contribute to a lessening of competition or whether a firm would hold or increase a market dominating position as a consequence of a vertical or conglomerate merger⁶⁷, recent theoretical discussion emphasizes a position that denies or plays down an entry-barrier-raising-effect of vertical integration. This position has been a minority position thus far.⁶⁸

The primary objective of antitrust theory is to isolate the conditions under which vertical integration is likely to have an entry-barrier-raising effect. In a two stage case of total integration - all firms at a production stage are vertically integrated with the firms at the successive stage - there are no purchase or supply markets open to newcomers. Although vertical integration would increase barriers to entry to a maximum extent, the case is rather unlikely. In a two stage case with no barriers to entry at either of the stages, even a total vertical integration would not erect barriers to entry. Vertical integration is unproblematic in this case.

The realistic case, however, is the situation in which market entry is impeded at one of the stages in our two stage example and is not impeded at the other stage. In this context, there are three reasons why a need to enter at more than one stage extends barriers to entry to the next stage:⁶⁹

- (1) If for any reason new firms are forced to enter at more than one stage and have to overcome existing entry barriers at, for instance, stage A

67 Cf., e.g., the cases *FTC v. Procter & Gamble Co.*, 1967 CCH Trade Cases § 72,061; *Kfz-Kupplungen*, WuW/E BGH 1501, 1504 ff.; and *Revell-Plastics*, WuW/E BGH 1620, 1621 ff.

68 Cf., e.g., Bork, *The Antitrust Paradox*, op. cit., 240-242, esp. 241: "Clearly, however, if (the) more restricted case of the monopolist who seeks to block entry in this fashion proves untenable, the entire theory should be abandoned."; Hovenkamp, *Economics and Federal Antitrust Law*, op. cit., 206-208; Liebeler, Wesley J., *Toward a Consumer's Antitrust Law: The Federal Trade Commission and Vertical Integration in the Cement Industry*, 15 UCLALR (1968), pp. 1153-1202; and Peltzman, *Issues in Vertical Integration Policy*, op. cit., 172-176.

69 Cf., e.g., *Monopolkommission*, *Hauptgutachten der Monopolkommission I* ..., op. cit., para. 921.

in order to enter stage B as well, entry is also impeded at stage B because barriers to entry thus are factually present at stage B that would otherwise not be existent.⁷⁰ Vertical Integration may conceivably exert influence on entry barriers because "the necessity of multistage entry will transmit this barrier, a *fortiori*, from the former to the latter ... (and) integrated entry can be expected to be at least as difficult as single-stage entry at the most restricted stage".⁷¹

- (2) Capital needs for potential entrants might increase if entry at more than one stage is required simultaneously.⁷² This not only happens as a result of capital market imperfections but also due to the fact that a monitoring of large vertically integrated firms may result in higher returns being required by investors. This in turn may drive up the costs of capital if it is raised in the equity market.⁷³ However, this view is not shared by all scholars, particularly not by adherents to the current theoretical approach. Posner, for instance, holds that this reasoning is trivial and contains "a meaningless usage, since it is obvious that a new entrant must incur cost to enter the market, just as his predecessors, the firms now occupying the market, did previously".⁷⁴ Nevertheless, this criticism only considers the aspect of the capital which has to be raised. It does not take into consideration that conditions on the capital market might alter to the disadvantage of new-

70 Cf. Areeda/Turner, Antitrust Law ..., vol. 4, op. cit., § 1011b.

71 Kaserman, Theories of Vertical Integration ..., supra, 507; cf. as well Comanor, Vertical Mergers, ..., supra, 259; Fisher/ Sciacca, An Economic Analysis of Vertical Merger Enforcement Policy, op. cit., 42; Kaysen/Turner, Antitrust Policy ..., op. cit., 121 f.

72 Cf. Fisher/ Sciacca, An Economic Analysis of Vertical Merger Enforcement Policy, op. cit., 42; Kaserman, Theories of Vertical Integration ..., supra, 507; Mueller, Public Policy Toward Vertical Mergers, op. cit., 157; Scherer, Industrial market structure ..., op. cit., 303 f., who holds that "whether the interaction between vertical integration and capital market imperfections leads to significantly elevated entry barriers depends upon how large the required capital lump is" and upon a number of other factors; and even an adherent to current theory partly accepts the capital argument, Peltzman, Issues in Vertical Integration Policy, op. cit., 173.

73 Cf. Williamson, The Vertical Integration of Production ..., supra. But cf. Bork, Vertical Integration and Competitive Processes, op. cit., 142, who argues that such an effect is not likely.

74 Posner, Antitrust Law ..., op. cit., 59. Cf. as well, Bork, The Antitrust Paradox, op. cit., 242: "Neither of the entrants will have a capital cost greater than if the manufacturer had not integrated, and they will have a significant cost advantage over the monopolist."

comers trying to enter at more than one stage. Market entry at more than one stage reduces the production capabilities of newcomers because they have to start to produce at both stages. This is the reason why well informed capital lenders will demand a premium rate for increased risk. This may particularly be so in the case of transaction-specific investments that require large amounts of capital and if production processes are necessary at any stage that have to be supervised closely.⁷⁵ Empirical evidence on the issue is ambivalent, however. Whereas evidence can be found that the amount of capital necessary and capital conditions pose a barrier to entry, the opposite is found as well.⁷⁶

- (3) Vertical integration is also believed to enhance product differentiation which is considered a further reason why it is believed to increase barriers to entry.⁷⁷ Although product differentiation may be seen as a barrier to entry as well as a means of entry because of its informational function, as has been noted *supra*, it may stifle price competition in oligopolies just because of its dual character.⁷⁸

This has demonstrated that it is not as unlikely as assumed by Chicago theorists that vertical integration raises barriers to entry. The majority of

75 Cf. Dirrheimer/Wagner/Hübner, *Vertikale Integration in der Mineralöl- und chemischen Industrie*, op. cit., 17, concerning the capital market conditions; and Williamson, *Assessing Vertical Market Restrictions ...*, *supra*, 926; and *Idem*, *Economic Organisation ...*, op. cit., 210 f., concerning the additional cost of transaction and information for newcomers.

76 Affirmed by Orr, Dale, *The Determinants of Entry: A Study of Canadian Manufacturing Industries*, 56 RES (1974), pp. 58-73, 65; rejected by Masson, Robert T., and Joseph Shaanan, *Stochastic-Dynamic Limit Pricing: An Empirical Test*, 64 RES (1982), pp. 413-423, 418. One should be aware of the cartel-like behavior of lenders and incumbents, however, which has been mentioned *supra*.

77 Cf. Bain, *Barriers to New Competition*, op. cit., 142; Comanor, *Vertical Mergers*, ..., *supra*, 262; Kaserman, *Theories of Vertical Integration ...*, *supra*, 507 f.: "Where firms manufacture their own inputs, homogeneity of the final product will be less likely to result since variations in intermediate product specifications will be facilitated by an internalization of the coordinating function."

78 Cf. Schmidt, *Wettbewerbspolitik und Kartellrecht*, op. cit., 70 f., who emphasizes the effectiveness of price competition in comparison to non-price parameters, the use of which may make it more difficult to respond to a competitor's action in the short run. Cf. as well Comanor, *Vertical Mergers*, ..., *supra*, 262.

empirical evidence confirms this assertion.⁷⁹

e. Collusive Effects

Another possible anticompetitive consequence of vertical integration may be the furthering of oligopolistic coordination, and hence collusion. For adherents of the current theoretical edifice, there is no connection whatsoever between vertical integration and collusion.⁸⁰ It is thus appropriate at this point to recall briefly what the Chicago position on explicit and implicit collusion actually is.

The representatives of the theoretical approach underlying current U.S. antitrust policy judge explicit collusion, i.e., conspiracy or concerted action, and implicit collusion or spontaneous coordination, which is not covered by U.S. antitrust law, in a different manner.⁸¹

In order not to reject American antitrust policy in toto Chicagoans express the opinion - partly for tactical reasons⁸² - that horizontal price conspiracies should be prohibited, since collective monopolies have the same effect on price and output as an individual monopoly. The tendency towards conspiracy increases when concentration increases and the number of competitors decreases. The necessity of public policy and legislation is accepted at least to this extent.⁸³

79 Cf., e.g., Clevenger, Thomas S., and Gerald R. Campbell, Vertical Integration: A Neglected Element in Market Structure-Profit Models, 5 JIO (1977), pp. 60-66; Johns, J.C.H., The Economics of the National Hockey League, 2 CJE (1969), pp. 1-20; Orr, The Determinants of Entry ..., *supra*.

80 This becomes obvious if one makes a general review of the relevant works, cf. Bork, The Antitrust Paradox, op. cit., 239-245; Posner, Antitrust Law ..., op. cit., 196-201; and Stigler, The Organization of Industry, op. cit., 134 ff. For scholars that assume evidence on such a connection, cf., e.g., Comanor, Vertical Mergers, ..., *supra*, 262 f.; Hovenkamp, Economics and Federal Antitrust Law, op. cit., 202; Kaserman, Theories of Vertical Integration ..., *supra*, 510.

81 Cf. Posner, The Chicago School ..., *supra*, 932 f. and 944-946.

82 Posner, The Chicago School ..., *supra*, 932: "Partly, perhaps, for tactical reasons (not to seem to reject antitrust policy in its entirety), the members of the Chicago School would sometimes denounce price fixing."

83 Cf., e.g., Demsetz, Harold, Economics as a Guide to Antitrust Regulation, 19 JLE (1976), pp. 371-384, 383; and Bork, The Antitrust Paradox, op. cit., 406.

Stigler, certainly, regards tacit or implicit collusion, i.e., spontaneous coordination, as a problem in markets with high interdependence due to a high degree of concentration. However, the other representatives of the Chicago School deny that implicit collusion actually restrains competition (Harvard School: conscious parallelism).⁸⁴ The Chicago School does not deny that concentration is an important factor in facilitating collusion; but the question which interests them much more is how excessive profits may be persistent without attracting newcomers in the long run since the entry of newcomers should actually cause a price decline.

Accordingly, market power positions that have not been caused by efficiency but rather by implicit collusion would be eroded because of entry by newcomers or it would force firms to lower their prices in order to prevent newcomers from entering the market. However, this reasoning takes for granted ideal markets without any barriers to entry - an assumption which we have already dealt with critically in one of the preceding sections.

The tenet on vertical integration and collusion formerly valid asserts that oligopolists may increase their ability to coordinate their economic activities by vertical integration because "structural and behavioral factors may interact to open a route through which vertically integrated firms may bypass markets which resist oligopolistic control in favor of others which do not".⁸⁵ This enables oligopolists to act like a collective monopolist and it enhances the likelihood of joint profit maximization. This may actually be the case, if at least one of two conditions is prevalent:⁸⁶

(1) There are some chains of production and distribution, the different stages of which are characterized by extreme fluctuations in supply or demand. In the case of a second stage purchaser, for instance, heavily

84 Cf. the omnibus volume on the economic and legal problems of conscious parallelism, 13 The Journal of Reprints for Antitrust Law and Economics 581 ff. (1982).

85 Comanor, Vertical Mergers, ..., supra, 262 f. Cf. as well, Chandler, The Visible Hand ..., op. cit., 367; and Warren-Boulton, Vertical Control of Markets ..., op. cit., 73 f.

86 Cf. Fisher/ Sciacca, An Economic Analysis of Vertical Merger Enforcement Policy, op. cit., 46, who state the incorrect assumption that input oligopolists have no interest in enforcing price discipline in the output market. As has been demonstrated *supra*, this holds only for restrictive conditions and for a transfer of the reasoning of a monopoly case to an oligopoly case.

fluctuating available supplies control his output in the sense that the output is determined by factors largely exogenous to the industry and not subject to effective oligopolistic control. Backward vertical integration may now install patterns of oligopolistic rationality at the supply stage.⁸⁷

- (2) An elimination of independent economic decision units along the chain of production and distribution of an industry by means of vertical integration may lead to 'interdependent planning uncertainty' which is likely to improve the ability of firms to cooperate. This may have two separate effects. On the one hand, a vertically integrated oligopolist who eliminates frequent price changes as an external factor contributes to oligopolistic communication and harmonizes divergent interests among the leading firms.⁸⁸

On the other hand, the costs of maintaining collusive behavior in an oligopoly may be reduced by vertical integration since the number of economic decision units is reduced. This can be assumed to make the harmonization of divergent interests easier and less costly on the horizontal level.⁸⁹

However, there is also a potential in vertical integration that may make pricing more competitive. In case where there is a loose oligopolistic structure among sellers on one hand, and a tight oligopoly structure among buyers on the other, the presumed pattern of behavior is more competitive than if the buyers' side were characterized by an atomistic structure. This effect may

87 For the classical example on the oligopolistically structured U.S. steel industry, cf. Adams/Diriam, Steel Imports and Vertical Oligopoly Power, *supra*, who found out that the pricing discipline in the industry in terms of final product prices was maintained because producers of steel were vertically integrated backward into the input market and controlled prices there. Cf. as well, Comanor, Vertical Mergers, ..., *supra*, 262-264; Perry, Martin K., Forward Integration by Alcoa: 1888-1930, 29 JIE (1980), pp. 37-53.

88 Cf. Comanor, Vertical Mergers, ..., *supra*, 263 f.; and Malmgren, H.B., Information, Expectation and the Theory of the Firm, 75 QJE (1961), pp. 339-421. This argument corresponds with the assertion that vertical integration increases the longevity of collusive agreements, cf. Kaserman, Theories of Vertical Integration ..., *supra*, 510.

89 Cf. Dirlheimer/Wagner/Hübner, Vertikale Integration in der Mineralöl- und chemischen Industrie, op. cit., 16. There is some limited empirical evidence that vertically integrated firms enjoy higher profit rates, cf. Clevenger/Campbell, Vertical Integration ..., *supra*; but cf. the critique by Koch, Industrial Organization and Prices, op. cit., 264 note 31.

actually be strengthened if the tight oligopoly on the buyers' side is asymmetric (**disruptive buyers**).⁹⁰ This is so because the buyer may receive concealed extra conditions from various suppliers which may vitalize price competition. The elimination of a disruptive buyer would tend to harm the intensity of price competition, enhance the potential for price discrimination, and thus deter effective competition.

There are a number of conditions, however, that potentially weakens the above conclusion:⁹¹

- The buyer has bargaining leverage which the smaller buyers lack and which enables the large buyer to extract advantages over his smaller competitors and thus discriminate prices, the effect of which is ambiguous;
- whether all the benefits of countervailing power are passed on to the consumers depends on the absence or presence of market power on the selling side of the market; and
- concessions unrelated to costs may be squeezed from the suppliers, unless discipline in the supplier oligopoly is strong (**spreading**). Although this may be beneficial to consumers in the short run, it may lead to market power and anticompetitive consequences in the long run.

Contrary to current theory, we have seen that the arguments that vertical integration enhances the ability to collude has some force, although only under specific conditions:⁹²

"The anticompetitive story becomes more convincing when conditions at the manufacturing level are most conducive to oligopolistic coordination - for example, in mature, highly concentrated, homogeneous product industries with uniform cost conditions, significant entry barriers, and a comprehensive pattern of vertical integration into distribution."

90 This argument is based on the 'Concept of Countervailing Power', originally introduced by Galbraith, John K., *American Capitalism: Concept of Countervailing Power*, London 1957, p. 111. Cf. on the aspects of antitrust as well, Areeda/Turner, *Antitrust Law ...*, vol. 4, op. cit., § 1006; Hovenkamp, *Economics and Federal Antitrust Law*, op. cit., 212; and Fisher/Sciacca, *An Economic Analysis of Vertical Merger Enforcement Policy*, op. cit., 46.

91 Cf. Areeda/Turner, *Antitrust Law ...*, vol. 4, op. cit., § 1006; and Scherer, *Industrial market structure ...*, op. cit., 310-312.

92 Fisher/Sciacca, *An Economic Analysis of Vertical Merger Enforcement Policy*, op. cit., 45. Cf. as well, Williamson, *Assessing Vertical Market Restrictions ...*, supra, 965.

The comprehensive pattern of vertical integration seems to be of particular importance. Often, oligopolies show a behavioral pattern that rules out price competition. Price competition is replaced by nonprice competition through the acquisition of downstream enterprises. Disadvantaged rivals tend to have an incentive to buy further potential customers because of their fear of being foreclosed:⁹³ "The first to integrate continued to dominate."

3. The Likelihood of Anticompetitive Effects and Revised Policy Conclusions

According to the aforementioned view, vertical strategies in general and vertical mergers in particular are perceived only to serve as a means for the achievement of an increase in productive efficiency and not to obtain monopoly power, since "firms cannot in general obtain or enhance monopoly power by unilateral action - unless, of course, they are irrationally willing to trade profits for position."⁹⁴

Because a coherent economic approach underlying the anticompetitive effects of vertical mergers has not presented thus far and vertical integration is viewed as primarily efficiency-enhancing, these arrangements should not merit legal scrutiny.⁹⁵ According to *Bork*, U.S. antitrust policy has dealt with the effects of vertical mergers for more than 60 years without having succeeded in the development of an adequate theory that demonstrates the negative effects of such mergers on competition in a clear way. It is empha-

93 Chandler, *The Visible Hand* ..., op. cit., 365. Cf. Schmidt, *Wettbewerbspolitik und Kartellrecht*, op. cit., 178; Scherer, *Industrial market structure* ..., op. cit., 306, who mentions the cement manufacturers that acquired ready-mix concrete companies, despite any prospect of efficiency enhancement or anticompetitive potential; cf. as well Allen, *Vertical Integration and Market Foreclosure* ..., *supra*.

94 Posner, *The Chicago School* ..., *supra*, 928. Cf. the critique on the anti-competitive emphasis associated with vertical mergers by Coase, Ronald H., *Industrial Organisation: A Proposal for Research*, in: Fuchs, Victor (ed.), *Policy Issues and Research Opportunities*, New York, 1972, pp. 59-73, 67: "If an economist finds something - a business practice of one sort or another - that he does not understand, he looks for monopoly explanation."

95 Cf. Bork, *The Antitrust Paradox*, op. cit., 228: "Vertical integration is often believed somehow to cause or permit a firm to behave differently than it would in the absence of integration. Aside from the efficiency effect, however, it is clear that vertical integration does not affect the firm's pricing and output policies."

sized that vertical mergers do not increase the firm's ability to restrict output because the ability to restrict output depends upon the market share in the market occupied by the firm. Whereas horizontal mergers increase market share, vertical mergers do not. Therefore, it is concluded that

"(a)ntitrust concern with vertical mergers is mistaken. Vertical mergers are means of creating efficiency, not of injuring competition. There is a faint theoretical case, hardly worth mentioning, that vertical mergers can be used by very large firms for purposes of predation under exceptional circumstances, but it is highly doubtful that that narrow possibility has any application to reality".⁹⁶

In this context, *Posner* emphasizes that at least in academic circles a positive evaluation of vertical mergers is gaining ground. The peril that vertical mergers pose is regarded as small or rare in occurrence due to underlying circumstances.⁹⁷

However, *Williamson* correctly emphasizes the likelihood of the occurrence of anticompetitive effects in that the attempt to realize an increase in efficiency may have adverse effects on competitors at the same time. While forward integration may represent an effort to realize private gains with resulting efficiency advantages at one stage, "it may constitute an unneeded restraint at a later stage and indeed may serve strategically to disadvantage rivals if it is continued".⁹⁸ We have pointed out conclusively that anticompetitive consequences are realistic outcomes of vertical integration under specific circumstances.

Efficiency considerations are important in evaluating vertical integration; nevertheless anti-competitive effects should not be left out of consideration.

96 Bork, *The Antitrust Paradox*, op. cit., 226; and idem, *Vertical Integration and Competitive Processes*, op. cit., 149.

97 Cf. *Posner*, *The Chicago School ...*, supra, 937 f.

98 Williamson, *Assessing Vertical Market Restrictions ...*, supra, 965. Along the same line, cf. Areeda/Turner, *Antitrust Law ...*, vol. 4, op. cit., §1015a, but see, *ibid.*, § 1002, who denotes that vertical mergers are primarily efficiency-motivated and that there is no "reason to assume that a vertical merger which lowers costs and prices, thus benefitting consumers, is 'unfair' to rivals in any reasonable antitrust sense of that term, particularly when those rivals can achieve comparable economies through vertical integration, by merger or otherwise."

This makes it necessary to determine the circumstances under which competition will be reduced unduly.⁹⁹

The aforementioned line of reasoning emphasized three standards for presumptive illegality of a vertical merger. It should presumed to be illegal if:

- horizontal market shares of the integrating firms are substantial in terms of our considerations regarding horizontal mergers¹⁰⁰;
- substantial market barriers are already present or created at either stage by vertical integration¹⁰¹; and/or
- the market the firm vertically integrates into is already a tight oligopoly and collusion is promoted further by this merger.¹⁰²

The actual problem is that these standards are hardly used in the enforcement process under the current guidelines, which becomes obvious if one considers the number of cases brought before court. If they were enforced, however, they would largely act as appropriate standards for the evaluation of vertical mergers.¹⁰³

⁹⁹ Cf., e.g., Areeda/Turner, Antitrust Law ..., vol. 4, op. cit., § 1015; Sullivan, Handbook of the Law of Antitrust, op. cit., 667-669; and Williamson, Oliver E., Vertical Merger Guidelines: Interpreting the 1982 Reforms, 71 CLR (1983), pp. 604-617, 614. This reasoning was accepted in the 1982 Merger Guidelines but the threshold for challenging non-horizontal mergers was set rather high. It would have been better to lower the threshold and to introduce an efficiency defense with the burden of proof on the defendant.

¹⁰⁰ Cf. Areeda/Turner, Antitrust Law ..., vol. 4, op. cit., § 1015d, who propose that a merger should not be challenged if the market share is below 15 percent; cf. as well Shepherd, Public Policies ..., op. cit., 234. This implies that vertical integration is primarily a horizontal problem, cf. Dirrheimer/Wagner/Hübner, Vertikale Integration in der Mineralöl- und chemischen Industrie, op. cit., 15. A real exception would be a toehold acquisition which would enable a low market share firm acquired to receive resources and intensify competition at its stage.

¹⁰¹ Cf. Areeda/Turner, Antitrust Law ..., vol. 4, op. cit., § 1015a, who propose that these barriers have to be at both stages; cf. as well Shepherd, Public Policies ..., op. cit., 235; and Williamson, Antitrust Economics ..., op. cit., 57.

¹⁰² Cf. Areeda/Turner, Antitrust Law ..., vol. 4, op. cit., § 1015a, who require a concentration ration of CR4=75% in both of the markets; cf. as well Shepherd, Public Policies ..., op. cit., 236; and Williamson, Antitrust Economics ..., op. cit., 58. Currently the Merger Guidelines propose a Hirschman-Herfindahl index of 1.800 which resembles a CR4 of 70%, cf. Williamson, Oliver E., Vertical Merger Guidelines ..., supra 615.

¹⁰³ If welfare is considered to be the only goal of antitrust policy, enforcement became somewhat more lenient towards vertical integration, cf. Blair/Kaserman, Law and Economics of Vertical Control, op. cit., 192 f.

IV. Concluding Remarks

Unlike in the case of antitrust policy towards horizontal mergers, there is no consistent economic approach underlying the policy regarding vertical mergers, i.e. there exists no theoretical basis comparable to the concentration-collusion-doctrine.

Whereas vertical integration traditionally used to be associated primarily with anticompetitive effects, recent research has emphasized possible economic advantages of contractual linkages and vertical integration, particularly in comparison to the market mechanism, which are supposed to lead to real resource and cost savings. This resulted in a strong notion among economists that vertical arrangements in general and vertical mergers in particular are efficiency-enhancing, carry little or no anticompetitive effects, and therefore should not be considered per se illegal. The possible occurrence of both desirable efficiency effects as well as undesirable anticompetitive effects seems to make necessary an economic trade-off between these two effects. As far as our view is concerned, the multiple-goal perspective of antitrust policy has to be born in mind.

The question whether efficiency-enhancement really represents the sole motivation of merging firms for vertical integration or whether vertical integration is also performed because it may be a source and carrier of market power strongly determines the effectiveness of the transaction-cost approach as an adequate basis for the evaluation of efficiency-effects of vertical mergers. Vertical integration is indeed a source and carrier of market power, which makes the trade-off lose its explanatory power concerning the transaction mechanism chosen. Even if the cost of an economic transaction by the market were less than the intra-corporate coordination costs for an economic transaction, there would remain a motivation to merge, until the excess profits from a monopoly or limit price strategy would equal the total cost difference resulting from the two transaction mechanisms. Such a rationale is ruled out by the adherents of current theory, however, because of restrictive premises and assumptions. Under realistic premises and assumptions, the generality of the pro-efficiency argument is not tenable. Private efficiency gains and social efficiency gains must be separated from each other in such a case.

A trade-off is certainly needed for the determination of the counteracting effects of vertical integration or vertical mergers. However, it has to be performed on a positive as well as on a normative level of analysis, encompassing the shortcomings of current theory on the positive level and the intentions of legislation on the normative one.

The achievement of efficiencies has to be demonstrated because we may not presume a priori that efficiency-enhancement is the only objective of an economic agent, at least not in the sense of overall economic efficiency that translates on a one-to-one basis into consumer welfare. Thus we have to include qualifications to the unrealistic assumptions of current theory, i.e., bear in mind that real world markets do not work in a frictionless manner, barriers to competition do exist, and are often significant, and that a comparison of organization costs with transaction costs of the market is often unfeasible.

On a normative level, public goals other than just consumer welfare have to be taken into account. This is considered a legitimate intention because the incipency doctrine still considered valid by the courts has to be viewed as a result of the legislator's willingness to maintain unconcentrated structures and eventually sacrifice efficiencies in order to maintain competition.

A variety of empirical studies have tried to find support for the implications of the transaction-cost approach by citing evidence that **transaction-cost specific market characteristics** pose an incentive for vertical integration:

- The results confirm the implications of the transaction-cost approach only when grounds for vertical integration other than efficiency can be excluded. Nevertheless, there may be other causal factors responsible for an incentive to integrate (e.g., tax avoidance).
- We are not sure in any case whether efficiency gains are passed on to consumers, i.e. whether sufficient competitive pressure to ensure this actually prevails, nor have we empirical studies thus far explicitly elaborated on possible anticompetitive effects as a result of increased vertical integration.

None of the empirical studies on cost savings from increased vertical integration show **quantitative results on marginal transaction-costs across different mechanisms of coordination** along the various stages in the chain of production and distribution. This seems particularly important concerning

the isolation of motives underlying an increase in vertical integration. In the case of a net increase in efficiency there would be an affirmation of the efficiency-enhancement hypothesis, although we would not be sure whether this increase would necessarily be passed on to consumers as current theory contends. However, empirical findings which show a decrease in efficiency in the case of increased vertical integration - reversing the reasoning - suggest a motivation other than efficiency-enhancement. Empirical studies on this aspect are scarce and their results are ambiguous, to say the least.

The main obstacle to unambiguous conclusions is the problem of distinguishing efficiency, i.e. cost saving effects from all other consequences, such as market power, price discrimination, evasion of regulation, tax avoidance, and the like. The crucial deficiency seems to be that the results are compatible with an efficiency as well as with a market power explanation.

Thus, the use of a marginal transaction-cost approach which leads to the aforementioned trade-off, seems plausible at first sight. However, it remains ineffective and thus an empty box as long as it is not possible to determine the correct amounts in order to perform the trade-off.

Furthermore, the general applicability of the transaction-cost approach and similar approaches to a theory of institutional change has to be questioned. The microeconomic concept of efficiency is to been seen as crucially important for the application of the transaction-cost approach. The ability of the price system to alter economic systems in the direction of efficient economic arrangements in vertical terms depends on sufficient competitive pressure in horizontal terms. It may be realistically asserted, however, that economic equilibrium is absent in most if not all of our markets and furthermore that market imperfections and oligopolistic structures prevail. In this case, economic logic supports no causal inferences about the role of efficiency in determining social or organizational structures. The market imperfections make it less likely that the most efficient competitors will prevail in the end. Concerning the assumption of an essentially frictionless and perfectly competitive market, as assumed by the adherents of current theory, it can be held that the imperfections actually found in reality may finally be responsible for the fact that financial and market power, not economic efficiency, may determine the winners in the competitive process.

The assertion that meaningful barriers to competition do not exist and, hence, sufficient competitive pressure is continuously present - regardless of the existing structural features of the markets involved in vertical integration - tends to define market power problems away, as well as the likelihood of anticompetitive consequences. The absence of power results in efficiency and this efficiency is considered synonymous with consumer welfare.

The terms transaction-costs and organization costs are difficult to handle and in specific cases they can neither be determined in a precise manner empirically nor quantitatively measured. The terms are largely used in a way that allows justification of certain phenomena ex post; this leads to the possibility that any development can be justified - but only ex post and crudely. As a result, the concept tends to become tautologous.

Whereas horizontal mergers increase market share, vertical mergers do not. However, one must emphasize the likelihood of the occurrence of anticompetitive effects insofar as the attempt to realize an increase in efficiency may have adverse effects on competitors at the same time. While forward integration may represent an effort to realize private gains with resulting efficiency advantages at one stage, it may constitute a restraint at a later stage and indeed may serve strategically to disadvantage rivals if it is continued.

Although a coherent economic approach on anticompetitive effects of vertical mergers has not been presented thus far and antitrust policy has dealt with the effects of vertical mergers without having succeeded in developing an adequate theory that demonstrates the negative effects of such mergers on competition in a clear way, there may be anticompetitive effects under certain conditions that have to be anticipated from vertical mergers. In this context, large market shares as a proxy for individual market power at the integrating firm's stage, creation or elevation of market barriers at either stage, and/or the existence of a tight oligopoly at the stage of integration should be considered appropriate to serve as standards for presumptive illegality.

Résumée: Application of the Results of an Analysis of the Chicago School Approach Towards Industrial Concentration

This résumée will deal mainly with the question of whether the German Act Against Restraints of Competition (ARC) needs a reform along the lines of *Chicago School* theory. The evaluation will be based on the conclusions resulting from this contribution.

In order to derive conclusions from the developments in the United States which are relevant to the Fifth Amendment of the German Act Against Restraints of Competition, we have to inquire into the question of whether a basic comparability of the two bodies of law may be established.¹

Furthermore, we have to analyze to what extent policy elements based on Chicago theory have already found introduction into German antitrust enforcement and jurisdiction. Finally, and in the light of our conclusions on the hypotheses of Chicago theory, we will evaluate proposals for the Fifth Amendment of the ARC which are currently discussed.

I. The Legal Treatment of Industrial Concentration

In Part I we have briefly evaluated different approaches that can be taken by public policy-makers toward restraints of competition. Control over industrial concentration and in particular mergers, with a view to limiting and controlling economic power, is carried out according to various criteria. The different approaches that we are able to distinguish emphasize either market structure, market conduct, or a combination of both factors, the so-called market process test: these variations are analogous to the approaches of public policy already presented.²

Public policy intervention in cases where undue economic power accumulates needs specification by operational criteria on the basis of antitrust theory. These criteria have to be laid down by legal statutes and should determine the point at which undue economic power can be said to emerge.³

1 On the comparability of the two legal systems, cf., e.g., Markert, Kurt, *Stand und Entwicklungstendenzen des US-Antitrustrechts 1987 aus der Sicht eines deutschen Kartellrechtsanwenders*, in: FIW (ed.), *Schwerpunkte des Kartellrechts 1985/86. Verwaltungs- und Rechtsprechungspraxis Bundesrepublik Deutschland, EG und USA*, Köln et al. 1987, pp. 201-224, 203 f.

2 Cf. Nagel, Bernhard, *Fusion und Fusionskontrolle*, in: Cox, Helmut, et al. (eds.), *Handbuch des Wettbewerbs*, München 1981, pp. 331-365, 337 f.

3 Cf. Giesel, Harald B., *Unternehmungswachstum und Wettbewerb*, Baden-Baden 1975, 195.

We will first present the approach that the U.S. American and the German legislators have chosen, also comparing the statutes and the prerequisites for application. We will then go on to compare the two legal systems and the way by which they have solved the three fundamental problems common to every merger control system⁴, namely:

- the determination of the point at which mergers are sufficiently relevant to merit legal scrutiny (so-called **minimum threshold**);
- the determination of the conditions under which mergers are subject to legal prohibition (so-called **point of Intervention**); and
- the defenses which are available in order to have an illegal merger exceptionally declared legal (so-called **overall justifications**).

We will conclude by showing recent tendencies with regard to the development of the statutes in both countries.

1. The Approach

The approaches in both countries can be characterized as structural approaches, which attempt to prevent the emergence of anticompetitive market structures.⁵ As a rule, both approaches are ex post-control approaches,

⁴ Cf. Hopt, Klaus J., Merger Control in Germany: Philosophies, Experiences, Reforms, in: Hopt, Klaus J. (ed.), European Merger Control: Legal and Economic Analyses on Multinational Enterprises, vol. 1, Berlin and New York 1982, pp. 71-99, 79.

⁵ Cf. Adams, Walter, and James W. Brock, The Bigness Complex: Industry, Labor, and Government in the American Economy, New York 1986, p. 155, who note that it is "easier to maintain competitive market structures than to reestablish them once they had been destroyed through acquisition and consolidation", p. 153; Neiser, Jens, Die Praxis der deutschen Fusionskontrolle, Berlin 1981, p. 54; Ruppelt, Hansjürgen, Wettbewerbspolitik und wirtschaftliche Konzentration, Tübingen 1978, p. 194, who emphasizes the advantages of such a preventive merger control system (p. 185); Schmidt, Ingo, Wettbewerbspolitik und Kartellrecht: Eine Einführung, 2nd ed., Stuttgart 1987, pp. 178 and 277.

As documented by Chief Justice Earl Warren of the U.S. Federal Supreme Court in Brown Shoe: "..., It is apparent that a keystone in the erection of a barrier to what Congress saw was the rising tide of economic concentration, was its provision of authority for **arresting mergers** at a time when the trend to a lessening of competition in a line of commerce was still **In its Incipiency**" (emphasis added), Brown Shoe Co. v. U.S., 1962 Trade Cases § 70,366 at p. 76,489; this is also documented in the papers of the government bill on the Second Amendment to the ARC, cf. Begründung zum Regierungsentwurf eines Zweiten Gesetzes zur Änderung des GWB, BTDr. VI/2520, p. 29.

making exemptions from this rule only under certain conditions. These conditions will be dealt with infra.

In the Federal Republic this ex post-control by means of postmerger notification was introduced by the Second Amendment to the Act Against Restraints of Competition in 1973 and replaced a mere obligation to notify a limited class of mergers.⁶ The requirement for this postmerger notification exists in two cases. First, if a market share of 20 percent is reached or surpassed in the relevant market as a result of the merger, or, second, if the two merging parties had a combined turnover of DM 500 millions or at least 10,000 employees in the year preceding the merger. The German *Bundesgerichtshof* (Federal Supreme Court) has extended the requirements on information subject to publication and has therefore made this postmerger notification effective.⁷ The same amendment introduced an ex ante-control for mergers as well.

The Fourth Amendment in 1980 was primarily aimed at large sized companies, including an obligation to prenotify mergers in which one of the merging parties had DM 2,000 millions turnover or alternatively, each of the merging parties involved had a turnover of DM 1,000 millions or more.⁸

In addition, the ARC contains a check on abuses of market dominating enterprises in cases in which this dominance emerged from internal growth of companies in particular markets or from uncontrolled external growth in the past.⁹

Sec. 7 Clayton Act, as amended by the Celler-Kefauver Act in 1950, is the main merger law in the United States. In addition to this instrument, a premerger notification has been institutionalized in 1976 by the Hart-Scott-Rodino Improvement Act, requiring firms to give the antitrust enforcement

6 Cf. Möschel, Wernhard, *Recht der Wettbewerbsbeschränkungen*, Köln et al., pp. 465 f.; Ruppelt, *Wettbewerbspolitik und wirtschaftliche Konzentration*, op. cit., 206; and Schmidt, *Wettbewerbspolitik und Kartellrecht*, op. cit., 160.

7 Cf. Sec. 23 para. 1, lit. 1 and 2 ARC; and Hopt, *Merger Control in Germany* ..., op. cit., 82.

8 Cf. Sec. 24a para. 1; OECD (ed.), *Guide to Legislation on Restrictive Business Practices*, vol. 1, Germany, p. 12; and Schmidt, *Wettbewerbspolitik und Kartellrecht*, op. cit., 160.

9 Cf. Sec. 22 ARC; and Schmidt, Ingo, *Different Approaches and Problems In Dealing with Control of Market Power: A Comparison of German, European, and U.S. Policy towards Market-Dominating Enterprises*, 28 AB (1983), pp. 417-460, 435 ff.

agencies advance notice of certain mergers. The merging parties become subject to the jurisdiction of the FTC "where the transaction involves acquisition of firms with sales or assets of \$ 10 million or more and the acquiring firm, or the combined firms, have sales or assets of \$ 250 million or more."¹⁰ Mergers falling within this category can be stopped by preliminary injunctions imposed by the courts or administrative law judges. Unlike the ARC, United States law does not provide for control of possible abuses of market dominating enterprises with regard to a bad performance.¹¹

2. The Relevant Statutes

Secs. 24 ARC and 7 Clayton Act, as the central statutes, are aimed at all possible mergers regardless of whether they are horizontal, vertical or conglomerate.¹² Sec. 24 ARC connects the control and prohibition of mergers to the criterion that the actual merger is expected to create or strengthen a dominant position in a market. This allows for two kinds of cases. An enterprise is in a dominant position, firstly, if a buyer or seller has no competitor in a relevant market (monopoly), or secondly, the enterprise is not subject to any substantial competition, i.e., it dominates the market by a paramount position in relation to its competitors (dominant firm). Essentially, the same applies for tight oligopolies with or without a noncompetitive fringe under Sec. 24 ARC.¹³

¹⁰ OECD (ed.), *Guide to Legislation on Restrictive Business Practices*, vol. 4, U.S.A., part 2.0, pp. 26 f.; cf. as well Sec. 7A Clayton Act; FTC Merger Notification Program, 1 CCH TRRer, § 4455; Neiser, *Die Praxis der deutschen Fusionskontrolle*, op. cit., 54; and Schmidt, Ingo, *US-amerikanische und deutsche Wettbewerbspolitik gegenüber Marktmacht*, Berlin 1973, p. 157.

¹¹ Cf. Schmidt, *Wettbewerbspolitik und Kartellrecht*, op. cit., 181; and idem, *Different Approaches and Problems* ..., *supra*, 421-432. The U.S. statutes try to treat the emergence of dominant positions in their incipency by prosecuting attempts to monopolize under Sec. 2 of the Sherman Act. Insofar, there is a parallel to Sec. 22 ARC.

¹² Cf. Sandrock, Otto, *Vertikale Konzentrationen im USamerikanischen Antitrustrecht*, Heidelberg 1984, p. 175; and Adams/Brock, *The Bigness Complex* ..., op. cit., 154.

Actually the relevant legal statutes encompass the Secs. 23, 24, 24a, 24b ARC and the Secs. 7, 7A and 8 Clayton Act. We will extract issues from these sections as far as necessary in the following.

¹³ Cf. Hopt, *Merger Control in Germany* ..., op. cit., 80; OECD (ed.), *Guide to Legislation: Germany* ..., op. cit., 12.

The U.S. legislator has connected interference by public policy to the criterion of the creation of a monopoly and/or to a substantial lessening of competition:¹⁴

"With limited exceptions, Section 7 forbids the acquisition by one corporation in commerce of the stock or assets of another corporation in commerce where the effect may be **substantially to lessen competition** or the **tendency to create a monopoly** in any line of commerce in any section of the country" (emphasis added).

The point of intervention is therefore earlier in the U.S.A.

3. The Merger Term in the Statutes

The merger control law definition of mergers is different from the narrow one used in corporate law.

With regard to Sec. 23 para. 2 ARC the definition encompasses a variety of forms. Mergers within the meaning of this section are:

- acquisitions of the assets of other enterprises, wholly or to a significant extent (Sec. 23 para. 2 lit. 1 ARC);
- acquisitions of shares where the total, held individually or jointly with other enterprises or linked firms, amounts to 25 percent of the voting capital, or if 25 percent are already held, amounts to 50 percent, or if the merger secures the acquiring firm a majority interest (Sec. 23 para. 2 lit. 2 ARC);
- also certain forms of combined firms (concerns) and certain forms of interlocking directorates (Sec. 23 para. 2 lits. 3 and 4 ARC);
- any direct or indirect dominant control relationships between two enterprises (Sec. 23 para. 2 lit. 5 grants a catch-all clause).¹⁵

Sec. 7 Clayton Act is not as specified as Sec. 23 para. 2 ARC. It just refers to stock and assets in that the Act forbids any corporation engaged in commerce to "acquire, directly or indirectly, **the whole or any part of the stock or other share capital ... (or) the whole or any part of the assets** of any other such corporation ..., where in any line of commerce ..." (emphasis ad-

¹⁴ Sullivan, Lawrence A., *Handbook of the Law of Antitrust*, St. Paul, Minn. 1977, p. 601; cf. as well Adams/Brock, *The Bigness Complex ...*, op. cit., 154; and OECD (ed.), *Guide to Legislation: U.S.A. ...*, op. cit., part 1.2, 5.

¹⁵ Cf. Hopt, *Merger Control in Germany ...*, op. cit., 83-85; OECD (ed.), *Guide to Legislation: Germany ...*, op. cit., 11.

ded).¹⁶ This resembles more or less a catch-all clause strongly emphasizing whether competition is substantially lessened or a monopoly created, regardless of the quantity of stock or assets that is responsible for this.¹⁷

4. The Minimum Thresholds

As noted above, the choice of minimum thresholds is supposed to determine at what point mergers are sufficiently relevant to merit legal scrutiny.¹⁸

Firstly, under German law the combination of two originally separate enterprises must be a merger in the sense of Sec. 23 para. 2 ARC. Second, there is a de minimis-consideration in the ARC, which views mergers as legally relevant only if the combined turnover of the participating enterprises equals or exceeds 500 million DM.¹⁹

With regard to the U.S. antitrust statutes, there are no such minimum thresholds in the laws. There are only thresholds that are created by the anti-trust agencies by means of administrative enforcement rules such as the Merger Guidelines and the Vertical Restraints Guidelines of the Antitrust Division of the Department of Justice, which make the circumstances explicit under which the agencies will interfere.²⁰ These enforcement rules are not legally binding, however, and are therefore subject to the discretion of the courts.

5. The Point of Intervention

The point of public intervention determines the conditions under which mergers are subject to legal prohibition. This point of intervention is actually

16 OECD (ed.), *Guide to Legislation: U.S.A. ...*, op. cit., part 1.2, 5; and Sullivan, *Antitrust Law ...*, op. cit., 592.

17 For a fundamental treatment of the differences, cf. Harms, Wolfgang, *Zusammenschluß und Merger - rechtsvergleichende Anmerkungen zum Bereich der Fusionskontrolle*, in: Gamm, Otto Friedrich Freiherr von, et al. (eds.), *Strafrecht, Unternehmensrecht, Anwaltsrecht: Festschrift für Gerd Pfeiffer*, Köln et al. 1987, pp. 501– 515.

18 Cf. Hopt, *Merger Control in Germany ...*, op. cit., 79 f.

19 Cf. Hopt, *Merger Control in Germany ...*, op. cit., 80; cf. as well Nagel, *Fusion und Fusionskontrolle*, op. cit., 340; and Schmidt, *Wettbewerbspolitik und Kartellrecht*, op. cit., 276.

20 Cf. Neiser, *Die Praxis der deutschen Fusionskontrolle*, op. cit., 52; and Schmidt, *Wettbewerbspolitik und Kartellrecht*, op. cit., 180.

an attempt to specify the wording of Secs. 24 para. 1 ARC and 7 Clayton Act.²¹

As has been noted, German law makes intervention dependent on the expectation that the actual merger will create or strengthen a dominant position in a market; in this respect a certain level of probability of its occurrence is sufficient. The dominant position is evaluated first by defining the relevant market and then it is evaluated with regard to the criteria enumerated in Sec. 22 para. 3 ARC which constitute rebuttable presumptions of market domination.²² An enterprise is seen as having a dominant position if it possesses a share of the relevant market of at least one third, unless it had a turnover of less than DM 250 million in the year preceding the merger. For a group of enterprises (oligopoly) this applies if three enterprises or fewer possess a joint share of the relevant market of 50 percent or more, or five enterprises or less possess a share of the relevant market of two thirds or more. This does not apply if the turnover was less than DM 150 million each, in the year prior to the merger.²³

Moreover, the German law has specified refutable presumptions in Sec. 23a ARC covering typical groups of vertical and conglomerate mergers which tend to be subject to these presumptions and are thus assumed to create or strengthen a dominant position. This applies to mergers of single dominant firms (Sec. 23a para. 1 ARC) as well as to a group of enterprises dominating a market (Sec. 23a para. 2 ARC). The latter paragraph reverses the burden of proof, which now rests on the firms participating in the merger.²⁴

Sec. 7 Clayton Act uses the criterion of the creation of a monopoly or of a substantial lessening of competition as a point of intervention. The statute is viewed as a preventive instrument which attempts to rule out anticompetitive effects that can be expected with **reasonable probability** *in statu nascendi (Inciplency doctrine)*.²⁵ The guidelines that are issued by the Antitrust Division of the Department of Justice deserve special attention, as has been

21 Cf. Hopt, Merger Control in Germany ..., op. cit., 80.

22 Cf. OECD (ed.), Guide to Legislation: Germany ..., op. cit., 10.

23 Cf. Hopt, Merger Control in Germany ..., op. cit., 80; Sandrock, Vertikale Konzentrationen ..., op. cit., 175 f.; and Schmidt, *Wettbewerbspolitik und Kartellrecht*, op. cit., 160.

24 Cf. Möschel, *Recht der Wettbewerbsbeschränkungen*, op. cit., 551 f.

25 Cf. Schmidt, *Wettbewerbspolitik und Kartellrecht*, op. cit., 178.

noted above, since they determine the point of intervention from the view of the enforcement agencies.

The criteria of the statutes, however, have been operationalized by decisions of the U.S. Federal Supreme Court. The court ruled a horizontal merger presumptively illegal on the basis of the evaluation of the participants' market shares, the concentration ratio of the four or eight largest enterprises in the relevant market, and the concentration trend in the past.

No definite market share was postulated, but the court noticed that a market share of 20 to 30 percent was considered undue.²⁶ Somewhat of a change has been brought about by the Federal Supreme Court's decision ruling that circumstances in addition to the market share and concentration ratios would have to be evaluated in an actual case (e.g., future competitiveness).²⁷

Vertical mergers were judged by the foreclosure effect they were bound to initiate, the nature and purpose of the merger, the probability that squeezing of non-integrated competitors will occur, the trend towards future vertical integration, the effect on barriers to entry, and the financial capabilities of the participating parties.²⁸ As in the case of horizontal mergers, market shares of 20 to 30 percent were considered undue.²⁹

With regard to conglomerate mergers, only geographic or product extension mergers and mergers allowing for reciprocal dealings, deserve special attention with regard to past cases.³⁰ The U.S. Federal Supreme Court has essentially postulated three criteria of intervention.³¹ The merger is deemed unlawful if:

- it creates possibilities of extensive reciprocal dealings;
- potential competition is substantially reduced; and/or
- a dominant position of an enterprise in an already relatively concentrated market is strengthened.

26 Cf. U.S. v. Philadelphia National Bank, 1963 Trade Cases § 70,812. For the evaluation cf. Ruppelt, Wettbewerbspolitik und wirtschaftliche Konzentration, op. cit., 186; Schmidt, Wettbewerbspolitik und Kartellrecht, op. cit., 178.

27 Cf. U.S. v. General Dynamics, 1974-1 Trade Cases § 74,967.

28 Cf. Sandrock, Vertikale Konzentrationen ..., op. cit., 176 f.; Schmidt, Wettbewerbspolitik und Kartellrecht, op. cit., 178 f., the latter presenting the relevant court cases.

29 Cf. U. S. v. E.I. du Pont de Nemours & Co., 1957 Trade Cases § 68,723.

30 Cf. Schmidt, Wettbewerbspolitik und Kartellrecht, op. cit., 179 f.

31 Cf. Ruppelt, Wettbewerbspolitik und wirtschaftliche Konzentration, op. cit., 187 f., and for the cases FTC v. Consolidated Foods Corp., 1965 Trade Cases § 71,432; FTC v. Procter & Gamble Co., 1967 Trade Cases § 72,061; and Reynolds Metal Co. v. FTC, 1962 Trade Cases § 70,471.

The Federal Supreme Court has not thus far been able to develop criteria for judging pure conglomerate mergers.³²

6. Overall Justification

Overall justification specifies the defenses which are available in order to have an illegal merger exceptionally declared legal.³³ This is not aimed at procedural issues but at substantive merger rules.

Sec. 24 paras. 1 and 3 ARC contain a relief in two cases. Firstly, the merger can be declared exceptionally legal by Sec. 24 para. 1 ARC if it will also lead to improvements in competitive conditions and these improvements, at the same time, outweigh the anticompetitive effects of the market dominating position brought about by the merger. The burden of proof lies with the enterprise.³⁴

Second, on the basis of Sec. 24 para. 3, the merger can be declared legal by the German Federal Minister for Economic Affairs if the detrimental effects on competition are balanced by overall economic advantages or justified by an overriding public interest.³⁵

Sec. 7 Clayton Act does not contain such an arbitrary disposition as a kind of rule of reason.³⁶ However, two defenses have been introduced by adjudication, i.e. the so-called failing-company defense and the defense due to perceived efficiencies as a result of a merger.³⁷

32 Cf. Aarts, Jacobus W., Antitrust Policy versus Economic Power, Leiden 1975, p. 285.

33 Cf. Hopt, Merger Control in Germany ..., op. cit., 80.

34 Cf. Sandrock, Vertikale Konzentrationen ..., op. cit., 178; Schmidt, Wettbewerbspolitik und Kartellrecht, op. cit., 160.

35 Cf. Hopt, Merger Control in Germany ..., op. cit., 80; Schmidt, Wettbewerbspolitik und Kartellrecht, op. cit., 160.

36 "We are clear ... that a merger the effect of which 'may be substantially to lessen competition' is not saved because, on some ultimate reckoning of social or economic debits and credits, it may be deemed beneficial. A value choice of such magnitude is beyond the ordinary limits of judicial competence, ...", U.S. v. Philadelphia National Bank, op. cit., at p. 78,271.

37 Cf. the *Introduction* to this contribution; and Sandrock, Vertikale Konzentrationen ..., op. cit., 153-160 for a detailed analysis and 178 for this evaluation; Schmidt, Wettbewerbspolitik und Kartellrecht, op. cit., 180. For the contrary position cf. Areeda, Phillip, and Donald F. Turner, *Antitrust Law: An Analysis of Antitrust Principles and Their Application*, Boston and Toronto 1980, vol. 4, § 941, p. 151: "In our view, neither the language nor the legislative history of §7 forecloses an economic defense. Limited case law suggestions to the contrary are dicta, internally contradictory, unsupported, or otherwise unconvincing."

II. Trends and Tendencies In Enforcement and Adjudication

Mainly because of the former accord of antitrust policies in the United States and the Federal Republic of Germany and their currently diverging patterns, the question arises as to whether there is a new state of the art in antitrust theory based on recent findings, and whether, albeit with a certain time-lag, these may soon beginn to exert influence on German anti-trust policy.¹

1. The Use of Economic Evidence in Enforcement and Adjudication

In comparison to (current) antitrust policy in the United States, German legislation does not offer as much room for economic evidence. Although this applies to a somewhat lesser extent to efficiency considerations in the field of merger control², the German law is statutory law and legislature has decided to be restrictive on the use of economic evidence which also implies that there is not much room for a broad application of a rule of reason. This is considered binding for the courts.³

This basic attitude is enforced by the philosophy underlying the ARC. It is much more influenced by what has been described as the ordoliberal view of competition in this contribution, because it "is understood as an indispensable

1 Cf., e.g., Herdzina, Klaus, Möglichkeiten und Grenzen einer wirtschaftstheoretischen Fundierung der Wettbewerbspolitik, Tübingen 1988, pp. 39 f. The question is of particular relevance because of the assertion that this former accord has been terminated by recent changes in U.S. antitrust policy, cf., e.g., Kantzenbach, Erhard, The Treatment of Dominance in German Antitrust Policy, in: de Jong, Henk W., and William G. Shepherd (eds.), Mainstreams in Industrial Organization - Book 2, Dordrecht et al. 1986, pp. 273-285, 282 f.

2 Cf. the exception in Sec. 24 paras. 1 and 3 ARC, dealing with the efficiency defense that may be granted by the Minister for Economic Affairs. This does not apply for increases in internal business efficiency, however. Furthermore, the criteria for the determination of the degree of domination in Sec. 22 para. 1 lit. 2 allow for an immediate influence of economic evidence.

3 Cf. Geberth, Rolf, and Thomas Janicki, Kartellrecht zwischen Kontinuität und Anpassung, 37 WuW (1987), pp. 447-463, 453; Karte, Wolfgang, Marktstruktur und volkswirtschaftliche Effizienz - ein Widerspruch?, in: FIW (ed.), Neuorientierung des Wettbewerbsschutzes, Köln et al. 1986, pp. 49-60, 49; Möschel, Werner, Use of Economic Evidence in Antitrust Litigation in the Federal Republic of Germany, 32 AB (1987), pp. 523-550, 524 f., 544 and 550.

able correlative of an economic order which rests on freedom of action".⁴ Based on this understanding, there is a restrictive position towards a tendency to increase the use of economic evidence in general and efficiency considerations in particular because of the ambiguous nature of the latter kind.⁵

This reasoning is affirmed by recent adjudication, which is rather unwilling to accept economic evidence contrary to recent tendencies in U.S. enforcement and jurisdiction. For instance, conglomerate mergers were not permitted if a large-sized, financially strong firm merges with a firm that is dominant in a market characterized by small business, although this might eventually have resulted in efficiencies.⁶

2. An Evaluation of Trends and Tendencies

On the basis of the structure approach and market domination, the German Federal Cartel Office (FCO) has developed a unified standard of reference, which is largely affirmed by the courts.⁷ In the following, we will try to reveal to what extent current U.S. antitrust policy and thus efficiency considerations have found introduction into current enforcement and how these are to be evaluated in the light of our findings.

a. Determining Market Delineation

Demarcation of the relevant market is considered to be the essential prerequisite for the determination of market domination because the more restric-

4 Möschel, Use of Economic Evidence ..., supra, 524; cf. idem, *Wettbewerbspolitik aus ordoliberaler Sicht*, In: Gamm, Otto Friedrich Freiherr von, et al. (eds.), *Strafrecht, Unternehmensrecht, Anwaltsrecht: Festschrift für Gerd Pfeiffer*, Köln et al. 1987, pp. 707-725, 707 f.

5 Cf. Geberth/Janicki, *Kartellrecht zwischen Kontinuität und Anpassung*, supra, 453.

6 For the case, cf. Edelstahlbestecke, WuW/E BGH 2150; and for criticism of the ruling, Möschel, Wernhard, *Finanzkraft und konglomerater Zusammenschluß*, 29 AG (1984), pp. 257-260.

7 Cf. Niederleithinger, Ernst, *Praxis der Fusionskontrolle und der Mißbrauchsaufsicht 1985/86*, in: FIW (ed.), *Schwerpunkte des Kartellrechts 1985/86. Verwaltungs- und Rechtsprechungspraxis Bundesrepublik Deutschland, EG und USA*, Köln et al. 1987, pp. 21-82, 39-54; Monopolkommission, *Hauptgutachten der Monopolkommission V: Ökonomische Kriterien für die Rechtsanwendung*, Baden-Baden 1984, para. 422. This does not apply to the retailing sector, however, cf. Kirschner, Ulrich, *Fusionskontrolle im Lebensmitteleinzelhandel: Anmerkungen zum Fall Coop-Wandmaker*, 37 WuW (1987), pp. 789-796, 789 f.

tive, i.e. the more narrowly the market is delineated, the more likely a merger is found to violate Sec. 24 para. 1 ARC.⁸

Although generalizations beyond an evaluation of single cases and actual facts are not possible, the underlying concept of substitution possibilities in consumption, which we have proposed *supra*, is accepted as a common basis for the definition of the relevant market, i.e. if the products are held to belong to the same relevant market, then in respect of consumers' needs the products should be substitutable for each other.⁹

This basic idea of substitution has led to the attempt to measure these flexibilities by cross-price elasticities of demand. On the demand side the concept holds that goods belong to the same relevant market if they show significant cross-price elasticities.¹⁰

Although theoretically correct, attempts to calculate precise numerical values for these elasticities, in addition to a 'soft' and qualitative evaluation of the substitution possibilities, is unrealistic because impracticable.

The attempt to determine whether buyers would respond to a 5% price increase by shifting to other products within a particular period of time, or whether entry of potential competition would occur, in no way furthers a realistic definition of the relevant market. This is the reason why attempts in current U.S. antitrust policy to introduce such a quantitative analysis should not be adopted.¹¹ This procedure would not substitute taking into consideration qualitative criteria such as particular characteristics and par-

8 Cf., e.g., Bechthold, Rainer, Die Entwicklung des deutschen Kartellrechts von 1981 bis 1983, 37 NJW (1984), pp. 145-152; Emmerich, Volker, Fusionskontrolle 1986/87, 32 AG (1987), pp. 357-368, 358; Pfeiffer, Gerd, Von der Autokupplung bis zu Chanel No. 5, in: Helmrich, Herbert (ed.), Wettbewerbspolitik und Wettbewerbsrecht: Zur Diskussion um die Novellierung des GWB, Köln et al. 1987, pp. 209-220, 212.

9 Cf. Emmerich, Fusionskontrolle 1986/87, *supra*, 358 f.; Monopolkommission, Hauptgutachten V ..., op. cit., paras. 606 f. and 611 f.; and Schmidt, Wettbewerbspolitik und Kartellrecht, op. cit., 52.

10 Cf. Schmidt, Wettbewerbspolitik und Kartellrecht, op. cit., 51; Sosnick, A Critique of Concepts of Workable Competition, 72 QJE (1958), pp. 380-423, 401.

11 Cf. the attempt in the U.S. Merger Guidelines to quantify these considerations, Harris, Robert G., and Thomas M. Jorde, Market Definition in the Merger Guidelines: Implications for Antitrust Enforcement, 71 CLR (1983), pp. 464-496, 481; these findings are obviously agreed upon by Knöpfle, Robert, Aktuelle Probleme der Zusammenschlußkontrolle, 40 DB (1987), pp. 1-20, 4. For criticism, cf. Monopolkommission, Hauptgutachten V ..., op. cit., para. 618;

ticular uses of a product.¹² As has been demonstrated by this contribution, this criticism also applies to the attempt to consider potential competition within a concept of the relevant market determined by production flexibilities, as has been made by the U.S. Merger Guidelines.¹³

The procedure used by the Monopolies Commission to distinguish the relevant market from an area that is close enough to it to encompass substitution possibilities and potential competition, is adequate insofar as the procedure is based on a reliable definition of the relevant market. Although this definition is rather restrictive, the area close to the relevant market is nevertheless considered additionally through a comprehensive view of the delineation.¹⁴

Contrary to widespread opinion¹⁵, the international competitiveness of German firms is thoroughly appreciated and taken account of by this two stage procedure and particularly by a comprehensive view. This makes it unnecessary to adopt the current policy approach in the U.S. because this approach attempts to take into consideration foreign competition directly through the definition of the relevant market.¹⁶

b. Determining Market Domination

A merger is prohibited according to Sec. 24 para. 1 ARC if it is to be expected to create or strengthen a *market dominating position*. The confirmation

12 For an encompassing criticism, cf. Harris/Jorde, *Market Definition in the Merger Guidelines ...*, supra, 476-486. Cf. as well this contribution *supra*.

13 Cf. *Merger Guidelines 1984*, CCH TRR No. 655, June 18, 1984, Part II, pp. 33-37 and 38 f..

14 Cf. *Monopolkommission, Hauptgutachten V ...*, op. cit., para. 609.

15 Cf. Berg, Hartmut, *Internationale Wettbewerbsfähigkeit und nationale Zusammenschlußkontrolle*, Köln et al. 1985; and Hözler, Heinrich, *Der Marktanteil in der Fusionskontrolle bei internationaler Wirtschaftsverflechtung*, in: Gamm, Otto Friedrich Freiherr von, et al. (eds.), *Strafrecht, Unternehmensrecht, Anwaltsrecht: Festschrift für Gerd Pfleiffer*, Köln et al. 1987, pp. 517-529, 518 f.

16 Cf. Karte, Wolfgang, *Internationale Wettbewerbsfähigkeit und Zusammenschlußkontrolle*, in: Gamm, Otto Friedrich Freiherr von, et al. (eds.), *Strafrecht, Unternehmensrecht, Anwaltsrecht: Festschrift für Gerd Pfeiffer*, Köln et al. 1987, pp. 531-536, 531 f., who views this as an overt attempt to introduce Chicago ideas; *Monopolkommission, Hauptgutachten der Monopolkommission III: Fusionskontrolle bleibt vorrangig*, Baden-Baden 1980, paras. 619 ff., and again *Idem, Hauptgutachten der Monopolkommission IV: Fortschritte bei der Konzentrationserfassung*, Baden-Baden 1982, paras. 515 ff.; and Pfeiffer, Von der Autokupplung bis zu Chanel No. 5, op. cit., 212.

of a *market dominating position* requires the proof of a lack of sufficient competition (Sec. 22 para. 1 lit. 1 ARC), resp. a superior market position on the part of the merging parties (Sec. 22 para. 1 lit. 2 ARC), or the creation of an oligopoly (Sec. 22 para. 2).¹⁷ Since the lack of sufficient competition is of minor practical importance, we will emphasize the superior market position and the oligopoly as factual findings.

aa. Superior Market Position

The confirmation of a superior market position in turn is based primarily on a comprehensive evaluation of the essential structural factors of the particular market in question, which may allow a firm to have at its disposal a free area of conduct which is insufficiently controlled by competition.¹⁸

(1) Market Structure

On the basis of Sec. 22 para. 1 lit. 2 ARC a certain dominance of market share, financial strength, and market barriers as crucial structural criteria for the determination of a superior market position has evolved in legal proceedings.¹⁹ It is of importance at this point to analyze whether recent developments in U.S. antitrust influenced enforcement and adjudication in the direction of the propositions of the Chicago School and thus weakened structural predominance. We must therefore evaluate the developments on the basis of our crucial findings in this contribution.

17 Cf. Kantzenbach, Erhard, *Großfusionen bedürfen einer expliziten politischen Legitimation*, 66 WD (1986), pp. 379-382, 381; and Pfäfffer, Von der Autokupplung bis zu Chanel No. 5, op. cit., 211 f., who emphasizes that the presumptions have a normative character and are thus subject to interpretation on the basis of changes in fundamental knowledge in antitrust theory.

18 Cf. Emmerich, *Kartellrecht*, op. cit., 268; Knöpfle, *Aktuelle Probleme der Zusammenschlußkontrolle*, supra, 2-5, Markert, Kurt, *Zur Bedeutung von Marktstruktur und -verhalten in der materiellen Fusionskontrolle des GWB*, in: FIW (ed.), *Neuorientierung des Wettbewerbsschutzes*, Köln et al. 1986, pp. 123-135, 123-125, for a survey on the current majority view; Möschel, *Use of Economic Evidence ...*, supra, 542; and for the cases Kfz-Kupplungen, WuW/E BGH 1501, Klöckner-Becorit, WuW/E BGH 1749, 1754 f., Mannesmann-Brueninghaus, WuW/E BGH 1754, and Rheinmetall/WMF, WuW/E BGH 2150.

19 Cf. Hözlner, *Der Marktanteil in der Fusionskontrolle ...*, op. cit., 519-523; Mestmäcker, Ernst-Joachim, *Zur Fusionskontrolle in der Wettbewerbspolitik*, 31 AG (1986), pp. 181-187, 183; Möschel, *Use of Economic Evidence ...*, supra, 542.

(a) Market Share

For the characterization of real circumstances in a relevant market, German merger control ascribes a crucial role to the criterion of market share. It becomes obvious that on the basis of legislation in Secs. 22 paras. 1 lit. 2 and 3 lit. 1, and 23a para. 1 enforcement and jurisdiction currently view market share as the central element of market structure. The underlying reasoning does not hold that market share and relative market share are determinants of market power, but rather that they are direct or indirect indicators of it in the sense of refutable presumptions.²⁰ Decreasing market share differences among competitors over time are tendentially viewed as refuting the presumption of a superior market position. Accordingly, all cases – either in enforcement or before the courts – in which a superior market position was confirmed were based on persistent and substantial market share differences among competitors in the relevant market.²¹

However, this majority view²² is challenged on the basis of recent findings by the Chicago School on the role of market structure in determining competitive conduct. They hold that market share expresses efficiency only and that there is no connection between market share and the extent of competitiveness of conduct or the extent of individual market power²³, or that market share will at the most play only a minor role in the future because of

20 Cf. Emmerich, Volker, *Kartellrecht*, 4th ed., München 1982, pp. 268 and 271; Hözlner, *Der Marktanteil in der Fusionskontrolle ...*, op. cit., 519; Pfeiffer, Gerd, *Entwicklung der deutschen Rechtspraxis in der Bestimmung von Marktmacht*, in: FIW (ed.), *Neuorientierung des Wettbewerbschutzes*, Köln et al. 1986, pp. 61–82, 71.

21 Cf. Monopolkommission, *Hauptgutachten V ...*, op. cit., para. 781 f. For the cases, cf. GKN/Sachs, WuW/E BGH 1501, 1510; Pillsbury/Sonnen-Bassermann, WuW/E OLG 3759, 3764; Rewe-Florimex, WuW/E OLG 2862, 2865.

22 Cf., e.g., Mestmäcker, Ernst-Joachim, in: Immenga/Mestmäcker (eds.), *Gemeinschaftskommentar zum GWB*, 1981, § 24, sec. 66; Monopolkommission, *Hauptgutachten V ...*, op. cit., para. 781 f.; Pfeiffer, *Entwicklung der deutschen Rechtspraxis in der Bestimmung von Marktmacht*, op. cit., 71.

23 Cf. Berg, *Internationale Wettbewerbsfähigkeit und nationale Zusammenschlußkontrolle*, op. cit.; Harms, Wolfgang, in: Immenga/Mestmäcker (eds.), *Gemeinschaftskommentar zum GWB*, 4th ed. 1981, § 23, sec. 205; Knöpfle, Robert, *Indiziert der Marktanteil den Wettbewerbsgrad?*, 37 BB (1982), pp. 1805–1814, 1814; Idem, *Aktuelle Probleme der Zusammenschlußkontrolle*, supra, 6.

the globalization of markets and the worldwide scale of the competitive game.²⁴

The Klöckner-Becorit decision in the German Federal Supreme Court has led to speculations on whether this ruling has diminished the role of market structure and market share as presumptions in determining a superior market position.²⁵ This can not be confirmed generally, however, because the Court has emphasized that the reasoning applies only to this particular case and its circumstances. This becomes even more obvious and plausible if one acknowledges that the FCO and courts have ruled cases illegal in which a market share of only 12% was considered to be critical²⁶, while others in which market shares amounted to roughly 50% have not been subject to legal examination at all.²⁷ This option for discretionary decisions results from the comprehensive view that enforcement agencies and jurisdiction by the courts take of concerning the actual circumstances of individual cases.

Thus, general criticism on the role that market share and relative market share play as legal presumptions seems inappropriate²⁸, although such a case can be made in the circumstances of a particular instance. Apart from this, scholars who plead for the adoption of principles underlying current antitrust policy in the U.S. neglect the fact that the current Merger Guidelines of the U.S. Department of Justice almost encompassingly adopted the

24 Cf., e.g., Hözlzer, *Der Marktanteil in der Fusionskontrolle ...*, op. cit., 524 f. We have demonstrated that this reasoning does not seem very convincing, cf. again, Kartte, Wolfgang, *Internationale Wettbewerbsfähigkeit und Zusammenschlußkontrolle*, op. cit., 531 f. For more moderate criticism, cf. Herdzina, Klaus, *Wettbewerbstheorie und Wettbewerbspolitik: Stand und Entwicklungstendenzen*, 66 WD (1986), pp. 525-532, 529, who holds that the final evaluation on whether market share expresses efficiency or power is still heavily disputed; but see the results of our contribution.

25 Cf., e.g., Markert, *Zur Bedeutung von Marktstruktur und -verhalten ...*, op. cit., 125-127; and for the case Klöckner-Becorit, op. cit., 1759.

26 Cf., e.g., Rewe-Florimex, op. cit., 2863 f.

27 In an internal discussion paper the FCO mentions Dyckerhoff/Klöckner, Siemens/Garbe Lahmeyer, Nukem/British Nuclear Fuels, and Henkel/Locite. Cf. as well the Fichtel & Sachs/Mannesmann merger with a market share of roughly 50%, cf. Kurzinformationen, 37 Wu (1987), pp. 445 f., 446.

28 Cf., e.g., Berg, *Internationale Wettbewerbsfähigkeit und nationale Zusammenschlußkontrolle*, op. cit.; Hözlzer, *Der Marktanteil in der Fusionskontrolle ...*, op. cit., 524 f.; Knöpfle, *Indiziert der Marktanteil den Wettbewerbsgrad?*, supra, 1814.

comprehensive view of the German FCO and the German courts, acknowledging a structural predominance.²⁹

As we have emphasized in our contribution, recent research strongly focuses on the role of market share as a predominant indicator of individual market power.³⁰ This allows us to reject a line of reasoning that asserts that the market share orientation is based on plausibility considerations that lack a profound theoretical basis.³¹ The use of strategic planning and of portfolio and associated techniques by the management of modern corporations demonstrates the importance of elements of market structure, particularly that of (relative) market share for profitability and thus partly for market power (Michael E. Porter: "Key factors of success").³²

(b) Financial Strength

As a rule, the confirmation of a superior market position is based on a comprehensive view of market share and (financial) resources. This applies in the sense that a firm possessing a large market share is unlikely to be considered to hold a superior market position vis-à-vis its competitors if it clearly succumbs to its competitors on the basis of its (financial) resources.³³ The underlying reasoning is based on the so-called entrenchment-doctrine. This holds that the alleged anti-competitive effect of financial resources lies within their potential for discouraging smaller rivals from competing aggres-

29 Cf. Emmerich, Kartellrecht, op. cit., 271. This means that the rigid prohibition policy demonstrated in several cases (e.g., United States: U.S. v. Philadelphia National Bank, 1963 Trade Cases § 70,812, p. 268; Germany: GKN/Sachs, op. cit., 1510) has largely been harmonized now on the basis of a comprehensive view in which even the U.S. Merger Guidelines have neglected to adopt some important principles underlying Chicago theory. Concerning court findings, this is pointed out by Markert, Stand und Entwicklungstendenzen des US-Antitrustrechts 1987 ..., op. cit., 210.

30 Cf. again for a survey on empirical studies, Pautler, Paul A., A Review of the Economic Basis for Broad-Based Horizontal-Merger Policy, 28 AB (1983), pp. 571-651.

31 Cf., e.g., Hözler, Der Marktanteil in der Fusionskontrolle ..., op. cit., 519 and 524 f. For the contrary position, cf. Monopolkommission, Hauptgutachten V ..., op. cit., para. 781 f.

32 Cf., e.g., Abell, Derek F., and John S. Hammond, Strategic Market Planning: Problems and Analytical Approaches, Englewood Cliffs, N.J., 1979, pp. 283-289; and Porter, Michael, Competitive Advantage: Creating and Sustaining Superior Performance, New York, London 1985, pp. 221-226.

33 Cf. Emmerich, Kartellrecht, op. cit., 271 f. Fundamental criticism of this view is found in Knöpfle, Aktuelle Probleme der Zusammenschlußkontrolle, supra, 6-8; and Möschel, Wernhard, Finanzkraft und konglomerater Zusammenschluß, 29 AG (1984), pp. 257-260.

sively in the market or for discouraging potential competitors from entering the market.³⁴ In the case of conglomerate mergers, in the context of which financial resources are primarily of relevance, this is enhanced by a potential for decreasing the sales volume of competitors by reciprocal dealings.

Thus, if we appeal to the position which we have presented in the case of vertical mergers, conglomerate mergers cannot currently be regarded as harmful to competition because they are not output-restricting and must as a rule therefore be primarily considered efficiency-enhancing.³⁵ The conceptions that have been developed by the traditional theory for determining the negative effects of conglomerate mergers allow the conclusion to be drawn that such mergers should in no case be impeded.³⁶

However, this position is not held unanimously. Moderate representatives of the Chicago School or independent scholars regard conglomerate mergers in specific situations as a problem. In this context, it is held that "(p)ublic policy will be served by identifying specific instances where conglomerates pose problems rather than by mounting a broadscale attack".³⁷

34 For severe criticism, cf. Harms, *Gemeinschaftskommentar zum GWB*, op. cit., § 24, sec. 467; Knöpfle, *Aktuelle Probleme der Zusammenschlußkontrolle*, supra, 6 f.; and somewhat more moderate, Möschel, Wernhard, *Abschreckungstheorie und Fusionskontrolle*, in: FIW (ed.), *Schwerpunkte des Kartellrechts 1984/85. Verwaltungs- und Rechtsprechungspraxis Bundesrepublik Deutschland, EG und USA*, Köln et al. 1986, pp. 1-13. Tendentially approved, however, by Emmerich, *Fusionskontrolle 1986/87*, supra, 364; Monopolkommission, *Hauptgutachten der Monopolkommission VI: Gesamtwirtschaftliche Chancen und Risiken wachsender Unternehmensgrößen*, Baden-Baden 1986, para 454; and for the cases, cf. GKN/Sachs, op. cit.; Mannesmann-Brueninghaus, op. cit.; and Pillsbury/Sonnen-Bassermann, op. cit.

35 Cf., e.g., Bork, *The Antitrust Paradox: A Policy at War with Itself*, New York 1976, 248: "It seems quite clear that antitrust should never interfere with any conglomerate merger. Like the vertical merger, the conglomerate merger does not put together rivals, and so does not create or increase the ability to restrict output through an increase in market share. Whatever their other virtues or sins, conglomerates do not threaten competition, and they may contribute valuable efficiencies."

36 Cf. again Bork, *The Antitrust Paradox*, op. cit., 262: "We have examined all the major theories of the ways in which conglomerate mergers may injure competition and found that none of them (...) bears analysis. The conclusion must be, therefore, that conglomerate mergers should not be prohibited by judicial interpretation of Section 7 of the Clayton Act."

37 Williamson, Oliver E., *Markets and Hierarchies: Analysis and Antitrust Implications*, New York 1975, p. 170.

Based on this reasoning and the fact that the use of the entrenchment-doctrine has disappeared in enforcement and jurisdiction in the U.S.³⁸, there is a strong tendency for enforcement agencies and courts' jurisdiction in Germany to assert that financial resources on the part of firms possessing market dominant positions pose no problem whatsoever, and may even be essential to the rigor of competition.³⁹ It is believed that firms with large resources are the driving motor of the economy, and enable structural change and a revitalization of markets that are often rigid and uncompetitive. A more moderate view that emphasizes a comprehensive approach and the consideration of particular circumstances does not want to apply the entrenchment-doctrine in an undifferentiated manner.⁴⁰ It becomes obvious that this reasoning aims at an adoption of current U.S. antitrust policy.

It is undisputed that an accretion of financial resources does not pose a competitive problem *per se*, and is thus not necessarily detrimental to competitive conditions. However, there has to be an inquiry into the actual circumstances of the individual case in the context of a qualitative analysis.⁴¹ For even if we confirmed that conglomerate mergers were unharful as a rule, this does not provide evidence that the accretion of financial resources in combination with a market dominating share can also be judged unharful.⁴²

38 Cf. Hözlner, Heinrich, Ökonomische Realität in der Fusionskontrolle: Erfahrungen in den USA, in: Helmrich, Herbert (ed.), Wettbewerbspolitik und Wettbewerbsrecht: Zur Diskussion um die Novellierung des GWB, Köln et al. 1987, pp. 161-183, 174 and 181 f.; and Knöpfle, Aktuelle Probleme der Zusammenschlußkontrolle, *supra*, 7. However, the last two leading cases were decided on the basis of the entrenchment-doctrine and reciprocity, cf. FTC v. Consolidated Foods Corp., 1965 Trade Cases § 71,432; and FTC v. Procter & Gamble Co., 1967 CCH Trade Cases § 72,061.

39 Cf. Harms, Gemeinschaftskommentar zum GWB, op. cit., § 24, sec. 444; and Knöpfle, Aktuelle Probleme der Zusammenschlußkontrolle, *supra*, 6-8

40 This corresponds to the view put forward by Williamson, cf. Dirrheimer, Manfred J., Ressourcenstärke und Abschreckungswirkung in der Fusionskontrolle, In: FIW (ed.), Neuorientierung des Wettbewerbsschutzes, Köln et al. 1986, pp. 137-156; Markert, Zur Bedeutung von Marktstruktur und -verhalten ..., op. cit.

41 Cf. Bundeskartellamt, Tätigkeitsbericht 1985/86, BTDr. 11/554, pp. 12 and 61 f., referring to the AEG/Daimler-Benz case; Emmerich, Fusionskontrolle 1986/87, *supra*, 364, who notes that this is the guiding principle of current application; Markert, Stand und Entwicklungstendenzen des US-Antitrustrechts 1987 ..., op. cit., 222; Monopolkommission, Hauptgutachten VI ..., op. cit., para. 449; and Pfeiffer, Von der Autokupplung bis zu Chanel No. 5, op. cit., 216.

42 Cf. Schmidt, Ist Größe an sich gefährlich?, *supra*.

The criticism that rejects the whole notion that an accretion of financial resources can act as a restriction of competition does not consider all the possible cases. Even if potential competition is not deterred at the moment, the merger may lead to that deterrence effect in the future. Furthermore, we should not forget that capital markets and the market for corporate control do not work as frictionlessly as assumed. This tends to produce a leverage effect in favor of financially strong firms vis-à-vis their smaller (potential) competitors. There is every reason to be careful in the application of the entrenchment-doctrine and to look for further refinements; however, there is no reason for the time being to drop it completely.⁴³

(c) Market Barriers

The use of financial resources is also closely connected with the importance and height of market barriers. Superior market shares and financial resources are necessary conditions as a rule, although not sufficient ones. Their relevance may only be determined in the light of additional structural factors, such as market barriers, market stage, technological development, structure of demand, etc. Market barriers, and particularly entry barriers, are a further element indicating whether a superior market position in an actual case may be confirmed.⁴⁴

Low market barriers indicate rather strong potential competition which should be able to control free areas of conduct among incumbent competitors, even if they may be superior in terms of other structural features. The FCO as well as the courts have emphasized this aspect as well as the comprehensive view of market share and market barriers in relevant cases.

43 Cf. Emmerich, Kartellrecht, op. cit., 276 f. There is some criticism that the German Federal Supreme Court neglects this carefulness, cf. Bechthold, Rainer, Die Entwicklung des deutschen Kartellrechts seit Ende 1983, 39 NJW (1986), pp. 3053-3061, 3060.

44 Cf. Möschel, Use of Economic Evidence ..., supra, 542 and 549; Monopol-kommission, Hauptgutachten V ..., op. cit., paras. 786 ff.

This applies particularly to the combination of low barriers and aggressive foreign competitors.⁴⁵

Thus, the existence and height of market barriers have been considered sufficiently in actual merger cases, and there seems to be no dispute that they have to be considered if they exist.⁴⁶ We have demonstrated that according to our definition, market barriers do exist and often tend to impede the proper working of the competitive mechanism. Thus, as a rule they should be taken into account. This also applies to the case of international competition, which we have emphasized in the context of the relevant market. It is often asserted that the globalization of competition renders the market barriers concept obsolete because there is always sufficient competitive pressure. Nevertheless, despite some liberalization tendencies in world trade, sufficient legal and factual barriers to new competition exist which tend to impede sufficient competitive pressure in such cases. We should be aware of that these markets often do not work frictionlessly. In this context, it is of crucial importance to what extent the national market is interwoven with international competition and what the circumstances of the individual case are.⁴⁷

However, the concept of market barriers is limited in application because there are extreme difficulties of operationalization in terms of measurement. This leads to rather significant ambiguities as to the nature and meaning of market barriers. In the contribution submitted, we have pointed out that

45 Cf. Monopolkommission, *Hauptgutachten V* ..., op. cit., para. 803 ff. Just recently the Mannesmann Co. has acquired the Fichtel & Sachs Co. because its market share decreased from 80 to roughly 50% over ten years, whereas in 1978 it was prohibited for Guest, Keen & Nettlefold to acquire Fichtel & Sachs because of its dominant position. Prof. Markert of the FCO has in essence argued that increasing globalization tended to lower market barriers and that this changed the ruling, cf. *Kurzinformationen*, supra, 446.

46 This seems to be a matter of restrictive qualitative judgment on the basis of the comprehensive view mentioned. For instance, in the Rewe-Florimex case the Federal Supreme Court prohibited a merger with a share of only 12% of the relevant market, despite extremely low barriers, because the rest of the market showed an almost atomistic structure concerning individual competitors' shares, cf. *Rewe-Florimex*, op. cit., 2865; and as well Linde-Agefko, WuW/E BKartA 2213, 2220, and Pillsbury/ Sonnen-Bassermann, op. cit., 3764, that also considers market barriers.

47 In the aircraft manufacturing industry, in ship-building, or the engineering of industrial plants, for instance, even a structural monopolist in a national market might be controlled by sufficient competition on a global scale.

this seems to be a major reason for problems of application.⁴⁸ Hence, the potential for an application of the market barriers concept seems rather limited which tends to give it a qualitative nature.⁴⁹ Thus far, there is no adoption of a more lenient line of U.S. antitrust policy concerning market barriers in the context of mergers. Furthermore, there is no necessity to follow the trend.

(2) Market Conduct

The comprehensive view necessary to confirm a superior market position is not only based on structural features of the relevant market but eventually on actual competitive conduct also, although structural elements prevail.⁵⁰ However, the severe criticism by the advocates of the theoretical edifice underlying current U.S. antitrust policy has revived the discussion on the importance of market structure vis-à-vis market conduct. In this context, it is argued that there is assumed to be a tension between a structural perspective and the consideration of conduct. A dilemma is believed to arise in having to perform evaluations on a case-by-case basis whereas one is only able to judge on the basis of a general interrelation between structure, conduct, and performance, the theoretical foundation of which has been seriously challenged.⁵¹

48 Cf. Part 2 sec. III; cf. as well Herdzina, *Wettbewerbstheorie und Wettbewerbspolitik* ..., *supra*, 529, on the normative nature. The former Chief Justice of the German Federal Supreme Court, Pfeiffer, does not even list barriers explicitly, cf. Pfeiffer, *Von der Autokupplung bis zu Chanel No. 5*, op. cit., 213-218.

49 Current U.S. antitrust policy has not adopted the extreme Chicago version that meaningful barriers to entry do not exist. For instance, they are considered in the Merger Guidelines 1984 in the context of the necessity of two stage entry of newcomers in vertically integrated markets; with the same emphasis concerning jurisdiction, cf. Hözlner, *Ökonomische Realität in der Fusionskontrolle* ..., op. cit., 175 note 7, although much more lenient.

50 Cf., e.g., Monopolkommission, *Hauptgutachten VI* ..., op. cit., paras. 443-454; Pfeiffer, *Entwicklung der deutschen Rechtspraxis in der Bestimmung von Marktmacht*, op. cit., 72. The structural predominance was confirmed in a variety of cases, cf. GKN/Sachs, op. cit., 1506; Klöckner-Becorit, op. cit., 1754; Mannesmann-Brueninghaus, op. cit., 1716.

51 Cf. Markert, *Zur Bedeutung von Marktstruktur und -verhalten* ..., op. cit., 125. A number of scholars have concluded that actual conduct is the essential basis for evaluation and that structure is more or less meaningless, cf. Baur, *ZGR* (1982), 324; Hözlner, *Der Marktanteil in der Fusionskontrolle* ..., op. cit., 519 and 525; Knöpfle, *Aktuelle Probleme der Zusammenschlußkontrolle*, *supra*, 2 f.

If we presuppose that the legal market domination criteria in Sec. 22 para. 1 lits. 1 and 2 are real alternatives to one another then a superior market position may be confirmed regardless of whether substantial competition is confirmed. In this context, structural predominance is interpreted in the sense that if structural features point unambiguously towards a superior market position the question of whether substantial competition is present, which is believed to control free areas of conduct becomes meaningless.⁵² In these cases it is not expected that a superior area of free conduct will be controlled permanently by substantial competition.

Actual market conduct is only taken into account in terms of a comprehensive view if a superior market position is not confirmed unambiguously on the basis of the underlying structural features.⁵³ A number of recent court decisions demonstrate that there is no tendency to weaken the structural dominance criterion in the sense that market conduct is taken into account on the basis of equivalence.⁵⁴

Even if substantial competition is confirmed, despite an ambiguous result concerning structural features it becomes necessary to determine whether substantiality results from structural conditions and whether these are changed by the merger. Intensity and permanence of competition, as well as the strength of the structure-based superior market position have to be predicted.⁵⁵ This leaves ample room for evaluation and judgment, particularly in the face of ambiguities concerning the interrelation between structure, conduct, and performance.⁵⁶

On the basis of our findings in the contribution submitted that most of the hypotheses (e.g., the new learning) underlying current antitrust policy in

52 Cf. Lange/Niederleitinger/Ritter/Schmidt, Kommentar zum Kartellgesetz, 6th ed., Neuwied and Darmstadt 1982, Sec. 22, para. 46; Möschel, Wernhard, Recht der Wettbewerbsbeschränkungen, Köln et al. 1983, p. 307 f.; and for the most recent case, Kfz-Kupplungen, op. cit., 1504. Cf. as well Hözlzer, Der Marktanteil in der Fusionskontrolle ..., op. cit., 522; Markert, Zur Bedeutung von Marktstruktur und -verhalten ..., op. cit., 126; GKN/Sachs, op. cit., 1506; Rheinmetall/WMF, op. cit.

53 Cf. Markert, Kurt, Die Fusionskontrollpraxis des Kartellamts im Wandel?, 31 AG (1986), pp. 173-180, 179; and Klöckner/Becorit, op. cit., 1711.

54 Cf. Coop Schleswig Holstein/Deutscher Supermarkt, WuW/E OLG 3591 and WuW/E BGH 2389; Metro/Kaufhof, WuW/E OLG 3367 and WuW/E BGH 2231; Münchener Wochenblatt, WuW/E BGH 1905; and Rheinmetall/WMF, op. cit.

55 Cf. Mestmäcker, in: Immenga/Mestmäcker (eds.), Gemeinschaftskommentar zum GWB, 4th ed. 1981, § 24, sec. 13; and Monopolkommission, Hauptgutachten der Monopolkommission IV ..., op. cit., paras. 466 ff.

56 Cf., e.g., Markert, Die Fusionskontrollpraxis des Kartellamts im Wandel?, supra, 180.

the United States cannot for the time being be confirmed unambiguously in empirical terms, we are able to conclude that for the most part these hypotheses represent more or less reinterpretations of traditional findings, although based on a different set of values and beliefs.⁵⁷ This applies particularly to the hypothesis underlying current merger policy in the U.S. that market structure is virtually of no importance for the determination of actual conduct within a relevant market.

There is no doubt about the notion that deterministic kinds of statements on structure-, conduct-, performance-relationships are of little use. This is not disputed by the adherents of the traditional tenet, however. The knowledge of this deficiency results in the necessity for a comprehensive analysis of the structural factors of a relevant market including actual conduct in ambiguous cases.⁵⁸ This implies, for instance, that factors in addition to the ones listed in Sec. 22 para. 1 lit. 2 must be considered. This applies for example to the use of the market stage as a structural criterion for the determination of a dominant position.⁵⁹

Contrary to current antitrust policy in the U.S., however, our findings indicate that a structural predominance must be confirmed; at the same time, however, the traditional paradigm faces a rather severe modification as now the emphasis is placed on superior market positions of individual firms rather than on collective domination.⁶⁰

57 Cf. again, e.g., Scherer, Frederic M., On the Current State of Knowledge in Industrial Organization, in: de Jong, Henk W., and William G. Shepherd (eds.), *Mainstreams in Industrial Organization - Book 1*, Dordrecht et al. 1986, pp. 5-22.

58 Cf. Kantzenbach, Erhard, and Hermann H. Kallfass, Das Konzept des funktionsfähigen Wettbewerbs - workable competition, in: Cox, Helmut, et al. (eds.), *Handbuch des Wettbewerbs*, München 1981, pp. 103-127, 105 f. To speak of a complete breakdown of the structure-, conduct-, performance paradigm must be considered a strong and false exaggeration, cf. for this exaggeration, e.g., Markert, Stand und Entwicklungstendenzen des US-Antitrustrechts 1987 ..., op. cit., 221; and Scherer, On the Current State of Knowledge in Industrial Organization, op. cit., 5 f.

59 It is pointed out, for instance, that there is no need for a merger control in markets that are in an introductory or growth stage because competition will sufficiently control market power. This does not render merger control obsolete in a later stage (e.g., stagnation of a market), cf. Berg, Internationale Wettbewerbsfähigkeit und nationale Zusammenschlußkontrolle, op. cit., 142 ff.; and for a case, Klöckner-Becorit, op. cit., 1754.

60 Cf. the main results of Part 3 of this contribution.

bb. Oligopolistic Domination

Alternative to a proof of a superior market position on behalf of the merging parties, the confirmation of a market-dominating position can also be conducted by proving the *creation or strengthening of an oligopoly*, i.e. by collective domination (Sec. 22 para. 2).⁶¹

Collective domination via oligopoly encompasses two relevant aspects. Firstly, there is a necessity to analyze the intensity of competition within the oligopoly core, and secondly, we have to determine whether the oligopoly core is exposed to substantial competition by the fringe of firms which do not belong to the core.⁶²

Based on traditional oligopoly theory, it was asserted in the first case that with the emergence of an oligopoly there would be a tendency for mutual interdependence among the oligopolists which would lead to conscious parallelism, i.e. collective monopolist conduct.⁶³ In the contribution submitted we have found that the studies which attempted to prove the traditional concentration-collusion doctrine were largely flawed due to aggregation biases. We have concluded that individual market dominance rather than collective dominance poses the essential antitrust problem. Thus, with increasing concentration the tendency towards conscious parallelism was not confirmed in general.⁶⁴ This implies that additional structural features of the market in the sense of a comprehensive analysis have to be considered in order to provide evidence on whether the potential for conscious parallelism is really increased.⁶⁵

The German courts allow for these findings by setting relatively high standards concerning the proof that competition within the oligopoly core does

61 Cf. Emmerich, Kartellrecht, op. cit., 272; Pfeiffer, Von der Autokupplung bis zu Chanel No. 5, op. cit., 211 f.

62 This was emphasized again in the context of the Fourth Amendment of the ARC, cf. Markert, Die Fusionskontrollpraxis des Kartellamts im Wandel?, supra, 178.

63 Cf. Regierungsbegründung zum Entwurf eines Zweiten Gesetzes zur Änderung des Gesetzes gegen Wettbewerbsbeschränkungen, BTDr. VI/2520, p. 23.

64 The reasoning originally underlying the oligopoly prohibition emphasized only market share aggregation, neglecting decisive structural features which would influence the conduct of the oligopolists in addition, cf. Markert, Die Fusionskontrollpraxis des Kartellamts im Wandel?, supra, 178.

65 Cf. Knöpfle, Aktuelle Probleme der Zusammenschlußkontrolle, supra, 13. It is emphasized that empirical studies often provide evidence against the emergence of conscious parallelism, cf. Markert, Die Fusionskontrollpraxis des Kartellamts im Wandel?, supra, 178.

not exist.⁶⁶ This has shifted the emphasis towards an application of the qualified oligopoly presumption in Sec. 23a para. 2, which reverses the burden of proof to the defendant. Experience thus far shows that even in highly concentrated markets, where the market share presumptions are met, effective competition may still be present, particularly in the context of a specific market stage.

Refutation of the qualified oligopoly presumptions can only be attained by application of structural criteria.⁶⁷ For the prognosis on the development of future intensity of competition the existence of substantial competition before a merger serves as an indicator of whether these competitive conditions will persistently exist after the merger has been performed. Thus there is reference to structural criteria again. There is no tendency in court cases to give up the underlying reasoning.⁶⁸ However, there is a rather wide area of uncertainty regarding the conditions which are thought to provide for substantial competition within an oligopoly. This is the case on the one hand because the conditions providing for substantial competition differ from industry to industry, and on the other, possibly because there is still ambiguity about the nature of the qualified presumptions in Sec. 23a para. 2 ARC.⁶⁹

As a rule, the refutation is carried out successfully by the defendant on the basis of structural criteria. These include particularly low market barriers, technological developments, specific sales conditions for investment goods, and structural overcapacity in an industry. Whereas for a variety of cases in the retailing sector this refutation was rejected by the FCO, the Berlin Court of Appeals as well as the Federal Supreme Court have reversed a

66 Cf. Texaco/Zerssen, WuW/E BGH 2025; and Tonolli/Blei- und Silberhütte Braubach, WuW/E BGH 1824.

67 Cf. Emmerich, Kartellrecht, op. cit., 282 f. This policy of the FCO has been affirmed by the Berlin Court of Appeals, cf. Klöckner-Becorit, op. cit., 1749.

68 Cf. Emmerich, Fusionskontrolle 1986/87, *supra*, 366 f., presenting a variety of recent cases decided by the FCO and the Berlin Court of Appeals, notes 127-132. Cf. as well Bundeskartellamt, Tätigkeitsbericht 1985/86, op. cit., 59, 63, 70 f., 73, and 93.

69 The reasoning underlying the government proposal of the Fourth Amendment tends to view Sec. 23a para. 2 ARC as a rule for per se-prohibition for oligopolists with exemptions by the possibility for refutation, cf. Regierungsbegründung zum Entwurf eines Vierten Gesetzes zur Änderung des Gesetzes gegen Wettbewerbsbeschränkungen, BTDr. 8/2136, p. 21 f. In contrast, it is asserted that the provision just provides a relief regarding the burden of proof, cf. Harms, Gemeinschaftskommentar zum GWB, op. cit., § 23a, sec. 233.

great number of these rulings because of structural features which in the Court's opinion would provide for sufficient competition even after the merger.⁷⁰

c. Strengthening Market Domination

All the factors that are used to prove the emergence or existence of a superior market position can principally also be used to prove the confirmation of a strengthening of this position, regardless of the intensity of the strengthening.⁷¹ Confirmation of the strengthening does not necessarily entail proof of a further worsening of competitive conditions. However, there has to be a market relevant impact.⁷² This leaves ample room for discretionary judgment.

Concerning horizontal merger cases, confirmation of the strengthening of a superior market position does not pose serious problems, since market shares of the merging parties are added to each other and recalculated on the basis of the disappearance of one business unit. So far, it has been ruled that even marginal market share accretions suffice to generate a market relevant impact.⁷³

The problems which arise in confirming a strengthening in a conglomerate case have partly been discussed supra in the context of financial resources. We have emphasized that an analysis of the individual case has to be performed considering the likelihood of anticompetitive effects under actual circumstances. Market interrelatedness and the purpose of the merger (e.g., diversification) are considered to be the relevant criteria.⁷⁴ As a rule, the generation of a market relevant impact is assumed in cases of entrepren-

70 Cf. Emmerich, *Fusionskontrolle 1986/87*, supra, 367. For a listing of successful refutations cf. ibid., 366 f. notes 127-132; and for the AEG/Daimler-Benz case, Knöpfle, *Aktuelle Probleme der Zusammenschlußkontrolle*, supra, 13 f.

71 Cf. Monopolkommission, *Hauptgutachten VI* ..., op. cit., para. 449; and Springer/Elbe *Wochenblatt*, WuW/E BGH 1691; and for more cases, cf. Knöpfle, *Aktuelle Probleme der Zusammenschlußkontrolle*, supra, 8 note 49.

72 Cf. Emmerich, *Kartellrecht*, op. cit., 270.

73 Cf. Coop Schleswig Holstein/Deutscher Supermarkt, WuW/E OLG 3591 in which the Berlin Court of Appeals has ruled that accretions of 1 or 2% suffice to confirm the strengthening, although circumstances of the individual case have to be taken into consideration; cf. as well Coop/Wandmaker, WuW/E BKartA 2161; and recently, EGWA/L. Fiebig GmbH in the report of the FCO, *Bundeskartellamt, Tätigkeitsbericht 1985/ 86*, op. cit., 59.

74 Cf. GKN/Sachs, op. cit.; and Rheinmetall/WMF, op. cit.

rial diversifications but not in cases of financial ones.

We have emphasized that it is undisputed that an accretion of financial resources does not pose a competitive problem per se and thus does not necessarily generate a market relevant impact. It becomes obvious once again that we have to inquire into the actual circumstances of the individual case in the context of a qualitative analysis.⁷⁵

The so-called toehold-acquisition poses a specific problem in the context of the strengthening of oligopolistic market domination. Legislation has emphasized that a toehold-acquisition may be used as an particular argument for the refutation of the qualified presumption of oligopoly in Sec. 23a para. 2 ARC. As a rule, this does not apply to members of the oligopoly core. Advantages resulting from an improvement in competitiveness vis-à-vis the market leader have to be balanced against the disadvantage resulting form a deterioration of the competitive situation of the members of the oligopoly fringe.⁷⁶

III. An Evaluation of the Propositions for a Reform of Merger Control in the Fifth Amendment of the ARC

Although its permanent function as a sort of "constitution of economic order" was emphasized when the German Act Against Restraints of Competition was passed, its public policy objectives are nevertheless based on knowledge from antitrust theory and are thus changeable. Changed economic conditions as well as new knowledge in antitrust theory are basically able to alter this constitution. This applies to the instrument of merger control as well. Thus far, only the German Association of Manufacturers (Bundesverband der deutschen Industrie) seems to have adopted explicitly and without any major modifications the theory and reasoning underlying Chicago School antitrust policy.¹

75 Cf. Bundeskartellamt, Tätigkeitsbericht 1985/86, BTDr. 11/554, pp. 12 and 61 f., referring to the AEG/Daimler-Benz case; Emmerich, Fusionskontrolle 1986/87, supra, 364, who notes that this is the guiding principle of current application; Markert, Stand und Entwicklungstendenzen des US-Antitrustrechts 1987 ..., op. cit., 222; Monopolkommission, Hauptgutachten VI ..., op. cit., para. 449; and Pfeiffer, Von der Autokupplung bis zu Chanel No. 5, op. cit., 216.

76 Cf. Emmerich, Fusionskontrolle 1986/87, supra, 365, who mentions the case AEG/Daimler-Benz.

1 Cf. Kantzenbach, The Treatment of Dominance ..., op. cit., 282.

However, with some exceptions this has not led to an attempt to modify the antitrust laws in the direction of Chicago School theory but to an attempt to retain the status quo.²

1. Political and Economic Order: Thoughts on Structural Complementarity

The aim of competition policy as it is understood by German and European Community Law is to maintain or help to establish competitive market structures. In this view, competition is the only means of ensuring that entrepreneurial forces are mobilized and the full potential of the efficiency of firms is exploited. This process leads not only to greater overall economic efficiency and competitiveness, but also to increased consumer welfare. Competition, in this sense, can be viewed as an unlimited sequence of moves and responses in which profits can be seen as a motive for initiation and imitation of economic efforts. The time competition needs to erode these profits indicates the degree of effectiveness of competition, i.e., determines whether competition itself performs its function in a sufficient manner and exerts sufficient competitive pressure which cannot be controlled by the incumbents. Although structure-orientated, this makes it obvious that this view of competition is a dynamic one.³

The maintenance of these competitive structures requires merger restrictions, which should be pre-merger control, as well as a legal instrument for deconcentrating industries. Until now there has been no divorce instrument under German or European antitrust law; the EEC law contains practically no merger control at all, though the European Court of Justice has just recently pointed out in the Reynolds/BAT case that Art. 85 Treaty of

2 Cf. Geberth/Janicki, *Kartellrecht zwischen Kontinuität und Anpassung*, *supra*, 447 ff.; Lambsdorff, Otto Graf, *Für eine Änderung der gesetzlichen Kriterien besteht keine Veranlassung*, 66 WD (1986), pp. 384-388; Schlecht, Otto, *Konsequente Anwendung des Rechts erforderlich*, 66 WD (1986), pp. 382-384; Weizsäcker, Carl-Christian von, *Muß der Leistungswettbewerb stärker geschützt werden?*, 37 WuW (1987), pp. 706-709; *Wissenschaftlicher Beirat beim Bundesministerium für Wirtschaft ...*, op. cit., 32; n.n., "Der Novellierungszweck darf nicht der Schutz vor dem Wettbewerb sein", in: *Handelsblatt*, July 24/25, 1987; and n.n., "Kein Anlaß für eine Novelle", in: *Handelsblatt*, September 22, 1987.

3 Besides, the structure-approach is much more conducive to the functioning of a free enterprise system than an approach that tries to control competitors' conduct, cf. Geberth/Janicki, *Kartellrecht zwischen Kontinuität und Anpassung*, *supra*, 452 and 458.

Rome might be applied to mergers as well. Besides, the European Commission is pressing on the European Ministerial Council to adopt a merger control system proposed by the Commission in various forms since 1973.⁴

Furthermore, an essential aspect of competition policy is what came to be called by the German ordoliberal economists, the "ordnungspolitische" function.⁵ This view emphasizes that competition also has a sociopolitical function which should be deemed at least as important in value as its economic function of enhancing consumer welfare. In this sense, competition, acting as a controlling, selecting, and driving force through decentralized decision-making units, becomes the only appropriate counterpart and basic economic principle appropriate for free democratic states because it deprives economic aggregations of their power.⁶

To this extent, this view on competition and competition policy coincides with the one that was traditionally put forward by United States antitrust policy in numerous court cases until the early 1970s.⁷ In these court decisions, based on undisputed economic foundations, competition law was understood as a comprehensive charter of economic liberty aimed at preserving free and unfettered competition as the rule of trade. The unrestrained interaction of competitive forces, it was argued, would yield the best allocation of the economic resources, the lowest prices, the highest quality, and the greatest material progress, while at the same time providing an environment conducive to the preservation of democratic, political, and social institutions.

4 Cf. BNA, Antitrust & Trade Regulation Report No. 1343, December 3, 1987, p. 863; and Vorschlag einer Verordnung (EWG) des Rates über die Kontrolle von Unternehmenszusammenschlüssen, 38 WuW (1988), pp. 405-412.

5 Cf., e.g., Möschel, Wernhard, *Wettbewerbspolitik aus ordoliberaler Sicht*, in: Gamm, Otto Friedrich Freiherr von, et al. (eds.), *Strafrecht, Unternehmensrecht, Anwaltsrecht: Festschrift für Gerd Pfeiffer*, Köln et al. 1987, pp. 707-725.

6 Cf. Adams, Walter, and James W. Brock, *Antitrust and Efficiency: A Comment*, 62 NYULR (1987), pp. 1116-1124, 1116; Möschel, *Wettbewerbspolitik aus ordoliberaler Sicht*, 714 f. Aside from this, the coherent development of fundamental ideas underlying the ARC is another crucial reason why an abrupt reorientation of German antitrust legislation towards Chicago ideals is rather unlikely, cf. Herdzina, *Möglichkeiten und Grenzen einer wirtschaftstheoretischen Fundierung ...*, op. cit., 37 f.

7 Cf. Northern Pacific Railway Co. v. U.S., 1958 CCH Trade Cases § 68,961. Cf. as well Schmidt, Ingo, and Jan B. Rittaler, *Die Chicago School of Antitrust Analysis: Wettbewerbstheoretische und -politische Analyse eines Credos*, Baden-Baden 1986, pp. 37-44.

This fundamental socioeconomic idea has been given up by the Chicago School, which may be viewed as a laissez-faire or "Nihilist" School.⁸ In essence, as we have pointed out, this school advocates dismantling the entire institution of antitrust, since competition develops almost of its own accord if the public, the government, and its agencies refrain from taking measures to control and shape it.⁹

Giving up this ordoliberal idea and thus omitting non-economic objectives can have serious effects, since highly concentrated markets lead to decreased flexibility of large companies and to an increase in their (potential) political influence.¹⁰ This may lead to the use of economic power to exercise political pressure in order to get protection from competition or direct government subsidies. Adams and Brock, for instance, have stressed the close links between politics and economic organization, referring to "voluntary" export quotas in the U.S. steel and automobile industries or government subsidies as in the Lockheed or Chrysler cases:¹¹

8 Cf. the fundamentally different opinion of Edwards, Corwing D., Maintaining Competition, New York et al. 1949, p. 8: "But although the maintenance of competition will not guarantee that the economy will work well, impairment of competition by monopolistic restrictions, public or private, increases the chance that it will work badly"; cf. as well Audretsch, David, Divergent Views in Antitrust Economics, 33 AB (1988), forthcoming; and Möschel, Wettbewerbspolitik aus ordoliberaler Sicht, 714 f.

9 At the other end of the scale is the "Industrial Policy" School - called the "Evolutionary" School in economic literature - which calls for government planning and industrial targeting. Antitrust policy is allowed only a secondary role, if any, as a means of ensuring that planning targets are achieved. These two points of view, both sharing a strong rejection of the need for an active antitrust policy, are adopted with varying degrees of intensity by academic circles, business pressure groups or - as far as the latter school is concerned - mercantilist and Colbertarian, bureaucratic planning ideologues who advocate central planning. For profound criticism, cf. Geberth/Janicki, Kartellrecht zwischen Kontinuität und Anpassung, *supra*, 454-456.

10 Considering the close links between the Chicago School and the Public Choice approach it seems to be curious that Chicagoans often overlook the contradictions between these two mainstream ideologies.

Mancur Olson, one of the leading representatives of the Public Choice approach, has pointed to the important macroeconomic policy implications for microeconomic policy in his contribution on "The Rise and Decline of Nations", New Haven, Conn. 1982, at p. 232 in holding that "(i)f combinations dominate markets throughout the economy and the government is always intervening on behalf of special interests, there is no macroeconomic policy that can put things right".

11 Adams, Walter, and James W. Brock, The "New Learning" and the Euthanasia of Antitrust, 74 CLR (1986), pp. 1516-1566, 1562.

"Contrary to current apologetics, bigness does not meekly submit to the rules of the global competitive game when confronted with the consequences of delinquent economic performance. Instead, giant corporations - often in concert with allied interest groups - reach out to manipulate the state in order to change the rules of the game, to avoid the competitive market's sanctions for poor performance, and to shift them onto society. In reality, bigness mobilizes the vast political resources at its command - funds, employees, executives, labor unions, subcontractors, suppliers, governors and mayors, senators and representatives, Republicans and Democrats - to neutralize global competition through government-imposed import quotas, tariffs, 'voluntary export' restraints, 'orderly' marketing agreements, and the like."

This kind of cooperation between industry, labor, and government leads to an economic oligarchy that strongly resembles that of a centralized planning economy.¹²

Competition policies in the European Community, the Federal Republic of Germany, and the United States should have nothing in common with these extreme positions. In both continents, one actually departs from the assumption, and accordingly the laws distinctively state as much, that certain forms of behaviour and action by firms are not permissible on grounds of competition considerations. Both sides, it seems, start from the basic idea that, in assessing such matters, economic criteria are ultimately of crucial importance. Competition is an economic phenomenon which is taken as fact. However, legal rules must be drawn up and adopted so as to ensure certainty and clarity as to the meaning of law, and to avoid arbitrariness.

2. The Object of Protection: Competition vs. Competitors

Basic differences concerning the law's object of protection become obvious if one compares the emphasis of 1984 U.S. Merger Guidelines to that of the ARC. Whereas the ARC protects the freedom of competition and thus views competition as a controlling, selecting, and driving force through decentralized decision-making units, current U.S. antitrust policy, although verbally emphasizing competition as the object of protection, puts efficiency considerations in the centre of its concern. Implicitly, a permanent dilemma or conflict between efficiency-enhancement and maintaining competition is

12 Cf. Tinbergen, Jan, Do Communist and Free Societies Show a Converging Pattern?, 12 Soviet Studies (1961), pp. 333 ff.

assumed; in contrast, the German legislator did not presume such conflict as the rule.¹³

The tendency to protect competitors and not competition can also be found in the discussion on the reform of the ARC. In this context, it is held that the competitiveness of firms in the national economy vis-à-vis global competition is much more important than the protection of competition as an institution.¹⁴ In addition to industrial policy via promotion of sector- or product-orientated innovations, there also seems to be a renaissance of anti-trust-specific protectionism. This includes export cartels, legalized cartel-like cooperations and an untrammeled laissez-faire policy towards external corporate growth.

In a general sense, the alleged goal conflict between maintaining competition and enhancing efficiency is not confirmed by the empirical studies reviewed and the conclusions drawn in our contribution. There is no case thus far, that proves the inability of German firms to compete on a global scale because of the strict merger control. Besides, in cases where a real conflict actually occurs the ARC has provided for a solution by a political decision on the part of the German Federal Minister for Economic Affairs. Aside from the aspect of global competitiveness, the aforementioned reasoning presumes that it is not the rigor of competition but relief from that rigor that makes firms more competitive. This argument may easily be reversed, however, by asserting that it was the restrictive cartel law that in the past made German firms competitive on a global scale.¹⁵

13 The ARC allows for efficiency considerations only in a few exceptional cases, whereas the permanent conflict assumed in the Merger Guidelines led to a more lenient attitude towards competition as an object of protection, cf. the Merger Guidelines of 1984, *supra*.

14 Cf., e.g., Berg, Internationale Wettbewerbsfähigkeit und nationale Zusammenschlußkontrolle, op. cit.; Harms, Wolfgang, Fehlentwicklungen in der Wettbewerbspolitik gegenüber marktbeherrschenden Unternehmen, in: FIW (ed.), Schwerpunkte des Kartellrechts 1981/82. Verwaltungs- und Rechtsprechungspraxis Bundesrepublik Deutschland, EG und USA, Köln et al. 1983, pp. 95-128, 106; Hözlner, Der Marktanteil in der Fusionskontrolle ..., op. cit.; and Knöpfle, Robert, Wettbewerbsbeschränkung durch Anwendung des GWB bei Zusammenschlüssen, 37 JZ (1982), pp. 521-530.

15 The German foreign trade balance does not show any signs of a weakness concerning the ability of German firms to compete on a global scale; cf. also Stellungnahme der Bundesregierung zum Tätigkeitsbericht des Bundeskartellamtes 1985/86, op. cit., IV.

The same tendency may be confirmed by the argument that small business has to be protected particularly because the legislator considered maintaining a small business structure an objective in itself. However, small business is best protected if the freedom to compete and thus competition as an institution are protected, provided that there are no substantial competitive impairments.¹⁶

It can be confirmed that the protection of freedom to compete and the protection of competition as an institution are closely interwoven with each other and that they may not be considered separately without endangering the workability of the competitive mechanism permanently.¹⁷ A reorientation would thus not improve the functioning of the free enterprise system.

3. An Evaluation of the Proposals on the Basis of Our State of Knowledge

There is as yet no consensus among relevant participating groups in the Federal Republic about whether the German ARC needs a reform by the addition to it of a Fifth Amendment. Nevertheless, with regard to the legal treatment of mergers there are a variety of specific pondering questions. Although we want to present most of the proposals discussed in the context of the Fifth Amendment, we will only evaluate the ones important within the context of the Chicago emphasis in the contribution submitted.

a. The Proposals

Concerning merger control, a variety of proposals for improvement of this instrument in the ARC are currently under discussion by German scholars. Subsequent proposals are either valid for a general reform of merger con-

16 For affirmation of this tendency and strong criticism, cf. Geberth/Janicki, *Kartellrecht zwischen Kontinuität und Anpassung*, *supra*, 454-456, and 455: "Such a reasoning can neither be based on the history of the Act nor on the ratio legis. It is in strict opposition to fundamental knowledge in antitrust theory on how the competitive mechanism works and faces substantial reservations concerning competition and small business", (translated by the author).

17 Cf. Geberth/Janicki, *Kartellrecht zwischen Kontinuität und Anpassung*, *supra*, 455; and Immenga, Ulrich, in: Immenga/Mestmäcker (eds.), *Gemeinschaftskommentar zum GWB*, 4th ed. 1981, note 11 to § 1 ARC.

trol or are particularly aimed at preventing concentration tendencies in the retailing sector:¹⁸

- Uncoupling the criterion of intervention in sec. 24 para. 1 ARC from the aspect of market dominance;
- a supplementation of the criterion of market dominance in sec. 22 para. 1 ARC;
- a reform of the legal presumptions in terms of secs. 22 para. 3 and 23a para. 2 ARC; and
- a revision of the merger definition in terms of sec. 23 para. 2 ARC.

An uncoupling of the criterion of intervention from the aspect of market dominance has been stated in two forms thus far:

- (1) Firstly, the criterion of market dominance should be abandoned and replaced by the criterion of an "essential lessening of competitive conditions". This may either be performed for all mergers, regardless of their size¹⁹, or only for large-sized mergers²⁰, or only for mergers having perceived impact in a variety of markets.²¹
- (2) Secondly, a per se-prohibition for large-sized mergers that are in excess of a distinct amount in terms of their revenues should be inserted; such mergers would be permitted only under certain circumstances in analogy to sec. 24 para. 3 ARC.²²

18 Cf. Hopt, Merger Control in Germany ..., op. cit., 95-98; Knöpfle, Aktuelle Probleme der Zusammenschlußkontrolle, *supra*, 15-20; Krakowski, Michael, Aktuelle Probleme der Fusionskontrolle, 66 WD (1986), pp. 67-74; Monopol-Kommission, Hauptgutachten VI ..., op. cit., 175-192; Schmidt, Ist Größe an sich gefährlich?, *supra*; and the discussion in Wirtschaftsdienst No. 8 (1986) between Kantzenbach, Schlecht, Graf Lambsdorff, and Jens.

We will restrict ourselves to the proposals for a general reform. For a treatment of the retailing sector, cf. Kirschner, Ulrich, Die Erfassung der Nachfragermacht von Handelsunternehmen: Eine Analyse der ökonomischen Beurteilungskriterien und der wettbewerbsrechtlichen Instrumente im Bereich der Verhaltenskontrolle, Frankfurt a.M. et al. 1988 (forthcoming).

19 Cf. Antrag der Fraktion der SPD: Stärkung des Wettbewerbs und Verhinderung des Mißbrauchs wirtschaftlicher Macht (Novellierung des Gesetzes gegen Wettbewerbsbeschränkungen), BTDr. 11/2017; and Schmidt, Ingo, Ist "Größe an sich" gefährlich?, 36 WuW (1986), pp. 193-196.

20 Cf. Monopolkommission, Hauptgutachten VI ..., op. cit., paras. 468-483.

21 Cf. Greiffenberg, Horst, Strukturentwicklung und Konzentration - wettbewerbspolitische Bewertung II, in: Strukturentwicklung und Konzentration im Einzelhandel. Dokumentation eines Fachgesprächs am 2. Juli 1987 im Hause der Bundesarbeitsgemeinschaft der Mittel- und Großbetriebe des Einzelhandels e.V. (BAG), pp. 70 ff.

22 Cf. Antrag der Fraktion der SPD ..., op. cit.; and Monopolkommission, Hauptgutachten VI ..., op. cit., paras. 469 and 475.

According to the paper of the ad hoc-Council of Experts with the Ministry of Economic Affairs which was passed by the German Cabinet of Ministers, June 29, 1988, the criterion of market dominance in sec. 22 para. 1 ARC should be supplemented by adding three criteria to sec. 22 para. 1 lit. 2:

- a vertical component ("vis-à-vis a substantial number of sellers and buyers") should be introduced in order to emphasize that market dominance is not to be interpreted solely in terms of a horizontal relationship of direct competitors;
- the criterion of "flexibility" should be introduced in order to consider the extreme flexibility of the retailing sector concerning changes in its assortment which are in contrast to the low production flexibility of the manufacturing sector; and
- an introduction of a multi-market view in order to take into account conglomerate power by corporations.

Another area of reform concerns the legal presumptions in terms of secs. 22 para. 3 and 23a para. 2 ARC:

- There is a pressure for a reduction of the market share thresholds given in sec. 22 para. 3 ARC solely for the retailing sector, in order to emphasize that market dominance may emerge at market shares well below the ones indicating market power in the case of the manufacturing sector.²³
- Furthermore, the refutability of the legal presumptions concerning the core of an oligopoly in terms of sec. 23a para. 2 ARC should be abandoned so that a check on the relation between the core of the oligopoly and the oligopoly fringe would suffice in order to confirm oligopolistic market domination.

The legal nature of these presumptions is strongly disputed. Although they were meant to exert material influence, from a majority's point of view they are actually of little importance in application in individual cases. In this context, their amendment would only be of a flanking character, i.e. it would be a signal for jurisdiction.

Finally, a revision of the merger definition in terms of sec. 23 para. 2 ARC is being considered in order to treat acquisitions which circumvent the 25

23 Cf. Markenverband, 49 MA (1987), p. 199; Rüschen, Gerhard, Wettbewerbspolitik im Umbruch?, 49 MA (1987), pp. 218-224.

percent share rule:

- In order to prevent an evasion of merger control a lowering of the share threshold for mergers that have to be notified from 25 to 10% is being discussed.²⁴ This takes the possibility into consideration that firms may exert a dominating influence on others well below 25% of the share.
- This sort of formal merger definition is to be supplemented by a material one, i.e. instead of setting the threshold at a distinct predefined market share level, what should really be done is to emphasize the possible "competitively significant impact of a firm on another".²⁵ This would entail significant legal uncertainty concerning court proceedings, however.

b. The Evaluation

The AEG/Daimler-Benz merger has revived the discussion on the evils of corporate size once again and led to proposals to abandon the criterion of market domination and substitute for it the criterion of a "substantial lessening of competitive conditions" in order to be able to treat possible evils.²⁶ Although sec. 23a para. 1 lit. 2 ARC contains a provision or presumption aiming at absolute firm size this does not free the FCO from the duty of proving market domination in the individual case. This has rendered the rule ineffective concerning a vast number of large sized, particularly conglomerate mergers.²⁷

24 Cf. Antrag der Fraktion der SPD ..., op. cit.

25 Cf. the special vote of Prof. Immenga, Monopolkommission, Hauptgutachten VI ..., op. cit., paras. 439-441; Immenga, Ulrich, Zusammenschlüsse zwischen Großunternehmen als Gegenstand des Rechts der Wettbewerbsbeschränkungen, in: Helmrich, Herbert (ed.), *Wettbewerbspolitik und Wettbewerbsrecht: Zur Diskussion um die Novellierung des GWB*, Köln et al. 1987, pp. 185-198; and Schlecht, Otto, Ein neuer Ordnungsrahmen für dynamischen Wettbewerb?, in: Helmrich, Herbert (ed.), *Wettbewerbspolitik und Wettbewerbsrecht: Zur Diskussion um die Novellierung des GWB*, Köln et al. 1987, pp. 35-48.

26 Cf. Immenga, Zusammenschlüsse zwischen Großunternehmen ..., op. cit., 193 f.; Monopolkommission, Hauptgutachten VI ..., op. cit., paras. 461 ff. and 468 ff.; and Schmidt, Ist "Größe an sich" gefährlich?, supra.

27 Cf. Emmerich, Kartellrecht, op. cit., 278 f.; Immenga, Zusammenschlüsse zwischen Großunternehmen ..., op. cit., 189 f.; Kantzenbach, Erhard, Großfusionen bedürfen einer expliziten politischen Legitimation, 66 WD (1986), pp. 379-382, 381; Knöpfle, Aktuelle Probleme der Zusammenschlußkontrolle, supra, 15; Monopolkommission, Hauptgutachten VI ..., op. cit., paras. 469.

Anticompetitive effects of large sized mergers, such as an accumulation of resources, potential for predation, effects of reciprocal dealings and the like, are treated only insufficiently by the current concept of market domination. This is also the case, e.g., because of the necessity of providing distinct proof of the use of financial resources in the individual case.²⁸ Furthermore, strong doubts have to be advanced on whether the market domination concept is able to comprehend the political dimension of such large-sized mergers²⁹, particularly against the background of the fact that these conglomerations often represent a large proportion of relevant economic quantities nationwide, which tends to enlarge their political influence overproportionately.³⁰

However, there are some doubts about whether an uncoupling of the merger prohibition from the market domination criterion is the appropriate instrument for a general improvement in merger control. Theoretically, the level required for an intervention against mergers would be lowered; however, the U.S. American experience shows that indeterminate legal criteria often tend to grant large free areas for discretionary judgment to enforcement agencies and the courts, and that this might even lead to a relaxation of a strict enforcement. Furthermore, the pressure of public opinion and political lobbyists on this potential for discretionary judgment has to be considered se-

28 Cf. Immenga, Zusammenschlüsse zwischen Großunternehmen ..., op. cit., 191 f.; Mestmäcker, Zur Fusionskontrolle in der Wettbewerbspolitik, *supra*, 184; Monopolkommission, Hauptgutachten VI ..., op. cit., paras. 470.

29 Cf. Immenga, Zusammenschlüsse zwischen Großunternehmen ..., op. cit., 188 f. and 193; Kantzenbach, Großfusionen bedürfen einer expliziten politischen Legitimation, *supra*, 381; Krakowski, Aktuelle Probleme der Fusionskontrolle, *supra*, 72. Cf. as well Knöpfle, Aktuelle Probleme der Zusammenschlußkontrolle, *supra*, 17 f., who considers this an irrelevant aspect.

30 Cf. the remarks of the CEO of Daimler-Benz, Edzard Reuter, at the International Cartel Conference Berlin 1986, who holds that his company accounts for 5 to 10% of the total of corporate income tax revenues of the Federal Republic and that 3.8% of the employees in the manufacturing sector in Germany are employed by the Daimler-Benz Company, cf. Hansen, Knud (ed.), Firm Size and International Competitiveness, Proceedings of the International Cartel Conference Berlin 1986, Berlin 1987, pp. 60-77, 61 f. Global competition does not deprive such conglomerations of their power, since elections are conducted on a national basis and the unemployment argument always convinces politicians in the case of large firms and during sensitive election periods.

riously.³¹ Certainly, this applies in the general case and it is questionable whether it would necessarily be otherwise in cases of large-sized mergers.³² In terms of undesirable economic consequences, uncertainty in the treatment of these mergers would remain.

As is clear from our conclusions, a general uncoupling from the criterion of market dominance may not be justified from an economic point of view. However, such a case can be made for large-sized **conglomerate mergers** because of the serious problems in comprehending their anticompetitive economic consequences and their potential for a negative sociopolitical impact. This would best be taken care of by amending sec. 24 para. 1 by inserting a second sentence which reads as follows:³³

"In case of neither horizontal nor vertical merger, the Cartel Authority is also entitled to the competences enumerated in the subsequent provisions if the merger is expected to result in a substantial impairment of competitive conditions in a multitude of markets."

The advantage of such a ruling would not only be an improved comprehension of large-sized conglomerate mergers but also a potential for the FCO to employ a comprehensive view because of the low number of such mergers. On the basis of our findings, an improved comprehension of anticompetitive consequences of **vertical mergers** can also be attained by attaching importance to horizontal aspects at both levels of the markets affected. However, this would not make necessary an uncoupling of the intervention criterion from market domination. The intention would rather be taken into account by amending Sec. 22 para. 1 lit. 2 ARC, which is primarily aimed at horizontal relations, by a vertical component as follows (insertion in italics):³⁴

31 Cf. Knöpfle, *Aktuelle Probleme der Zusammenschlußkontrolle*, supra, 16; Mestmäcker, *Zur Fusionskontrolle in der Wettbewerbspolitik*, supra, 184; cf. the special vote of the member of the MC, Murawski, *Monopolkommission*, *Hauptgutachten VI ...*, op. cit., para. 482; Schlecht, *Ein neuer Ordnungsrahmen ...*, op. cit., 38.

32 Cf. for this reasoning, e.g., Kantzenbach, Erhard, *Bewertung bisheriger Vorschläge zu einer wirksameren Fusionskontrolle*, *Venusbergseminare der Friedrich-Ebert-Stiftung zur Wirtschaftspolitik: Fusionskontrolle und Wettbewerbsrecht*, Bonn 1986, pp. 17-31, 25 f.

33 This proposal for an amendment is based on an idea by Greiffenberg, *Strukturentwicklung und Konzentration ...*, supra.

34 This is based on the idea of the ad hoc-Council of Experts with the Ministry for Economic Affairs, who want to supplement the criterion of market dominance in sec. 22 para. 1 lit. 2 ARC by a vertical component ("vis-à-vis a substantial number of sellers and buyers").

"(1) An enterprise is market dominating within the meaning of this Act insofar as, in its capacity as a supplier or buyer of a certain type of goods or commercial services,

1. ...
2. it has a dominant market position in relation to its competitors or *vis-à-vis a substantial number of sellers and buyers*; for this purpose, in addition to its share of the market, its financial strength,..."

The provision should be introduced in order to emphasize that the evaluation of vertical market relations must also include power considerations in horizontal terms, and vice versa, and thus be interpreted in terms of competitors in subsequent or preceding levels of the market.

Strong doubts have to be raised as to whether the political influence of **large economic conglomerations** may be effectively stopped by an uncoupling from the criterion of market domination. In this context it seems much more effective to take into consideration a per se-prohibition of large-sized mergers because their political influence transcends economic market domination reflections. This is especially so, since efficiency increases of such large mergers are limited in their scope and as a rule rather unlikely. Furthermore, their political influence may not be comprehended accurately, although it is undoubtedly existent.³⁵

Because large-sized mergers have economic and anticompetitive consequences they are subject to review by cartel law. However, one has to be aware of the per se-prohibition of large-sized mergers being a matter of sociopolitical

35 Cf. Adams/Brock, Antitrust and Efficiency ..., supra, 1117 f. note 8; Geberth/Janicki, Kartellrecht zwischen Kontinuität und Anpassung, supra, 453; Jens, Uwe, Großfusionen: Eine Gefahr für die Marktwirtschaft, 66 WD (1986), pp. 388-390, 390; Kantzenbach, Großfusionen bedürfen einer expliziten politischen Legitimation, supra, 381 f.; Monopolkommission, Hauptgutachten V ..., op. cit., para. 750; Schmidt, Ist "Größe an sich" gefährlich?, supra. For a contrary position, cf. Knöpfle, Aktuelle Probleme der Zusammenschlußkontrolle, supra, 17.

choice, since outside of the market domination concept such a decision can hardly be based on economic knowledge.³⁶

If such a per se-prohibition for large-sized mergers is taken into consideration, a strong case can be made against an escape clause which acts in favor of well-defined exceptions in analogy to sec. 24 para. 3 ARC, since a serious danger results from lobbyists exerting pressure for the purpose of influencing the decision in order to receive political privileges. This argument is even strengthened by the fact that such political decisions cannot be reviewed by the courts.³⁷ Because such a prohibition has a political character the decision on the criterion of prohibition seems rather subjective. However, a plausible case can be made for the prime one hundred firms in a national economy being subject to such a ruling. This would mean that firms with sales more than or equal to 1% of the gross domestic product (GDP) would be subject to such a ruling.³⁸ Combined with a cap-and-spin-off concept, this would to some extent include considerations of efficiency and diversification on the part of the merging parties and considerations of overall structural change in the national economy.³⁹ Apart from this, the possibility for internal corporate growth remains untouched. Such a cap-

36 Cf. Immenga, *Zusammenschlüsse zwischen Großunternehmen ...*, op. cit., 187, 193 and 197; Kantzenbach, *Großfusionen bedürfen einer expliziten politischen Legitimation*, supra, 381 f.; Schmidt, Ist "Größe an sich" gefährlich?, supra. Rejecting this line of action, Harms, Wolfgang, *Reparaturnovelle für das GWB*, in: Helmrich, Herbert (ed.), *Wettbewerbspolitik und Wettbewerbsrecht: Zur Diskussion um die Novellierung des GWB*, Köln et al. 1987, pp. 137-146, 144; Möschel, *Use of Economic Evidence ...*, supra, 541; and Schlecht, *Ein neuer Ordnungsrahmen ...*, op. cit., 38.

37 Cf. Krakowski, *Aktuelle Probleme der Fusionskontrolle*, supra, 72; Mestmäcker, *Zur Fusionskontrolle in der Wettbewerbspolitik*, supra, 184; Möschel, *Wettbewerbspolitik aus ordoliberaler Sicht*, op. cit., 721 f., who emphasizes the ordoliberal 'rule of law' as a guiding principle; cf. as well Noll, Bernd, *Wettbewerbs- und ordnungspolitische Probleme der Konzentration*, Spardorf 1986, pp. 194 f.

38 Cf., e.g., Jens, *Großfusionen ...*, supra, 390, who emphasizes that this ruling could be modified by the so-called cap-and-spin-off conception which would provide for a refutable presumption in cases of sell-offs of parts of the merging firms. This was originally provided for by the Kennedy Bill in the United States, cf. Monopolkommission, *Hauptgutachten VI ...*, op. cit., para. 478.

39 The German FCO views this as a viable option, cf. Bundeskartellamt, *Tätigkeitsbericht 1985/86*, op. cit., 43-46; Monopolkommission, *Hauptgutachten der Monopolkommission IV: Fortschritte bei der Konzentrationserfassung*, Baden-Baden 1982, paras. 649 ff.; and just recently the Vice President of the FCO, Niederleithinger, *Praxis der Fusionskontrolle und der Mißbrauchsaufsicht 1985/86*, op. cit., 54 f.

and-spin-off concept must furthermore include an amendment of corporate and tax laws, as well as an amendment of the legal framework for the market of corporate control.⁴⁰

The reduction of the market share thresholds given in Sec. 22 para. 3 ARC is solely aimed at the retailing sector. Its purpose is to emphasize that market dominance may emerge at market shares well below the ones indicating market power in the case of the manufacturing sector. However, a change in these thresholds can also serve the general purpose of making a possible conflict between efficiency increases and maintenance of sufficient competitive pressure less likely by differentiating the thresholds which serve as refutable legal presumptions. This has to be accompanied by shaping the burden of proof. As we have noted *supra*, the presumptions are virtually of little material importance in application. In this context, their amendment would only be of a flanking character, i.e. it would constitute solely a guide and signal for jurisdiction.

Furthermore, this particular problem has to be viewed in the context of the European Economic Community (EEC), since the Community's Commission presented a proposal for legislation on merger control.⁴¹ This proposal will have to be considered binding for the Member States if the proposal is accepted by the European Council because Community Law represents supranational law and thus precedes national law.⁴²

IV. Concluding Remarks

The derivation of conclusions from the developments in the United States for the Fifth Amendment of the German Act Against Restraints of Competition is justified by the basic comparability of the two bodies of law.

Whereas the German law contains so-called minimum thresholds that are supposed to determine at what point mergers are sufficiently relevant to merit

40 Cf. *Stellungnahme der Bundesregierung zum Tätigkeitsbericht des Bundeskartellamtes 1985/86*, op. cit., III f.; Immenga, *Zusammenschlüsse zwischen Großunternehmen ...*, op. cit., 192 and 198.

41 Cf. *Vorschlag einer Verordnung (EWG) des Rates ...*, *supra*, pp. 405-412.

42 The proposal prohibits mergers that create or strengthen a market dominating position in the Common Market or in a substantial part of it (criterion of intervention). A merger is considered compatible with the Common Market if the joint market share of the combining firms is less than 20% of the Common Market or a substantial part of it. The latter criterion also serves as a refutable presumption.

legal scrutiny, the U.S. antitrust statutes have no such minimum thresholds. However, minimum thresholds are created by the antitrust enforcement agencies such as the Merger Guidelines of the Antitrust Division of the Department of Justice by means of administrative enforcement rules, making explicit the circumstances under which the agencies start legal scrutiny.

Only German law contains overall justifications which specify the defenses which are available in order to have an illegal merger exceptionally declared legal. The merger can be declared legal by the German Federal Minister for Economic Affairs if the detrimental effects on competition are outweighed by overall economic advantages or justified by an overriding public interest. The U.S. statute does not contain such an arbitrary disposition; however, the efficiency defense is used by the Antitrust Authorities increasingly.

There is a restrictive position applying the ARC towards a tendency to increase the use of economic evidence in general, and with efficiency considerations in particular, because of the ambiguous nature of the latter.

This reasoning is affirmed by recent adjudication, which is rather unwilling to accept economic evidence contrary to recent tendencies in U.S. enforcement and jurisdiction. This applies to a variety of developments:

(1) Concerning the definition of the relevant market, attempts to extract precise numerical values for these elasticities in addition to a 'soft' and qualitative evaluation of the substitution possibilities is unrealistic simply because it is unfeasible. This is why attempts in current U.S. antitrust policy to introduce such a quantitative analysis are not adopted.

Contrary to widespread opinion, the international competitiveness of German firms is taken into account by current market delineation procedure and particularly by the comprehensive view applied. This makes it unnecessary to adopt the current policy approach in the U.S., which attempts to take into consideration foreign competition directly through the definition of the relevant market. In addition, in case of a conflict between maintaining competition and ensuring the ability to compete internationally the Federal Minister of Economics may grant an exemption according to sec. 24 para. 3 ARC.¹

1 It should be noted that there have only been four cases since 1973 where this justification for a merger was put forward by the merging firms, cf. Bundesministerium für Wirtschaft, Erfahrungsbericht über Ministererlaubnis-Verfahren bei Firmen-Fusionen, 36 WuW (1986), pp. 788 ff.

- (2) On the basis of our results in the contribution submitted we have found that market structure is important for the determination of actual conduct within a relevant market. Contrary to current antitrust policy in the U.S., our findings indicate that a structural predominance is to be confirmed, although the traditional paradigm faces a rather severe modification, which now puts emphasis on superior market positions of individual firms rather than on collective domination. The general criticism on the role that market share and relative market share play as legal presumptions seems inappropriate.
- (3) In Germany it is still undisputed that an accretion of financial resources does not pose a competitive problem per se and thus is not necessarily detrimental to competitive conditions. But even if it was confirmed that conglomerate mergers were unharful as a rule, this does not provide evidence that the accretion of financial resources in combination with a market dominating share can equally be evaluated as unharful. This calls for a case by case analysis. The disappearance of the use of the entrenchment-doctrine in U.S. enforcement and adjudication in the U.S. has not (yet) initiated such a tendency in German antitrust policy.
- (4) In contrast to the theory guiding U.S. antitrust policy, the existence and height of market barriers have been sufficiently considered in actual merger cases in German antitrust policy and there seems to be no dispute that they have to be considered if they exist. This also applies to the case of international competition, which we have emphasized in the context of the relevant market. It is often asserted that the globalization of competition renders the market barriers concept obsolete because there is always sufficient competitive pressure. Nevertheless, despite that liberalization, meaningful legal and factual barriers to new competition do exist which tend to impede sufficient competitive pressure in such cases. In this context, it is of crucial importance to what extent the national market is interwoven with international competition and what the circumstances of the individual case are.

Thus far, there is no adoption of the somewhat more lenient line of U.S. antitrust policy in the context of mergers and there is no necessity to follow this trend.

There is no doubt about the notion that deterministic kinds of statements on structure-, conduct-, performance-relationships are of little use. This is not disputed by the adherents of traditional theory, however. This knowledge

points to the necessity for a comprehensive analysis of the structural factors of a relevant market including actual conduct in ambiguous cases. This entails, for instance, that factors in addition to the ones listed in para. 22 sec. 1 lit. 2 are to be considered. This applies for example to the use of market share as a structural criterion for the determination of a dominant position.

An essential aspect of competition policy is, as it came to be called by the German ordoliberal economists, the "ordnungspolitische" function. This view emphasizes that competition also has a sociopolitical function which should be given at least as much importance as the economic function of enhancing consumer welfare. In this sense, competition, acting as a controlling, selecting, and driving force through decentralized decision-making units, should be seen as the only appropriate counterpart and basic economic principle appropriate for free, democratic states, since it deprives economic aggregations of their economic power.

Surrendering this ordoliberal idea and thus omitting non-economic objectives can have serious effects, since highly concentrated markets lead to a decreased flexibility of large companies and to an increase in their (potential) political influence. This may lead to the use of economic power for exercising political pressure in order to get protection from competition or receive direct government subsidies.

In current U.S. antitrust policy a permanent dilemma is implicitly assumed between efficiency-enhancement and maintaining competition; the German legislator, by contrast, has not presumed such a conflict as a rule. In a general sense, the alleged goal conflict between maintaining competition and enhancing efficiency is not confirmed by the empirical studies reviewed and the conclusions drawn in our contribution. There has not thus far been any case which demonstrates the inability of national companies to compete on a global scale because of the strict German merger control.

The same tendency may be confirmed in the argument that small business has to be protected particularly because the legislator considered maintaining a small business structure an objective in its own right. However, small business is best protected if freedom to compete, and thus competition as an institution, is protected, provided that there are no substantial competitive impairments.

Concerning merger control, the subsequent proposals for improvement of this instrument that are currently being discussed by German scholars may be evaluated as follows:

- (1) There are some serious doubts as to whether an uncoupling of the merger prohibition from the market domination criterion is the appropriate measure for a general improvement of merger control. However, such a case can be made for large-sized, particularly conglomerate mergers because of the serious problems in comprehending their anticompetitive consequences. This would best be taken care of by prohibiting any merger if it "is expected to result in a substantial impairment of the competitive conditions in a multitude of markets."
- (2) An improved comprehension of the anticompetitive consequences of vertical mergers can be attained by attaching importance not only to the vertical aspects of such mergers but also by taking into consideration the horizontal conditions and structural features of the markets affected. This is best taken into account by amending the law such that an enterprise is also viewed as market dominating if it has a paramount market position "vis-à-vis a significant number of sellers and buyers".
- (3) It seems effective to consider a per se-prohibition of large-sized mergers because their political influence transcends economic market domination reflections. A plausible case can be made for firms with sales more than or equal to 1% of the gross domestic product (GDP) to be subject to such a ruling. Combined with a cap-and-spin-off concept, this would to some extent entail considerations of efficiency and diversification on the part of the merging parties and considerations of overall structural change in the national economy.

The reduction of the market share thresholds in Sec. 22 para. 3 ARC can serve the purpose of making a possible conflict between efficiency increases and maintaining sufficient competitive pressure less likely by differentiating the thresholds which serve as refutable legal presumptions.

However, this particular problem has to be viewed in the context of the EEC, since its Commission presented a proposal for legislation on merger control.

Bibliography**Monographies****A**

- Aarts**, Jacobus W., *Antitrust Policy versus Economic Power*, Leiden 1975.
- Abell**, Derek F., and John S. **Hammond**, *Strategic Market Planning: Problems and Analytical Approaches*, Englewood Cliffs, N.J., 1979.
- Aberle**, Gerd, *Wettbewerbstheorie und Wettbewerbspolitik*, Stuttgart et al. 1980.
- Adams**, Walter, and James W. **Brock**, *The Bigness Complex: Industry, Labor, and Government in the American Economy*, New York 1986.
- Adams**, Walter, and Horace **Gray**, *Monopoly in America: The Government as Promoter*, 2nd ed., New York 1957.
- Albion**, Mark S., and Paul W. **Farris**, *The Advertising Controversy: Evidence on the Economic Effects of Advertising*, Boston, Mass. 1981.
- Aldrich**, Howard E., *Organizations and Environment*, Englewood Cliffs, N.J. 1979.
- Alsmöller**, Horst, *Wettbewerbspolitische Ziele und kooperationstheoretische Hypothesen im Wandel der Zeit*, Tübingen 1982.
- Ansoff**, Igor H., et al., *Acquisition Behavior of U.S. Manufacturing Firms, 1946-1965*, Nashville, Tenn. 1971.
- Areeda**, Phillip, *Antitrust Analysis: Problems, Text, Cases*, 2nd ed., Boston, Toronto 1974.
- Areeda**, Phillip, and Donald F. **Turner**, *Antitrust Law: An Analysis of Anti-trust Principles and Their Application*, Boston and Toronto 1978-1986, vols. 1-7.
- Armentano**, Dominick T., *Antitrust and Monopoly: Anatomy of a Policy Failure*, New York et al. 1982.
- Arndt**, Helmut, *Wirtschaftliche Macht*, München 1974, 2nd ed. 1977.
- Asch**, Peter, *Industrial Organization and Antitrust Policy*, rev. ed., New York et al. 1983.

B

- Bain**, Joe S., *Industrial Organization*, 2nd ed., New York et al. 1968.
- Bain**, Joe S., *Barriers to New Competition*, 5th ed. Cambridge, Mass. 1971.

- Bain**, Joe S., and P. David **Qualls**, Industrial Organization: A Treatise, Parts A and B, Greenwich and London 1987.
- Bartling**, Hartwig, Leitbilder der Wettbewerbspolitik, München 1980.
- Beaver**, William H., Financial Reporting: An Accounting Revolution, Englewood Cliffs, N.J. 1981.
- Bjork**, Gordon C., Private Enterprise and Public Interest: The Development of American Capitalism, Englewood Cliffs, N. J. 1969.
- Blair**, John M., Economic Concentration: Structure, Behavior and Public Policy, New York 1972.
- Blair**, John M., Seeds of Destruction, New York 1938.
- Blair**, Roger D., and David L. **Kaserman**, Law and Economics of Vertical Integration and Control, New York 1983.
- Boadway**, Richard, and David E. **Waldasen**, Public Sector Economics, 2nd ed., Boston, Toronto 1984.
- Böbel**, Ingo, Wettbewerb und Industriestruktur: Industrial Organization - Forschung im Überblick, Berlin et al. 1984.
- Böhm**, Franz, Die Ordnung der Wirtschaft als gesellschaftliche Aufgabe und rechtsschöpferische Leistung, Stuttgart and Berlin 1937.
- Borchert**, Manfred, and Heinz **Grossekettler**, Preis- und Wettbewerbstheorie, Stuttgart et al. 1985.
- Bork**, Robert H., The Antitrust Paradox: A Policy at War with Itself, New York 1978.
- Boulding**, Kenneth E., Principles of Economic Policy, London 1959.
- Bowman**, Ward, Patent and Antitrust Law: A Legal and Economic Appraisal, Chicago 1973.
- Brozen**, Yale, Mergers in Perspective, Washington D.C. and London 1982.
- Buzzell**, Robert D., and Bradley T. **Gale**, The PIMS Principles: Linking Strategy to Performance, New York 1987.

C

- Caves**, Richard E., American Industry: Structure, Conduct, Performance, 6th ed., Englewood Cliffs, N.J. 1987.
- Chamberlin**, Edward H., The Theory of Monopolistic Competition, 8th ed., Cambridge, Mass. 1962 (original: 1933).

Chandler jr., Alfred D., The Visible Hand: The Managerial Revolution In American Business, 5th print., Cambridge, Mass. 1980.

Clark, John Bates, The Control of Trusts, New York 1901.

Clark, John M., Competition As A Dynamic Process, Washington, D.C., 1961.

Cournot, Augustin, Researches Into the Mathematical Principles of the Theory of Wealth, New York 1960 (translated by N. Bacon).

D

Dirlam, Joel, and Alfred E. Kahn, Fair Competition: The Law and Economics of Antitrust Policy, Westport, Ct. 1970.

Dirrheimer, Manfred J., Marktkonzentration und Wettbewerbsverhalten von Unternehmungen, Frankfurt a.M., New York 1981.

Dirrheimer, Manfred J., Karin Wagner and Thomas Höbner, Vertikale Integration in der Mineralöl- und chemischen Industrie, Meisenheim am Glan 1981.

Duesenberry, James, Income, Saving and the Theory of Consumer Behavior, Cambridge, Mass. 1949.

E

Edwards, Corwin D., Big Business and The Policy of Competition, Westport Ct. 1956.

Edwards, Corwin D., The Price Discrimination Law: A Review of Experience, Washington D.C. 1959.

Edwards, Corwin D., Maintaining Competition, New York, 1964.

Emmerich, Volker, Kartellrecht, 4th ed., München 1982.

Eucken, Walter, Grundsätze der Wirtschaftspolitik, 5th ed., Tübingen 1975.

F

Ferguson, Charles E., A Macroeconomic Theory of Workable Competition, Durham 1964.

Ferguson, James M., Advertising and Competition: Theory, Measurement, Fact, Cambridge, Mass. 1974.

G

Galbraith, John K., The Affluent Society, Boston 1956.

- Galbraith, John K.**, American Capitalism: The Concept of Countervailing Power, London 1957.
- Galbraith, John K.**, Economic Development, Cambridge, Mass. 1968.
- Gay Fortman, Bastiaan de**, Theory of Competition Policy: A Confrontation of Economic, Political and Legal Principles, Amsterdam 1966.
- Giersch, Herbert**, Grundlagen der Wirtschaftspolitik, 1st vol.: Grundlagen, Wiesbaden 1961.
- Giesel, Harald B.**, Unternehmungswachstum und Wettbewerb, Baden-Baden 1975.
- Goffman, I.**, Strategic Interaction, Philadelphia 1969.
- Goldberg, Walter H.**, Mergers: Motives, Modes, Methods, New York 1983.
- Goldschmid, Harvey, H. Michael Mann and J. Fred Weston**, Industrial Concentration: The New Learning, Boston, Toronto 1974.
- Greer, Douglas F.**, Industrial Organization and Public Policy, 2nd ed., New York 1984.
- Griffin, Clare E.**, An Economic Approach to Antitrust Problems, New York 1951.

H

- Hannah, Leslie, and J. A. Kay**, Concentration in Modern Industry, London 1977.
- Hart, Peter E., et al.**, Mergers and Concentration in British Industry, Cambridge 1973.
- Hayek, Friedrich A. von**, The Constitution of Liberty, Chicago 1960.
- Hayek, Friedrich A. von**, The Road to Serfdom, Chicago 1956.
- Henderson, James M., and Richard E. Quandt**, Microeconomic Theory: A Mathematical Approach, 3rd ed., Auckland et al. 1980.
- Hensley, Roy J.**, Competition, Regulation and the Public Interest in Nonlife Insurance, Berkley and Los Angeles 1962.
- Herdzina, Klaus**, Wettbewerbspolitik, 2nd ed., Stuttgart 1987.
- Hessen, Robert**, In Defense of the Corporation, Standford 1979.
- Hofstadter, Richard**, The Paranoid Style in American Politics and other Essays, London 1966.
- Hoppmann, Erich**, Fusionskontrolle, Tübingen 1972.

Hovenkamp, Herbert, Economics and Federal Antitrust Law, St. Paul, Minn. 1985.

Hutchison, Thomas W., The Politics and Philosophy of Economics: Marxians, Keynesians and Austrians, New York, London 1981.

K

Kahn, Alfred E., The Economics of Regulation: Principles and Institutions. Vol. 1: Economic Principles, New York et al. 1970.

Kahn, Alfred E., The Economics of Regulation: Principles and Institutions. Vol. 2: Institutional Issues, New York 1971.

Kantzenbach, Erhard, Die Funktionsfähigkeit des Wettbewerbs, 2nd ed., Göttingen 1967.

Kaufer, Erich, Die Bestimmung von Marktmacht: Dargestellt am Problem des relevanten Marktes in der amerikanischen Antitrustpolitik, Bern and Stuttgart 1967.

Kaufer, Erich, Industrieökonomik, München 1980.

Kayser, Carl, and Donald F. Turner, Antitrust Policy: An Economic and Legal Analysis, Cambridge, Mass. 1959.

Kayser, Carl, and Donald F. Turner, Antitrust Policy: An Economic and Legal Analysis, 3rd print., Cambridge 1971.

Kirschner, Ulrich, Die Erfassung der Nachfragermacht von Handelsunternehmen: Eine Analyse der ökonomischen Beurteilungskriterien und der wettbewerbsrechtlichen Instrumente im Bereich der Verhaltenskontrolle, Frankfurt a.M. et al. 1988.

Kirzner, Israel M., Competition and Entrepreneurship, Chicago 1973.

Klauss, Gerd, Die Bestimmung von Marktmacht, Berlin 1975.

Knight, Frank H., The Economic Organization, New York 1951.

Knight, Frank H., Risk, Uncertainty, and Profit, London, Chicago 1971 (original: Boston, New York 1921).

Koch, James V., Industrial Organization and Prices, 2nd ed., Englewood Cliffs, N.J., 1980.

Koutsoyiannis, Anna, Modern Microeconomics, 2nd ed., 2nd repr., London et al. 1981.

Kwoka, John E., and David J. Ravencraft, Collusion, Rivalry, Scale Economies, and Line of Business Profitability, Washington, D.C. 1982.

L

- Lampe**, Hans-Eckhard, *Wettbewerb, Wettbewerbsbeziehungen, Wettbewerbsintensität*, Baden-Baden 1979.
- Lange**, Bernd-Peter, et al., *Konzentrationspolitik in den USA*, Tübingen 1972.
- Lange**, Oscar, *Price Flexibility and Employment*, Bloomington 1944.
- Leftwich**, The Price System and Resource Allocation, 7th ed., Hinsdale, Ill. 1979.
- Lenel**, Hans O., *Ursachen der Konzentration*, 2nd ed., Tübingen 1968.
- Liebhafsky**, H. H., *American Government and Business*, New York 1971.
- Lindblom**, C., *Politics and Markets*, New York 1977.

M

- Machlup**, Fritz, *Political Economy of Monopoly*, Baltimore 1952.
- Mansfield**, Edwin, *Microeconomics: Theory and Applications*, 4th ed., New York and London 1982.
- Marshall**, Alfred, *Principles of Economics*, 8th ed., London 1920.
- Martin**, Stephen, *Market, Firm and Economic Performance*, New York 1983.
- Mill**, John Stuart, *Principles of Political Economy*, New York 1929.
- Möeschel**, Wernhard, *Entflechtungen im Recht der Wettbewerbsbeschränkungen*, Tübingen 1979.
- Möeschel**, Wernhard, *Recht der Wettbewerbsbeschränkungen*, Köln et al. 1983.
- Mueller**, Dennis C., *Profits in the Long Run*, Cambridge, Mass. 1986.
- Möller**, Jürgen, and Rolf Hochreiter, *Stand und Entwicklungstendenzen der Konzentration in der Bundesrepublik Deutschland*, Göttingen 1975.

N

- Neale**, Alan D., and D.G. Goyder, *The Antitrust Laws of the U.S.A.: A Study of Competition Enforced by Law*, 3rd ed., Cambridge et al. 1980.
- Needham**, Douglas, *The Economics of Industrial Structure, Conduct and Performance*, London et al. 1978.
- Neiser**, Jens, *Die Praxis der deutschen Fusionskontrolle*, Berlin 1981.
- Nelson**, Ralph L., *Merger Movements in American Industry, 1895-1956*, Princeton 1959.

Nicolini, Hans-J., Untersuchungen zu Erfassungen unternehmerischer Marktmacht, Göttingen 1978.

Noll, Bernd, Wettbewerbs- und ordnungspolitische Probleme der Konzentration, Speldorf 1986.

Nourse, Edwin G., and Horace B. Drury, Industrial Price Policies and Economic Progress, Washington, D.C., 1938.

O

Olson, Mancur The Rise and Decline of Nations, New Haven, Conn. 1982.

P

Pascher, Heinrich, Die U.S.-amerikanische Deregulation Policy im Luftverkehrs- und Bankenbereich, Frankfurt a.M. et al. 1987.

Phillips, Almarin, Market Structure, Organization, and Performance, Cambridge, Mass. 1962.

Piesch, Walter, and Ingo Schmidt, The suitability of concentration measures for EEC competition policy. Commission of the European Communities Studies Collection. Competition - Approximation of legislation series No. 35.

Porter, Michael E., Competitive Strategy: Techniques for Analyzing Industries and Competitors, New York, London 1980.

Porter, Michael, Competitive Advantage: Creating and Sustaining Superior Performance, New York, London 1985.

Posner, Richard A., Antitrust Law: An Economic Perspective, Chicago 1976.

Posner, Richard A., Economic Analysis of Law, 2nd ed., Boston and Toronto 1977.

Posner, Richard A., The Economics of Justice, Chicago 1981.

Prals, S. J., The Evolution of Giant Firms in Britain, Cambridge 1976.

Preiser, Erich, Die Zukunft unserer Wirtschaftsordnung, 5th ed., Göttingen 1968.

R

Ravenscraft, David J., The Relationship Between Structure and Performance at the Line of Business and Industry Level, Washington, D.C. 1981.

Ravenscraft, David J., and Frederic M. Scherer, Mergers, Sell-Offs, and Economic Efficiency, Washington, D.C. 1987.

- Robert, Rüdiger**, Konzentrationspolitik in der Bundesrepublik Deutschland:
Das Beispiel der Entstehung des Gesetzes gegen Wettbewerbsbeschränkungen, Berlin 1976.
- Robinson, Joan**, The Economics of Imperfect Competition, 2nd ed., London 1969 (original: 1933).
- Röper, Burkhardt**, Die Konkurrenz und ihre Fehlentwicklungen: Untersuchungen über Störungen der Marktwirtschaft, Berlin 1952.
- Röpke, Wilhelm**, Die Gesellschaftskrisis der Gegenwart, Erlenbach, Zürich 1942.
- Rosenbluth, Gideon**, Concentration in Canadian Manufacturing Industries, Princeton 1957.
- Rothbard, Murray N.**, Towards a Reconstruction of Utility and Welfare Economics, New York 1978.
- Rothschild, Kurt**, Power in Economics, London 1971.
- Ruppelt, Hans-Jürgen**, Wettbewerbspolitik und wirtschaftliche Konzentration, Tübingen 1978.

S

- Säcker, Franz-Jürgen**, Zielkonflikte im deutschen und europäischen Kartellrecht, Düsseldorf n.a.
- Säcker, Franz-Jürgen**, Zielwandlungen und Zielkonflikte in der Wettbewerbspolitik: Von der Sicherung der Freiheit zur Organisation des Wohlstandes?, Diss., Köln 1971.
- Sandrock, Otto**, Vertikale Konzentrationen im USamerikanischen Antitrustrecht, Heidelberg 1984.
- Schelling, Thomas C.**, The Strategy of Conflict, Cambridge, Mass. 1960.
- Schelling, Thomas C.**, Micromotives and Macrobehavior, New York 1978.
- Scherer, Frederic M.**, Industrial market structure and economic performance, second ed., Chicago 1980.
- Schmalensee, Richard**, The Economics of Advertising, Amsterdam 1972.
- Schmidt, Ingo**, US-amerikanische und deutsche Wettbewerbspolitik gegenüber Marktmacht, Berlin 1973.
- Schmidt, Ingo**, Wettbewerbspolitik und Kartellrecht: Eine Einführung, 2nd ed., Stuttgart 1987.

- Schmidt, Ingo, and Jan B. Rittaler, Die Chicago School of Antitrust Analysis. Wettbewerbstheoretische und -politische Analyse eines Credos, Baden-Baden 1986.**
- Schmidtchen, Dieter, Wettbewerbspolitik als Aufgabe. Methodologische und systemtheoretische Grundlagen für eine Neuorientierung, Baden-Baden 1978.**
- Schröter, Klaus, Die wettbewerbspolitische Behandlung von Ausnahmebereichen - dargestellt am Beispiel der Fernwärmewirtschaft in der BRD, Frankfurt a.M. et al. 1986.**
- Schumpeter, Joseph A., Capitalism, Socialism and Democracy, New York 1942.**
- Schumpeter, Joseph A., Theorie der wirtschaftlichen Entwicklung, Leipzig 1912.**
- Schuster, Helmut, Wettbewerbspolitik, München 1973.**
- Scitovsky, Tibor, The Joyless Economy, New York 1976.**
- Seraphim, Hans-Jürgen, Theorie der Allgemeinen Volkswirtschaftspolitik, 2nd ed., Göttingen 1963.**
- Shepherd, William G., The Treatment of Market Power: Antitrust, Regulation, and Public Enterprise, New York and London 1975.**
- Shepherd, William G., The Economics of Industrial Organization, 2nd ed., Englewood Cliffs, N.J. 1985.**
- Shepherd, William G., Public Policies Toward Business, 7th ed., Homewood, Ill. 1985.**
- Simon, Herbert A., Models of Man, New York 1957.**
- Simons, Henry C., A Positive Program for Laissez-Faire: Some Proposals for a Liberal Economic Policy, Chicago 1934.**
- Singer, Eugene M., Antitrust Economics: Selected Legal Cases and Economic Models, Englewood Cliffs, N.J., 1968.**
- Singer, Eugene, Antitrust Economics and Legal Analysis, Columbus, Ohio 1981.**
- Singleton, Ross C., Industrial Organization and Antitrust: A Survey of Alternative Perspectives, Columbus, Ohio 1986.**
- Soltwedel, Rüdiger, et al., Deregulierungspotentiale in der Bundesrepublik, Tübingen 1986.**
- Steiner, Peter O., Mergers: Motives, Effects, Policies, Ann Arbor 1975.**
- Stigler, George J., Capital and Rates of Return in Manufacturing Industries, Princeton, N.J. 1963.**
- Stigler, George J., The Theory of Price, 2nd ed., New York 1966.**

- Stigler, George J.**, The Organization of Industry, Homewood, Ill. 1968.
- Stocking, George W.**, Workable Competition and Antitrust Policy, Nashville 1961.
- Sullivan, E. Thomas**, and **Herbert Hovenkamp**, Antitrust Law: Policy and Procedure, Charlottesville, Va. 1984.
- Sullivan, Lawrence A.**, Handbook of the Law of Antitrust, St. Paul, Minn. 1977.
- Sylos-Labini, Paolo**, Oligopoly and Technical Progress, Cambridge, Mass. 1962.

T

Telser, Lester G., Competition, Collusion and Game Theory, Chicago 1972.

Thorelli, Hans B., The Federal Antitrust Policy: Origination of an American Tradition, Baltimore 1955.

V

Vollmer, Lothar, Preisbindungen bei kooperativem Warenabsatz, Köln et al. 1986.

W

Walker, H.D., Market Power and Price Levels in the Ethical Drug Industry, Bloomington, Ind. 1971.

Walras, Léon, Elements of Pure Economics or the Theory of Social Wealth, 2nd ed., London 1965.

Ward, B., The Ideal Worlds of Economics, New York 1979.

Warren-Boulton, Frederick, Vertical Control of Markets: Business and Labor Practices, Cambridge, Mass. 1978.

Weldenbaum, Murray L., The Future of Business Regulation, New York 1979.

Welzäcker von, Carl-Christian, Barriers to Entry: A Theoretical Treatment, Berlin et al. 1980.

Willeke, Franz-Ulrich, Wettbewerbspolitik, Tübingen 1980.

Williamson, Oliver E., Markets and Hierarchies: Analysis and Antitrust Implications, New York 1975.

Williamson, Oliver E., Economic Organisation: Firms, Markets and Policy Control, Brighton, Sussex 1986.

Williamson, Oliver E., Antitrust Economics: Mergers, Contracting, and Strategic Behavior, Oxford and New York 1987.

Witkowski, Helmut, Zur Mißbrauchsaufsicht über Preise marktbeherrschender Unternehmen, Frankfurt a.M., Bern 1981.

Wördinger, Hans, Freiheit der persönlichen Entfaltung - Kartell- und Wettbewerbsrecht, Karlsruhe 1953.

Y

Yip, George S., Barriers to Entry, Lexington, Mass. 1982.

Z

Zohlnhöfer, Werner, Wettbewerbspolitik im Oligopol. Erfahrung der amerikanischen Antitrustpolitik, Basel and Tübingen 1968.

Omnibus Volumes

A

Adams, Walter, Antitrust, Laissez-Faire, and Economic Power, in: Neumark, Fritz, et al. (eds.), Wettbewerb, Konzentration und wirtschaftliche Macht, Berlin 1976, pp. 11-17.

Adams, Walter, The Case for Structural Tests, in: Weston, J. Fred, and Sam Peltzman (eds.), Public Policies Toward Mergers, Pacific Palisades 1969, pp. 13-26.

Adams, Walter, Public Policy in a Free Enterprise Economy, in: Adams, Walter (ed.), The Structure of American Industry, 7th ed., New York 1986, pp. 395-427.

Adelman, Maurice A., Concept and Statistical Measurement of Vertical Integration, in: Stigler, George J. (ed.), Business Concentration and Price Policy, Princeton 1955, pp. 281-322.

Arndt, Helmut (ed.), Die Konzentration in der Wirtschaft: On Economic Concentration, 2nd ed., vol. 1, Berlin 1971.

Arndt, Helmut, Ökonomische Theorie der Macht, in: Arndt, Helmut (ed.), Die Konzentration in der Wirtschaft: On Economic Concentration, 2nd ed., vol. 1, Berlin 1971, pp. 99-135.

Arndt, Helmut, and Günter Ollenburg, Begriff und Arten der Konzentration, in: Arndt, Helmut (ed.), Die Konzentration in der Wirtschaft: On Economic Concentration, 2nd ed., vol. 1, Berlin 1971, pp. 3-39.

Audretsch, David B., An Evaluation of Horizontal Merger Enforcement, in: Craven, John (ed.), *Industrial Organization, Antitrust and Public Policy*, Boston 1982, pp. 69-88.

B

Bain, Joe S., Conditions of Entry and the Emergence of Monopoly, in: Chamberlin, Edward H. (ed.), *Monopoly Competition and Their Regulation*, London 1954, pp. 215-241.

Bain, Joe S., The Comparative Stability of Market Structure, in: Markham, Jesse, W., and Gustav G. Papanek (eds.), *Industrial Organization and Economic Development: Essays in Honor of E. S. Mason*, Boston 1970, pp. 38-46.

Barnikel, Hans-Heinrich (ed.), *Probleme der wirtschaftlichen Konzentration*, Darmstadt 1975.

Berg, Hartmut, Automobilindustrie, in: Oberender, Peter (ed.), *Marktstruktur und Wettbewerb*, München 1984, pp. 169-215.

Berg, Hartmut, Produktdifferenzierung, Werbung und Wettbewerb: Der Zigarettenmarkt der Bundesrepublik Deutschland, in: Bombach, Gottfried, et al. (eds.), *Industrieökonomik: Theorie und Empirie*, Tübingen 1985, pp. 283-295.

Bork, Robert H., Vertical Integration and Competitive Processes, in: Weston, J. Fred, and Sam Peltzman (eds.), *Public Policies Toward Mergers*, Pacific Palisades 1969, pp. 139-149.

Boyer, Kenneth D., Degrees of Differentiation and Industry Boundaries, in: Calvani, Terry, and John Siegfried (eds.), *Economic Analysis of Antitrust Law*, Boston 1979, pp. 88-106.

Brozen, Yale, The Significance of Profit Data for Antitrust Policy, in: Weston, J. Fred, and Sam Peltzman (eds.), *Public Policies Toward Mergers*, Pacific Palisades 1969, pp. 110-127.

Brozen, Yale, Entry Barriers: Advertising and Product Differentiation, in: Goldschmid, Harvey, et al. (eds.), *Industrial Concentration: The New Learning*, Boston, Toronto 1974, pp. 115-161.

Brozen, Yale, Competition, Efficiency, and Antitrust, in: Brozen, Yale (ed.), *The Competitive Economy: Selected Readings*, Morristown, N.J. 1975, pp. 6-14.

Brozen, Yale, No...The Concentration Collusion Doctrine, in: American Bar Association (ed.), *Industrial Concentration and the Market System*, pp. 106-117.

C

Calvani, Terry, and John Siegfried (eds.), *Economic Analysis of Antitrust Law*, Boston 1979.

Caves, Richard E., The Determinants of Market Structure: Design for Research, in: Jacquemin, Alexis P., and Henk W. de Jong (eds.), Markets, Corporate Behavior and the State, The Hague 1976, pp. 3-7.

Caves, Richard E., and Michael E. Porter, Barriers to Exit, in: Masson, Robert T., and P. David Qualls (eds.), Essays on Industrial Organization in Honor of Joe S. Bain, Cambridge, Mass. 1976, pp. 39-69.

Coase, Ronald H., Industrial Organisation: A Proposal for Research, in: Fuchs, Victor (ed.), Policy Issues and Research Opportunities, New York, 1972, pp. 59 -73.

Cox, Helmut, and Harald **Hübener**, Wettbewerb: Eine Einführung in die Wettbewerbstheorie und Wettbewerbspolitik, in: Cox, Helmut, et al. (eds.), Handbuch des Wettbewerbs, München 1981, pp. 1-48.

D

Demsetz, Harold, Two Systems of Belief About Monopoly, in: Goldschmid, Harvey, et al. (eds.), Industrial Concentration: The New Learning, Boston, Toronto 1974, pp. 164-184.

Dirrheimer, Manfred J., Ressourcenstärke und Abschreckungswirkung in der Fusionskontrolle, in: FIW (ed.), Neuorientierung des Wettbewerbsschutzes, Köln et al. 1986, pp. 137-156.

E

Eucken, Walter, Technik, Konzentration und Ordnung der Wirtschaft, in: Bar-nikel, Hans-Heinrich (ed.), Probleme der wirtschaftlichen Konzentration, Darmstadt 1975, pp. 43-59.

F

Fisher, Alan A., and Robert **Sciacca**, An Economic Analysis of Vertical Merger Enforcement Policy, in: Zerbe jr., Richard O. (ed.), Research in Law and Economics, vol. 6: Antitrust and Regulation, Greenwich, London 1984, pp. 1-133.

FIW (ed.), Internationale Kartellrechtspraxis 1983/84, OECD-Länderberichte über Wettbewerbsbeschränkungen, FIW-Dokumentation Heft 8, Köln et al. 1986, pp. 28-56.

FIW (ed.), Vertikale Verträge - US Guidelines 1985 und EG-Kartellrecht, FIW-Dokumentation Heft 7, Köln et al. 1986.

French, John R., and Bertram **Raven**, The Bases of Social Power, in: Cartwright, Dorwin (ed.), Studies in Social Power, Ann Arbor 1959, pp. 150-167.

French, John R., and Bertram Raven, The Bases of Social Power, in: Cartwright, Dorwin (ed.), Studies in Social Power, Ann Arbor 1959, pp. 150-167.

G

Grosser, Dieter, Einführung, in: Grosser, Dieter (ed.), Konzentration ohne Kontrolle, 3rd ed., Opladen 1974, pp. 9-22.

H

Hansen, Knud (ed.), Firm Size and International Competitiveness, Proceedings of the International Cartel Conference Berlin 1986, Berlin 1987, pp. 60-77.

Harms, Wolfgang, Reparaturnovelle für das GWB, in: Helmrich, Herbert (ed.), Wettbewerbspolitik und Wettbewerbsrecht: Zur Diskussion um die Novellierung des GWB, Köln et al. 1987, pp. 137-160.

Harms, Wolfgang, Zusammenschluß und Merger - rechtsvergleichende Anmerkungen zum Bereich der Fusionskontrolle, in: Gamm, Otto Friedrich Freiherr von, et al. (eds.), Strafrecht, Unternehmensrecht, Anwaltsrecht: Festschrift für Gerd Pfeiffer, Köln et al. 1987, pp. 501-515.

Haussmann, Fritz, Konzentrationsgründe: Theorien und wirtschaftspolitische Beurteilung der Konzentration, in: Barnikel, Hans-Heinrich (ed.), Probleme der wirtschaftlichen Konzentration, Darmstadt 1975, pp. 1-42.

Herdzina, Klaus, Marktentwicklung und Wettbewerbsverhalten, in: Bombach, Gottfried, et al. (eds.), Industrieökonomik: Theorie und Empirie, Tübingen 1985, pp. 105-120.

Hölzler, Heinrich, Der Marktanteil in der Fusionskontrolle bei internationaler Wirtschaftsverflechtung, in: Gamm, Otto Friedrich Freiherr von, et al. (eds.), Strafrecht, Unternehmensrecht, Anwaltsrecht: Festschrift für Gerd Pfeiffer, Köln et al. 1987, pp. 517-529.

Hölzler, Heinrich, Ökonomische Realität in der Fusionskontrolle: Erfahrungen in den USA, in: Helmrich, Herbert (ed.), Wettbewerbspolitik und Wettbewerbsrecht: Zur Diskussion um die Novellierung des GWB, Köln et al. 1987, pp. 161-183.

Hölzler, Heinrich, and Wolfgang Winkler, Wirtschaftliche Macht als Störfaktor von Wettbewerbsprozessen, in: Neumark, Fritz, et al. (eds.), Wettbewerb, Konzentration und wirtschaftliche Macht, Berlin 1976, pp. 71-93.

Hoppmann, Erich, Workable Competition als wettbewerbspolitisches Konzept, in: Besters, Hans (ed.), Theoretische und Institutionelle Grundlagen der Wirtschaftspolitik, Berlin 1967, pp. 145-197.

Hoppmann, Erich, Zum Problem einer wirtschaftspolitisch praktikablen Definition des Wettbewerbs, in: Schneider, Hans K. (ed.), Grundlagen der Wettbewerbspolitik, Berlin 1968, pp. 9-49.

Hoppmann, Erich, Zum Schutzobjekt des GWB, in: Mestmäcker, Ernst-Joachim (ed.), *Wettbewerb als Aufgabe: Nach zehn Jahren Gesetz gegen Wettbewerbsbeschränkungen*, Bad Homburg v.d.H. et al., pp. 61-104.

Hopt, Klaus J. (ed.), *European Merger Control: Legal and Economic Analyses on Multinational Enterprises*, vol. 1, Berlin and New York 1982.

Hopt, Klaus J., Merger Control in Germany: Philosophies, Experiences, Reforms, in: Hopt, Klaus J. (ed.), *European Merger Control: Legal and Economic Analyses on Multinational Enterprises*, vol. 1, Berlin and New York 1982, pp. 71-99.

Hughes, Alan, et al., Hypotheses about Mergers, in: Mueller, Dennis C. (ed.), *The Determinants and Effects of Mergers: An International Comparison*, Königstein/Ts., pp. 27-66.

I

Immenga, Ulrich, Zusammenschlüsse zwischen Großunternehmen als Gegenstand des Rechts der Wettbewerbsbeschränkungen, in: Helmrich, Herbert (ed.), *Wettbewerbspolitik und Wettbewerbsrecht: Zur Diskussion um die Novellierung des GWB*, Köln et al. 1987, pp. 185-198.

Intriligator, Michael D., et al., Conceptual Framework of an Econometric Model of Industrial Organization, in: Weston, J. Fred., and Stanley J. Ornstein (eds.), *The Impact of Large Firms on the U.S. Economy*, Lexington et al. 1973, pp. 23-55.

J

Jöhr, Adolf, Konzentration als Problem der Theorie der Wirtschaftspolitik, in: Arndt, Helmut (ed.), *Die Konzentration in der Wirtschaft: On Economic Concentration*, 2nd ed., vol. 1, Berlin 1971, pp. 459-512.

Joskow, Paul L., and Roger C. Noll, Regulation in Theory and Practice: An Overview, in: Fromm, Gary (ed.), *Studies in Public Regulation*, Cambridge, Mass. 1981, pp. 1-65.

K

Kantzenbach, Erhard, Konzentration als Problem der Konkurrenzwirtschaft, in: Arndt, Helmut (ed.), *Die Konzentration in der Wirtschaft: On Economic Concentration*, 2nd ed., vol. 1, Berlin 1971, pp. 159-183.

Kantzenbach, Erhard, and Hermann H. Kallfass, Das Konzept des funktionsfähigen Wettbewerbs - workable competition, in: Cox, Helmut, et al. (eds.), *Handbuch des Wettbewerbs*, München 1981, pp. 103-127.

Kantzenbach, Erhard, Bewertung bisheriger Vorschläge zu einer wirksameren Fusionskontrolle, Venusbergseminare der Friedrich-Ebert-Stiftung zur Wirtschaftspolitik: Fusionskontrolle und Wettbewerbsrecht, Bonn 1986, pp. 17-31.

Kantzenbach, Erhard, The Treatment of Dominance in German Antitrust Policy, in: de Jong, Henk W., and William G. Shepherd (eds.), *Mainstreams in Industrial Organization - Book 2*, Dordrecht et al. 1986, pp. 273-285.

Kartte, Wolfgang, Marktstruktur und volkswirtschaftliche Effizienz - ein Widerspruch?, in: FIW (ed.), *Neuorientierung des Wettbewerbsschutzes*, Köln et al. 1986, pp. 49-60.

Kartte, Wolfgang, Internationale Wettbewerbsfähigkeit und Zusammenschlußkontrolle, in: Gamm, Otto Friedrich Freiherr von, et al. (eds.), Strafrecht, Unternehmensrecht, Anwaltsrecht: *Festschrift für Gerd Pfeiffer*, Köln et al. 1987, pp. 531-536.

L

Lenel, Hans O., Über die Märkte für Unternehmenskontrolle, in: Borchert, Manfred, et al. (eds.), *Markt und Wettbewerb*, Bern, Stuttgart 1987, pp. 143-170.

M

Machlup, Fritz, Adresse des Präsidenten der International Economic Association, in: Schneider, Hans K., and Christian Watrin (eds.), *Macht und ökonomisches Gesetz*, vol. 1, Berlin 1973, pp. 16-23.

Markert, Kurt, Zur Bedeutung von Marktstruktur und -verhalten in der materiellen Fusionskontrolle des GWB, in: FIW (ed.), *Neuorientierung des Wettbewerbsschutzes*, Köln et al. 1986, pp. 123-135.

Markert, Kurt, Die neueste Rechtsprechung des US-Supreme Court zu den marktmachtbezogenen Vorschriften des Antitrustrechts, In: Gamm, Otto Friedrich Freiherr von, et al. (eds.), Strafrecht, Unternehmensrecht, Anwaltsrecht: *Festschrift für Gerd Pfeiffer*, Köln et al. 1987, pp. 537-554.

Markert, Kurt, Stand und Entwicklungstendenzen des US-Antitrustrecht 1987 aus der Sicht eines deutschen Kartellrechtsanwenders, in: FIW (ed.), *Schwerpunkte des Kartellrechts 1985/86. Verwaltungs- und Rechtsprechungspraxis Bundesrepublik Deutschland, EG und USA*, Köln et al., 1987, pp. 201-224.

Matschuk, Hans-Joachim, Arten und Messung der wirtschaftlichen Konzentration, in: Barnikel, Hans-Heinrich (ed.), *Probleme der wirtschaftlichen Konzentration*, Darmstadt 1975, pp. 584-612.

McGee, John, Efficiency and Economies of Size, in: Goldschmid, Harvey, et al. (eds.), *Industrial Concentration: The New Learning*, Boston, Toronto 1974, pp. 55-97.

McKie, James W., Market Structure and Function: Performance versus Behavior, in: Markham, Jesse, W., and Gustav G. Papanek (eds.), *Industrial Organization and Economic Development: Essays in Honor of E. S. Mason*, Boston 1970, pp. 3-25.

Miller, J.P., Economic Goals and the Role of Competition: Introduction, in: Miller, J.P. (ed.), Competition, Cartels and their Regulation, Amsterdam 1962, pp. 1-6.

Mishan, Ezra J., The Folklore of the Market: An Inquiry into the Economic Doctrines of the Chicago School, in: Samuels, Warren J. (ed.), The Chicago School of Political Economy, East Lansing 1976, pp. 95-166.

Möschel, Wernhard, Abschreckungstheorie und Fusionskontrolle, in: FIW (ed.), Schwerpunkte des Kartellrechts 1984/85. Verwaltungs- und Rechtsprechungspraxis Bundesrepublik Deutschland, EG und USA, Köln et al. 1986, pp. 1-13.

Möschel, Wernhard, 30 Jahre Kartellgesetz - erneuter Prüfungs- und Handlungsbedarf?, in: Helmrich, Herbert (ed.), Wettbewerbspolitik und Wettbewerbsrecht: Zur Diskussion um die Novellierung des GWB, Köln et al. 1987, pp. 3-17.

Möschel, Wernhard, Wettbewerbspolitik aus ordoliberaler Sicht, in: Gamm, Otto Friedrich Freiherr von, et al. (eds.), Strafrecht, Unternehmensrecht, Anwaltsrecht: Festschrift für Gerd Pfeiffer, Köln et al. 1987, pp. 707-725.

Mueller, Dennis C., A Cross-National Comparison of the Results, in: Mueller, Dennis C. (ed.), The Determinants and Effects of Mergers: An International Comparison, Königstein/Ts. 1980, pp. 299-314.

Mueller, Dennis C., United States' Antitrust: At the Crossroads, in: de Jong, Henk W., and William G. Shepherd (eds.), Mainstreams in Industrial Organization - Book 2, Dordrecht et al. 1986, pp. 215-241.

Mueller, Willard, Public Policy Toward Vertical Mergers, in: Weston, Fred, and Sam Peltzman (eds.), Public Policy Toward Mergers, Pacific Palisades, Cal. 1969, pp. 150-166.

N

Nagel, Bernhard, Fusion und Fusionskontrolle, in: Cox, Helmut, et al. (eds.), Handbuch des Wettbewerbs, München 1981, pp. 331-365.

Niederleithinger, Ernst, Praxis der Fusionskontrolle und der Mißbrauchsaufsicht 1985/86, in: FIW (ed.), Schwerpunkte des Kartellrechts 1985/86. Verwaltungs- und Rechtsprechungspraxis Bundesrepublik Deutschland, EG und USA, Köln et al. 1987, pp. 21-82.

O

OECD (ed.), Guide to Legislation on Restrictive Business Practices, vols. 1-4.

OECD (ed.), Market Power and the Law: A Study of the Restrictive Business Laws of the OECD Member Countries and of the EEC and ECSC dealing with Market Power, Paris 1970.

P

Peltzmann, Sam, Issues in Vertical Integration Policy, In: Weston, Fred, and Sam Peltzmann (eds.), Public Policy Toward Mergers, Pacific Palisades, Cal. 1969, pp. 167-176.

Pfeiffer, Gerd, Entwicklung der deutschen Rechtspraxis in der Bestimmung von Marktmacht, in: FIW (ed.), Neuorientierung des Wettbewerbsschutzes, Köln et al. 1986, pp. 61-82.

Pfeiffer, Gerd, Von der Autokupplung bis zu Chanel No. 5, in: Helmrich, Herbert (ed.), Wettbewerbspolitik und Wettbewerbsrecht: Zur Diskussion um die Novellierung des GWB, Köln et al. 1987, pp. 209-220.

Phillips, Almarin, Structure, Conduct and Performance - and Performance, Conduct and Structure, in: Markham/Papanek, Industrial Organization ..., op. cit., pp. 26-37.

Poeche, Jürgen, Workable Competition als wettbewerbspolitisches Leitbild, in: Poeche, Jürgen (ed.), Das Konzept der 'Workable Competition' in der angelsächsischen Literatur, FIW-Dokumentation Heft 1, Köln et al. 1970, pp. 9-32.

Pohmer, Dieter, and Franz X. Bea, "Konzentration", in: HWB, 4th, rev. ed., Stuttgart 1975, cols. 2220-2234.

R

Raiser, Ludwig, Antinomien im Recht der Wettbewerbsbeschränkungen, in: Festschrift für E. Fechner, 1973, pp. 57 ff.

Robinson, Joan, The Impossibility of Competition, in: Chamberlin, Edward H. (ed.), Monopoly and Competition and their Regulation, 1954, pp. 245-254.

Rothschild, Kurt, Macht: Die Lücke in der Preistheorie, in: Schneider, Hans K., and Christian Watrin (eds.), Macht und ökonomisches Gesetz, vol. 2, Berlin 1973, pp. 1097-1111.

S

Samuels, Warren J. (ed.), The Chicago School of Political Economy, East Lansing 1976.

Samuels, Warren J., The Chicago School of Political Economy: A Constructive Critique, in: Samuels, Warren J. (ed.), The Chicago School of Political Economy, East Lansing 1976, pp. 1-18.

Samuels, Warren J., Further Limits to Chicago School Doctrine, in: Samuels, Warren J. (ed.), The Chicago School of Political Economy, East Lansing 1976, pp. 397-455.

Scherer, Frederic M., Economies of Scale and Industrial Concentration, in: Goldschmid, Harvey, et al. (eds.), *Industrial Concentration: The New Learning*, Boston, Toronto 1974, pp. 16-54.

Scherer, Frederic M., Yes...Structure-Performance Relationships and Antitrust Policy, in: American Bar Association (ed.), *Industrial Concentration and the Market System*, 1979, pp. 131-138.

Scherer, Frederic M., On the Current State of Knowledge in Industrial Organization, in: de Jong, Henk W., and William G. Shepherd (eds.), *Mainstreams in Industrial Organization - Book 1*, Dordrecht et al. 1986, pp. 5-22.

Schlecht, Otto, Ein neuer Ordnungsrahmen für dynamischen Wettbewerb?, in: Helmrich, Herbert (ed.), *Wettbewerbspolitik und Wettbewerbsrecht: Zur Diskussion um die Novellierung des GWB*, Köln et al. 1987, pp. 35-48.

Schmidt, Ingo, Wettbewerbspolitik in den USA, in: Cox, Helmut, Uwe Jens and Kurt Markert (eds.), *Handbuch des Wettbewerbs*, München 1981, pp. 533-556.

Schneider, Hans K., Beeinflussung der Konzentration als Ziel und Mittel der Wirtschaftspolitik, in: Arndt, Helmut (ed.), *Die Konzentration in der Wirtschaft: On Economic Concentration*, 2nd ed., vol. 1, Berlin 1971, pp. 437-457.

Schneider, Hans K., and Christian Watrin (eds.), *Macht und ökonomisches Gesetz*, vols. 1 and 2, Berlin 1973.

Shepherd, William G., On the Core Concepts of Industrial Economics, in: de Jong, Henk W., and William G. Shepherd (eds.), *Mainstreams in Industrial Organization - Book 1*, Dordrecht 1986, pp. 23-67.

Sohmen, Egon, Machttheorie oder Preistheorie, in: Schneider, Hans K., and Christian Watrin (eds.), *Macht und ökonomisches Gesetz*, vol. 2, Berlin 1973, pp. 1137-1153.

Sohn, Karl-Heinz, Zur Phänomenologie der wirtschaftlichen Konzentration, in: Barnikel, Hans-Heinrich (ed.), *Probleme der wirtschaftlichen Konzentration*, Darmstadt 1975, pp. 103-141.

T

Toepke, Utz P., Antitrustspruchpraxis 1981/82, in: FIW (ed.), *Schwerpunkte des Kartellrechts 1981/82. Verwaltungs- und Rechtsprechungspraxis Bundesrepublik Deutschland, EG und USA*, Köln et al. 1983, pp. 137-152.

Toepke, Utz P., Antitrustspruchpraxis 1982/83, in: FIW (ed.), *Schwerpunkte des Kartellrechts 1982/83. Verwaltungs- und Rechtsprechungspraxis Bundesrepublik Deutschland, EG und USA*, Köln et al. 1984, pp. 61-85.

Toepke, Utz P., Antitrustspruchpraxis 1983/84, in: FIW (ed.), *Schwerpunkte des Kartellrechts 1983/84. Verwaltungs- und Rechtsprechungspraxis Bundesrepublik Deutschland, EG und USA*, Köln et al. 1985, pp. 89-119.

Toepke, Utz P., Antitrustspruchpraxis 1984/85, in: FIW (ed.), Schwerpunkte des Kartellrechts 1984/85. Verwaltungs- und Rechtsprechungspraxis Bundesrepublik Deutschland, EG und USA, Köln et al. 1986, pp. 103-150.

Toepke, Utz P., Antitrustspruchpraxis 1985/86, in: FIW (ed.), Schwerpunkte des Kartellrechts 1985/86. Verwaltungs- und Rechtsprechungspraxis Bundesrepublik Deutschland, EG und USA, Köln et al. 1987, pp. 175-200.

W

Weiss, Leonard, Quantitive Studies of Industrial Organization, in: Intriligator, Michael D. (ed.), Frontiers of Quantitative Economics, Amsterdam, Oxford 1971, pp. 362-408.

Weiss, Leonard W., The Concentration-Profits Relationship and Antitrust, in: Goldschmid, Harvey, et al. (eds.), Industrial Concentration: The New Learning, Boston, Toronto 1974, pp. 184-233.

Weston, J. Fred, Structure, Performance and Behavior, in: Weston, Fred, and Sam Peltzman (eds.), Public Policy Toward Mergers, Pacific Palisades, Cal. 1969, pp. 67-78.

White, Lawrence J., Searching for the Critical Industrial Concentration Ratio, in: Goldfeld, Stephen, and Richard E. Quandt (eds.), Studies in Non-Linear Estimation, Cambridge, Mass. 1976, pp. 61-75.

White, Lawrence J., Mergers and Aggregate Concentration, in: Keenan, Michael, and Lawrence J. White (eds.), Mergers and Acquisitions, Lexington, Mass. and Toronto 1982, pp. 97-111.

Wilber, Charles K., and Jon D. **Wisman**, The Chicago School: Positivism or Ideal Type?, in: Samuels, Warren J. (ed.), The Chicago School of Political Economy, East Lansing 1976, pp. 79-93.

Williamson, Oliver E., Economies as an Antitrust Defense Revisited, in: Jaquemin, Alexis P., and Henk W. de Jong (eds.), Welfare Aspects of Industrial Markets, Leiden 1977, pp. 237-281.

Z

Zohlnhöfer, Werner, Wettbewerb - Modell und Wirklichkeit, in: Andreae, Clemens-August, and Werner Benisch (eds.), Wettbewerbsordnung und Wettbewerbsrealität, Köln, et al., pp. 15-36.

Zohlnhöfer, Werner, and Horst **Greffenberg**, Neuere Entwicklungen in der Wettbewerbstheorie: Die Berücksichtigung organisationsstruktureller Aspekte, in: Cox, Helmut, Uwe Jens and Kurt Markert (eds.), Handbuch des Wettbewerbs, München 1981, pp. 79-101.

Articles and Serial Publications**A**

- Abouchar**, Alan, Marshall, Consumer Surplus and the Marginal Utility of Money, 8 Eastern Economic Journal (1982), pp. 79-82.
- Adams**, Walter, Vertical Power, Dual Distribution and the Squeeze. A Case Study in Steel, 9 The Antitrust Bulletin (1964), pp. 493-508.
- Adams**, Walter, Economic Theory and Economic Policy, 11 Review of Social Economy (1982), pp. 1-12.
- Adams**, Walter, and James W. **Brock**, The "New Learning" and the Euthanasia of Antitrust, 74 California Law Review (1986), pp. 1516-1566.
- Adams**, Walter, and James W. **Brock**, Antitrust and Efficiency: A Comment, 62 New York University Law Review (1987), pp. 1116-1124.
- Adams**, Walter, and Joel **Diriam**, Steel Imports and Vertical Oligopoly Power, 54 The American Economic Review (1964), pp. 626-655.
- Adelman**, Maurice A., Business Size and Public Policy, 24 The Journal of Business (1951), pp. 272-279.
- Adelman**, Maurice A., The Measurement of Industrial Concentration, 33 Review of Economics and Statistics (1951), pp. 269-296.
- Aichian**, Armen, and Harold **Demsetz**, Production, Information Costs, and Economic Organization, 62 The American Economic Review (1972), pp. 777-795.
- Allen**, Bruce T., Vertical Integration and Market Foreclosure: The Case of Cement and Concrete, 14 The Journal of Law and Economics (1971), pp. 251-274.
- Amato**, Louis, and Ronald P. **Wilder**, The Effects of Firm Size on Profit Rates in U.S. Manufacturing, 52 Southern Economic Journal (1985), pp. 181-190.
- Areeda**, Phillip, Introduction to Antitrust Economics, 52 Antitrust Law Journal (1983), pp. 523-538.
- Areeda**, Phillip, and Donald F. **Turner**, Predatory Pricing and Related Practices Under Section 2 of the Sherman Act, 88 Harvard Law Review (1975), pp. 697-733.
- Areeda**, Phillip, and Donald F. **Turner**, Scherer on Predatory Pricing: Reply, 89 Harvard Law Review (1976), pp. 891-900.
- Armour**, Henry Ogden, and David J. **Teece**, Vertical Integration and Technological Innovation, 62 Review of Economics and Statistics (1980), pp. 470-474.

Asch, Peter, and John Seneca, Is Collusion Profitable? 58 Review of Economics and Statistics (1976), pp. 1-12.

Audretsch, David, Divergent Views in Antitrust Economics, 33 The Antitrust Bulletin (1988), pp. 135-160.

B

Bailey, Elizabeth E., Contestability and the Design of Regulatory and Antitrust Policy, 71 The American Economic Review (1981), pp. 178-183.

Bain, Joe S., Pricing in Monopoly and Oligopoly, 39 The American Economic Review (1949), pp. 446-464.

Bain, Joe S., Relation of Profit Rate to Industry Concentration, American Manufacturing, 1936-1940, 65 The Quarterly Journal of Economics (1951), pp. 293-324.

Bain, Joe S., Economies of Scale, Concentration, and the Conditions of Entry in Twenty Manufacturing Industries, 44 The American Economic Review (1954), pp. 15-39.

Bain, Joe S., Survival Ability as a Test of Efficiency, 59 The American Economic Review (1969), pp. 99-104.

Baron, D. P., Limit Pricing, Potential Entry, and Barriers to Entry, 63 The American Economic Review (1973), pp. 666-674.

Barton, D., and R. Sherman, The Price and Profit Effects of Horizontal Merger: A Case Study, 32 The Journal of Industrial Economics (1984), pp. 165-178.

Bator, Francis M., The Anatomy of Market Failure 72 The Quarterly Journal of Economics (1958), pp. 351-379.

Baumol, William J., and Robert E. Willig, Fixed Costs, Sunk Costs, Entry Barriers, Public Goods and the Sustainability of Monopoly, 96 The Quarterly Journal of Economics (1981), pp. 405-432.

Baxter, William F., Reflections Upon Professor Williamson's Comments, 27 St. Louis University Law Journal (1983), pp. 315-320.

Baxter, William F., Responding to the Reaction: The Draftman's View, 71 California Law Review (1983), pp. 618-631.

Bechthold, Rainer, Die Entwicklung des deutschen Kartellrechts von 1981 bis 1983, 37 Neue Juristische Wochenschrift (1984), pp. 145-152.

Bechthold, Rainer, Die Entwicklung des deutschen Kartellrechts seit Ende 1983, 39 Neue Juristische Wochenschrift (1986), pp. 3053-3061.

Benham, Lee: The Effect of Advertising on the Price of Eyeglasses, 15 The Journal of Law and Economics (1972) pp. 337-352.

- Benston, George J.**, The Validity of Profits-Structure Studies with Particular References to the FTC's Line of Business Data, 75 *The American Economic Review* (1985), pp. 37-67.
- Benston, George J.**, The Validity of Studies with Line of Business Data: Reply, 75 *The American Economic Review* (1987), pp. 218-223.
- Bergson, Abram**, On Monopoly Welfare Losses, 63 *The American Economic Review* (1973), 853-870.
- Blair, John M.**, Statistical Measures of Concentration in Business, 8 *Bulletin of the Oxford Institute of Statistics* (1956), pp. 351-372.
- Blake, Harlan M.**, Conglomerate Mergers and the Antitrust Laws, 73 *Columbia Law Review* (1973), pp. 555-592.
- Blake, Harlan M.**, and William K. **Jones**, In Defense of Antitrust, 65 *Columbia Law Review* (1965), pp. 377-400.
- Blechman, Michael D.**, Neue Entwicklungen in der amerikanischen Wettbewerbstheorie, 32 *Wirtschaft und Wettbewerb* (1982), pp. 173-188.
- Böbel, Ingo**, Welfare Losses due to Monopoly Power: An Investigation for the West German Economy, 197 *Jahrbücher für Nationalökonomie und Statistik* (1982), pp. 509-520.
- Böbel, Ingo**, Marktmacht versus Effizienz: Ein wirtschaftspolitisches Dilemma, 14 *List Forum* (1987/88), pp. 40-56.
- Böhm, Franz**, Privatrechtsgesellschaft und Marktwirtschaft, 17 *ORDO* (1966), pp. 75-151.
- Böhm-Bawerk, Eugen v.**, Macht oder ökonomisches Gesetz?, 23 *Zeitschrift für Volkswirtschaft, Sozialpolitik und Verwaltung* (1914), pp. 205-271.
- Bössmann, Eva**, Weshalb gibt es Unternehmungen?: Der Erklärungsansatz von Ronald H. Coase, 137 *Journal of Institutional and Theoretical Economics* (1981), pp. 667-673.
- Bok, Derek**, Section 7 of the Clayton Act and the Merging of Law and Economics, 74 *Harvard Law Review* (1960), pp. 226-335.
- Bork, Robert H.**, Vertical Integration and The Sherman Act: The Legal History of an Economic Misconception, 22 *The University of Chicago Law Review* (1954), pp. 157-201.
- Bork, Robert H.**, Antitrust and Monopoly: The Goals of Antitrust, 57 *The American Economic Review* (1967), pp. 242-253.
- Bork, Robert H.**, and Ward S. **Bowman**, The Crisis in Antitrust, 65 *Columbia Law Review* (1965), pp. 363-376.
- Bradburd, Ralph M.**, and A. Mead **Over**, Organizational Costs, "Sticky Equilibria", and Critical Levels of Concentration, 64 *Review of Economics and Statistics* (1982), pp. 50-58.

- Briggs**, John DeQ., and Stephen **Calkins**, Antitrust 1986-87: Power and Access (Part 1), 32 The Antitrust Bulletin (1987), pp. 275-333.
- Briggs**, John DeQ., and Stephen **Calkins**, Antitrust 1986-87: Power and Access (Part 2), 32 The Antitrust Bulletin (1987), pp. 699-730.
- Brodley**, Joseph F., Limiting Conglomerate Mergers: The Need for Legislation, 40 Ohio State Law Journal (1979), pp. 867-894.
- Brown**, David, Neue Entwicklungen in der amerikanischen Wettbewerbspolitik, 32 Wirtschaft und Wettbewerb (1982), pp. 180-188.
- Brozen**, Yale, Barriers Facilitate Entry, 14 The Antitrust Bulletin (1969), pp. 851-854.
- Brozen**, Yale, Bain's Concentration and Rates of Return Revisited, 14 The Journal of Law and Economics (1971), pp. 351-369.
- Brozen**, Yale, Deconcentration Reconsidered: Comment, 14 The Journal of Law and Economics (1971), pp. 489-491.
- Brozen**, Yale, Concentration and Structural and Market Disequilibria, 16 The Antitrust Bulletin (1971), pp. 241-248.
- Brozen**, Yale, The Persistence of "High Rates of Return" in High Stable Concentration Industries, 14 The Journal of Law and Economics (1971), pp. 501-512.
- Brozen**, Yale, The Concentration-Collusion Doctrine, 46 Antitrust Law Journal (1977), pp. 826-856.
- Buchanan**, James M., Good Economics - Bad Law, 60 Virginia Law Review (1974), pp. 483-492.
- Butters**, Gerard R., A Survey of Advertising and Market Structure, 66 The American Economic Review (1976), pp. 392-397.
- Buzzell**, Robert D., Bradley T. **Gale** and Richard **Sultan**, Market Share - A Key to Profitability, 52 Harvard Business Review (1975), pp. 97-106.

C

- Calabresi**, Guido, Some Thoughts on Risk Distribution and the Law of Torts, 70 The Yale Law Journal (1960/61), pp. 499-528.
- Carter**, John R., Collusion, Efficiency, and Antitrust, 21 The Journal of Law and Economics (1978), pp. 435-444.
- Caves**, Richard E., and Michael E. **Porter**, From Entry Barriers to Mobility Barriers: Conjectural Decisions and Continued Deterrence to New Competition, 91 The Quarterly Journal of Economics (1977), pp. 241-261.

- Chalk, Alfred F.**, Concepts of Change and the Role of Predictability in Economics, 2 History of Political Economy (1970), pp. 97-117.
- Clark, John M.**, Toward a Concept of Workable Competition, 30 The American Economic Review (1940), pp. 241-256.
- Clark, John M.**, Competition: Static Models and Dynamic Aspects, 45 The American Economic Review (1955), pp. 450-462.
- Clarke, Roger, Stephen Davies and Michael Waterson**, The Profitability-Concentration Relation: Market Power or Efficiency?, 32 The Journal of Industrial Economics (1984), pp. 435-450.
- Clevenger, Thomas S., and Gerald R. Campbell**, Vertical Integration: A Neglected Element in Market Structure-Profit Models, 5 Journal of Industrial Organization (1977), pp. 60-66.
- Coase, Ronald**, The Federal Communications Commission, 3 The Journal of Law and Economics (1959), pp. 1-40.
- Coase, Ronald**, The Nature of the Firm, 4 Economica (1937), pp. 386-405.
- Coase, Ronald**, The Problem of Social Cost, 3 The Journal of Law and Economics (1960), pp. 1-44.
- Comanor, William S.**, Vertical Mergers, Market Power, and the Antitrust Laws, 57 The American Economic Review (1967), pp. 254-265.
- Collins, Norman R., and Lee E. Preston**, Price-Cost Margins and Industry Structure, 51 Review of Economics and Statistics (1969), pp. 271-286.
- Comanor, William S., and Robert H. Smilley**, Monopoly and the Distribution of Wealth, 89 The Quarterly Journal of Economics (1975), pp. 177-194.
- Comanor, William S., and Thomas A. Wilson**, Advertising, Market Structure and Performance, 49 Review of Economics and Statistics (1967), pp. 423-458.
- Cooter, Robert, and Peter Rappoport**, Were the Ordinalists Wrong About Welfare Economics?, 22 The Journal of Economic Literature (1984), pp. 507-530.
- Cowling, Keith, and Dennis C. Mueller**, The Social Costs of Monopoly Power Revisited, 91 The Economic Journal (1981), pp. 727-748.
- Crandall, Robert**, Vertical Integration and the Market for Repair Parts in the United States Automobile Industry, 26 The Journal of Industrial Economics (1967/68), pp. 212-234.

D

- Dalton, James E., and David W. Penn**, The Concentration/Profitability Relationship: Is There a Critical Concentration Ratio?, 25 The Journal of Industrial Economics (1976), pp. 133-142.

- Daly, George, and Fred Giertz, Welfare Economics and Welfare Reform, 62** The American Economic Review (1972), pp. 131-138.
- De Alessi, Louis, Property Rights, Transaction Costs, and X-Efficiency: An Essay in Economic Theory, 73** The American Economic Review (1983), pp. 64-81.
- Demsetz, Harold, The Cost of Transacting, 82** The Quarterly Journal of Economics (1968), pp. 33-53.
- Demsetz, Harold, Why Regulate Utilities?, 11** The Journal of Law and Economics (1968), pp. 55-65.
- Demsetz, Harold, Industry Structure, Market Rivalry, and Public Policy, 16** The Journal of Law and Economics (1973), pp. 1-9.
- Demsetz, Harold, Economics as a Guide to Antitrust Regulation, 19** The Journal of Law and Economics (1976), pp. 371-388.
- Demsetz, Harold, Barriers to Entry, 72** The American Economic Review (1982), pp. 47-57.
- DePrano, Michael E., and Jeffrey B. Nugent, Economies as an Antitrust Defense: Comment, 59** The American Economic Review (1969), pp. 947-953.
- Dewey, Donald, Mergers and Cartels: Some Reservations about Policy, 51** The American Economic Review (1961), pp. 255-262.
- Dewey, Donald, Industrial Concentration and the Rate of Profit: Some Neglected Theory, 19** The Journal of Law and Economics (1976), pp. 67-78.
- DiLorenzo, Thomas J., Corporate Management, Property Rights and the Existence of X-efficiency, 48** Southern Economic Journal (1981), pp. 116-123.
- Director, Aaron, and Edward H. Levi, Law and Future: Trade Regulation, 51** North Western University Law Review (1956), pp. 281-296.
- Dixit, Avinash K., The Role of Investment in Entry-Deterrence, 90** The Economic Journal (1980), pp. 95-106.
- Dixit, Avinash K., Recent Developments in Oligopoly Theory, 72** The American Economic Review (1982), pp. 12-17.
- Dooley, Peter C., Consumer's surplus: Marshall and his critics, 16** The Canadian Journal of Economics (1983), pp. 26-38.
- Dorfman, R., and Peter O. Steiner, Optimal Advertising and Optimal Quality, 44** The American Economic Review (1954), pp. 826-836.

E

Easterbrook, Frank H., Foreword: The Court and the Economic System, 98 Harvard Law Review (1984), pp. 4-60.

Easterbrook, Frank H., Vertical Arrangements and the Rule of Reason, 53 Antitrust Law Journal (1984), pp. 135-173.

Eaton, B. Curtis, and Richard G. **Lipsey**, Exit Barriers are Entry Barriers: The Durability of Capital as a Barrier to Entry, 11 The Bell Journal of Economics (1980), pp. 721-729.

Eaton, B. Curtis, and Richard G. **Lipsey**, Capital, Commitment, and Entry Equilibrium, 12 The Bell Journal of Economics (1981), pp. 593-604.

Edwards, Corwin, Vertical Integration and the Monopoly Problem, 17 Journal of Marketing (1952/53), pp. 404-410.

Elckhof, Norbert, Wettbewerbspolitische Ausnahmebereiche und staatliche Regulierung, 36 Jahrbuch für Sozialwissenschaft (1985), pp. 63-79.

Elzinga, Kenneth G., The Goals of Antitrust: Other than Competition and Efficiency, 125 University of Pennsylvania Law Review (1977), pp. 1191-1213.

Emmerich, Volker, Fusionskontrolle 1986/87, 32 Die Aktiengesellschaft (1987), pp. 357-368.

Esposito, Frances Ferguson, and Louis **Esposito**, Excess Capacity and Market Structure, 56 Review of Economics and Statistics (1974), pp. 188-200.

F

Fisher, Alan A., and Robert H. **Lande**, Efficiency Considerations in Merger Enforcement, 71 California Law Review (1983), pp. 1580-1696.

Fisher, Franklin M., and John J. **McGowan**, On the Misuse of Accounting Rates of Return to Infer Monopoly Profits, 73 The American Economic Review (1983), pp. 82-97.

Fox, Eleanor M., The Modernization of Antitrust: A New Equilibrium, 66 Cornell Law Review (1981), pp. 1140-1192.

Fox, Eleanor M., Introduction - The 1982 Merger Guidelines: When Economists are Kings?, 71 California Law Review (1983), pp. 281-302.

Franklin, Peter J., Some Observations on Exit from the Motor Insurance Industry, 1966-1972, 22 The Journal of Industrial Economics (1974), pp. 299-313.

Freitag, Dieter, Wirksamer Wettbewerb und potentielle Konkurrenz, 21 Wirtschaft und Wettbewerb (1971), pp. 294-305.

Friedland, Thomas S., The Estimation of Welfare Gains from Demonopolization, 45 Southern Economic Journal (1978), pp. 116-123.

Friedman, Milton, Schools at Chicago, University of Chicago Magazine (1974), pp. 11-16.

Fruhan, William E., Phryric Victories in Fights for Market Share, 50 Harvard Business Review (1972), pp. 100-107.

G

Gale, Bradley T., and Ben S. **Branch**, Concentration versus Market Share: Which Determines Performance and Why Does it Matter?, 27 Antitrust Bulletin (1982), pp. 83-106.

Geberth, Rolf, and Thomas **Janicki**, Kartellrecht zwischen Kontinuität und Anpassung, 37 Wirtschaft und Wettbewerb (1987), pp. 447-463.

Geithman, Frederick E., Howard P. **Marvel** and Leonard W. **Weiss**, Concentration, Price, and Critical Concentration Ratios, 63 Review of Economics and Statistics (1981), pp. 346-353.

George, Kenneth D., Concentration, Barriers to Entry, and Rates of Return, 50 Review of Economics and Statistics (1968), pp. 273-275.

Gerhart, Peter M., The Supreme Court and Antitrust Analysis: The (Near) Triumph of the Chicago School, 10 The Supreme Court Review (1982), pp. 319-349.

Geroski, Paul, and Alexis P. **Jacquemin**, Dominant Firms and Their Alleged Decline, 2 The International Journal of Industrial Organization (1984), pp. 1-22.

Giersch, Herbert, Aufgaben der Strukturpolitik, 9 Hamburger Jahrbücher für Wirtschafts- und Gesellschaftspolitik (1964), pp. 61-90.

Gold, Bela, Changing Perspectives on Size, Scale, and Returns: An Interpretative Survey, 19 The Journal of Economic Literature (1981), pp. 5-33.

Graham, Daniel, Profitability of Monopolization by Vertical Integration, 79 Journal of Political Economy (1971), pp. 924 f.

Green, Chris, Industrial Organization Paradigms, Empirical Evidence, and the Economic Case for Competition Policy, 20 The Canadian Journal of Economics (1987), pp. 482-505.

Gröner, Helmut, Konzentration und Wettbewerbsordnung, 8 Jura (1986), pp. 520-527.

H

- Hagerman**, Robert L., and Lemma W. **Senbet**, A Test of Accounting Bias and Market Structure, *The Journal of Business* (1976), pp. 509-514.
- Hamilton**, James L., and Soo Bock **Lee**, The Paradox of Vertical Integration, 53 *Southern Economic Journal* (1986), pp. 110-126.
- Hamilton**, James L., and Soo Bock **Lee**, Vertical Merger, Market Foreclosure, and Economic Welfare, 53 *Southern Economic Journal* (1986), pp. 948-961.
- Harberger**, Arnold C., Monopoly and Resource Allocation, 44 *The American Economic Review* (1954), pp. 77-87.
- Harris**, Robert G., and Thomas M. **Jorde**, Market Definition in the Merger Guidelines: Implications for Antitrust Enforcement, 71 *California Law Review* (1983), pp. 464-496.
- Hart**, P.E., and E.V. **Morgan**, Market Structure and Economic Performance In the United Kingdom, 25 *The Journal of Industrial Economics* (1977), pp. 177-193.
- Hayek**, Friedrich A. v., Die Anmaßung von Wissen, 26 *ORDO* (1975), pp. 12-21.
- Hayek**, Friedrich A. v., Die Arten der Ordnung, 14 *ORDO* (1963), pp. 3-20.
- Heggestad**, A. and J. **Mingo**, Prices, Nonprices, and Concentration In Banking, 8 *Journal of Money, Credit & Banking* (1976), pp. 107-117.
- Hellbronner**, Robert L., On the Limits of Economic Prediction, 70 *Diogenes* (1970), pp. 30-38.
- Henrichs**, H., Die Abgrenzung des relevanten Marktes im Licht der neueren Rechtsprechung zum Antitrustrecht, 17 *Wirtschaft und Wettbewerb* (1967), pp. 255-273.
- Herdzina**, Klaus, Marktstruktur und Wettbewerb, 3 *Zeitschrift für Wirtschafts- und Sozialwissenschaften* (1973), pp. 267-284.
- Herdzina**, Klaus, Wettbewerbstheorie und Wettbewerbspolitik: Stand und Entwicklungstendenzen, 66 *Wirtschaftsdienst* (1986), pp. 525-532.
- Hester**, D., Customer Relationships and Terms of Loans: Evidence from a Pilot Survey, 11 *Journal of Money, Credit & Banking* (1979), pp. 349-357.
- Hicks**, John, Annual Survey of Economic Theory: The Theory of Monopoly, 3 *Econometrica* (1935), pp. 1-20.
- Hochman**, Harold, and James **Rogers**, Pareto Optimal Redistribution, 59 *The American Economic Review* (1969), pp. 542-557.
- Hölzler**, Heinrich, Supreme Court überprüft Doktrin konzerninterner Wettbewerbsbeschränkungen, 33 *Wirtschaft und Wettbewerb* (1983), p. 784.

- Hoppmann, Erich**, Das Konzept der optimalen Wettbewerbsintensität, 179 Jahrbücher für Nationalökonomie und Statistik (1966), pp. 286-323.
- Hoppmann, Erich**, Wettbewerb und Werbung, 33 Wirtschaft und Wettbewerb, (1983), pp. 776-779.
- Horwitz, Morton J.**, Law and Economics: Science or Politics?, 8 Hofstra Law Review (1980), pp. 905-912.
- Hovenkamp, Herbert H.**, Distributive Justice and the Antitrust Laws, 51 George Washington Law Review (1982), pp. 1-31.
- Hovenkamp, Herbert**, Merger Actions for Damages, 35 The Hastings Law Journal (1984), pp. 937-973.
- Hovenkamp, Herbert H.**, Vertical Restrictions and Monopoly Power, 64 Boston University Law Review (1984), pp. 521-561.
- Hovenkamp, Herbert**, Antitrust Policy After Chicago, 84 Michigan Law Review (1985), pp. 213-284.

J

- Jackson, Raymond**, The Consideration of Economies in Merger Cases, 43 The Journal of Business (1970), pp. 439-447.
- Jens, Uwe**, Großfusionen: Eine Gefahr für die Marktwirtschaft, 66 Wirtschaftsdienst (1986), pp. 388-390.
- Johns, J.C.H.**, The Economics of the National Hockey League, 2 The Canadian Journal of Economics (1969), pp. 1-20.
- Joskow, Paul L., and Alvin K. Klevorick**, A Framework for Analyzing Predatory Pricing, 89 The Yale Law Journal (1979), pp. 213-270.

K

- Kamerschen, David**, The Determination of Profit Rates in "Oligopolistic" Industries, 42 The Journal of Business (1969), pp. 293-301.
- Kallfass, Hermann H.**, Die Chicago School - Eine Skizze des "neuen" amerikanischen Ansatzes für die Wettbewerbspolitik, 30 Wirtschaft und Wettbewerb (1980), pp. 596-601.
- Kamerschen, David R.**, An Estimation of the "Welfare Losses" from Monopoly in the American Economy, 4 Western Economic Journal (1966), pp. 221-236.
- Kantzenbach, Erhard**, Zur wirtschaftlichen Beurteilung der Werbung, 34 WuW (1984), pp. 297-301.
- Kantzenbach, Erhard**, Großfusionen bedürfen einer expliziten politischen Legitimation, 66 Wirtschaftsdienst (1986), pp. 379-382.

- Karsh**, Bruce A., The Role of Supply Substitutability in Defining the Relevant Product Market, 65 Virginia Law Review (1979), pp. 129-151.
- Kaserman**, David L., Theories of Vertical Integration: Implications for Antitrust Policy, 23 The Antitrust Bulletin (1978), pp. 483-510.
- Kaufer**, Erich, Nochmals: Von der Preistheorie zur Wettbewerbstheorie, 18 ORDO (1967), pp. 95-114.
- Kauper**, Thomas E., The Goals of United States Antitrust Policy: The Current Debate, 136 Journal of Institutional and Theoretical Economics (1980), pp. 408-434.
- Kauper**, Thomas E., The 1982 Horizontal Merger Guidelines: Of Collusion, Efficiency, and Failure, 71 California Law Review (1983), pp. 497-534.
- Keeler**, Theodore E., Theories of Regulation and the Deregulation Movement, 44 Public Choice (1984), pp. 103-145.
- Kessel**, Reuben, A Study of the Effects of Competition in the Tax-Exempt Bond Market, 79 Journal of Political Economy (1971), pp. 706-738.
- Kilpatrick**, Robert W., The Choice Among Alternative Measures of Industrial Concentration, 49 Review of Economics and Statistics (1967), pp. 258-260.
- Kilpatrick**, Robert W., Stigler on the Relationship Between Industry Profit Rates and Market Concentration, 76 Journal of Political Economy (1968), pp. 479-488.
- Kirchner**, Christian, "Ökonomische Analyse des Rechts" und Recht der Wettbewerbsbeschränkungen (antitrust law and economics), 140 Zeitschrift für das gesamte Handelsrecht und Wirtschaftsrecht (1980), pp. 563-588.
- Kirschner**, Ulrich, Fusionskontrolle im Lebensmitteleinzelhandel: Anmerkungen zum Fall Coop-Wandmaker, 37 Wirtschaft und Wettbewerb (1987), pp. 789-796.
- Kitch**, Edmund W., The Fire of Truth: A Remembrance of Law and Economics at Chicago, 1932-1970, 26 The Journal of Law and Economics (1983), pp. 163-233.
- Klein**, Benjamin, Transaction Cost Determinants of 'Unfair' Contractual Arrangements, 70 The American Economic Review (1980), pp. 356-362.
- Klein**, Benjamin, et al., Vertical Integration, Appropriate Rents and the Competitive Contracting Process, 21 The Journal of Law and Economics (1978), pp. 297-326.
- Knight**, Frank H., The Ethics of Competition, 37 The Quarterly Journal of Economics (1922/23), pp. 579-624.
- Knight**, Frank H., Some Fallacies in the Interpretation of Social Cost, 38 The Quarterly Journal of Economics (1924), pp. 582-606.

- Knöpfle, Robert**, Indiziert der Marktanteil den Wettbewerbsgrad, 37 Betriebs-Berater (1982), pp. 1805-1814.
- Knöpfle, Robert**, Wettbewerbsbeschränkung durch Anwendung des GWB bei Zusammenschlüssen, 37 Juristenzeitung (1982), pp. 521-530.
- Knöpfle, Robert**, Aktuelle Probleme der Zusammenschlußkontrolle, 40 Der Betrieb (1987), pp. 2-20.
- Koo, Shou-Eng**, A Note on the Social Welfare Loss Due to Monopoly, 38 Southern Economic Journal (1970), pp. 212-214.
- Krakowski, Michael**, Aktuelle Probleme der Fusionskontrolle, 66 Wirtschaftsdienst (1986), pp. 67-74.
- Kuhlman, John M., and Terry D. Davis**, The Automobile Rental Industry: An Economic Analysis of the Airport Concessionaire Agreement, 5 Antitrust Law and Economics Review (1971), pp. 59-70.
- Kwoka, John E.**, Large-Firm Dominance and Price/Cost Margins in Manufacturing Industries, 44 Southern Economic Journal (1977), pp. 183-189.
- Kwoka, John E.**, The Effects of Market Share Distribution on Industry Performance, 61 Review of Economics and Statistics (1979), pp. 101-109.
- Kwoka, John E. Jr.**, Does the Choice of Concentration Measure Really Matter?, 29 The Journal of Industrial Economics (1981), pp. 445-453.

L

- Lambsdorff, Otto Graf**, Für eine Änderung der gesetzlichen Kriterien besteht keine Veranlassung, 66 Wirtschaftsdienst (1986), pp. 384-388.
- Lamm, Richard**, Prices and Concentration in the Food Retailing Industry, 30 The Journal of Industrial Economics (1981), pp. 67-78.
- Landes, Robert H.**, Wealth Transfers as the Original and Primary Concern of Antitrust: The Efficiency Interpretation Challenged, 34 The Hastings Law Journal (1982), pp. 67-151.
- Landes, William M., and Richard A. Posner**, Market Power in Antitrust Cases, 94 Harvard Law Review (1981), pp. 937-996.
- Landon J.**, The Relation of Market Concentration to Advertising Rates: The Newspaper Industry, 16 The Antitrust Bulletin (1971), pp. 53-100.
- Lanzillotti, Robert F.**, Market Structure and Antitrust Vulnerability, 8 The Antitrust Bulletin (1963), 853-871.
- Leamer, Edward E.**, Sensitivity Analysis Would Help, 75 The American Economic Review (1985), pp. 308-313.
- Leff, Arthur A.**, Economic Analysis of Law: Some Realism About Nominalism, 60 Virginia Law Review (1974), pp. 451-482.

- Leibenstein**, Harvey, Allocative Efficiency vs. 'X-Efficiency', 35 *The American Economic Review* (1966), pp. 392-415.
- Lerner**, Abba P., The Concept of Monopoly and the Measurement of Monopoly Power, 1 *Review of Economic Studies* (1934), pp. 157-175.
- Levy**, David T., The Transaction Cost Approach to Vertical Integration: An Empirical Examination, 67 *Review of Economics and Statistics* (1985), pp. 438-445.
- Liebeler**, Wesley J., Toward a Consumer's Antitrust Law: The Federal Trade Commission and Vertical Integration in the Cement Industry, 15 *UCLA Law Review* (1968), pp. 1153-1202.
- Liebeler**, Wesley, Market Power and Competitive Superiority in Concentrated Industries, 25 *UCLA Law Review* (1978), pp. 1231-1295.
- Lieberman**, Marvin B., Excess Capacity as a Barrier to Entry: An Empirical Appraisal, 35 *The Journal of Industrial Economics* (1987), pp. 607-627.
- Liebowitz**, S.J., Measuring Industrial Disequilibria, 48 *Southern Economic Journal* (1982), pp. 119-136.
- Liebowitz**, S. J., What Do Census Price-Cost Margins Measure?, 25 *The Journal of Law and Economics* (1982), pp. 231-246.
- Lintner**, John, and J. Keith **Butters**, Effect of Mergers on Industrial Concentration, 1940-1947, 32 *Review of Economics and Statistics* (1950), pp. 30-48.
- Lipsey**, Richard G., and Kelvin **Lancaster**, The General Theory of Second Best, 24 *Review of Economic Studies* (1956), pp. 11-32.
- Littlechild**, Steven C., Misleading Calculations of the Social Costs of Monopoly Power, 91 *The Economic Journal* (1981), pp. 348-363.
- Long**, William F., and David J. **Ravenscraft**, The Misuse of Accounting Rates of Return: A Comment, 74 *American Economic Review* (1984), pp. 494-500.

M

- MacAvoy**, Paul W., James W. **McKie** and Lee E. **Preston**, High and Stable Concentration Levels, Profitability, and Public Policy: A Response, 14 *The Journal of Law and Economics* (1971), pp. 493-499.
- Machlup**, Fritz, and Martha **Taber**, Bilateral Monopoly, Successive Monopoly, and Vertical Integration, 27 *Economica* (1960), pp. 101-119.
- Maddigan**, Ruth J., The Measurement of Vertical Integration, 63 *Review of Economics and Statistics* (1981), pp. 328-335.
- Mallela**, Parthasaradhi, and Babu **Nahata**, Theory of Vertical Control with Variable Proportions, 88 *Journal of Political Economy* (1980), pp. 1009-1025.

- Malmgren, H.B.**, Information, Expectation and the Theory of the Firm, 75 The Quarterly Journal of Economics (1961), pp. 339-421.
- Mann, H. Michael**, Seller Concentration, Barriers to Entry, and Rates of Return in Thirty Industries, 1950-1960, 48 Review of Economics and Statistics (1966), pp. 296-327.
- Mann, H. Michael**, Asymmetry, Barriers to Entry; and Rates of Return in Twenty-Six Concentrated Industries, 8 Western Economic Journal (1970), pp. 86-89.
- Marcus, Matityahu**, A Note on the Determinants of the Growth of Firms and Gibrat's Law, 2 The Canadian Journal of Economics (1969), pp. 580-589.
- Marion, Bruce, Willard Mueller, R. Cotterill, Frederick Geltman and J. Smelzer**, The Price and Profit Performance of Leading Food Chains, 61 American Journal of Agricultural Economics (1979), pp. 420-433.
- Marfels, Christian**, A Bird's Eye View to Measures of Concentration, 20 The Antitrust Bulletin (1975), pp. 485-501.
- Markenverband**, 49 Der Markenartikel (1987), p. 199.
- Markert, Kurt**, Die Fusionskontrollpraxis des Kartellamts im Wandel?, 31 Die Aktiengesellschaft (1986), pp. 173-180.
- Markham, Jesse W.**, An Alternative Approach to the Concept of Workable Competition, 40 The American Economic Review (1950), pp. 349-362.
- Markovits, Richard A.**, A Basis Structure for Microeconomic Policy Analysis in our Worse-Than-Second-Best World: A Proposal and Related Critique of the Chicago Approach to the Study of Law and Economics, 67 Wisconsin Law Review (1975), pp. 950-1080.
- Markovits, Richard A.**, Monopolistic Competition, Second Best, and the Antitrust Paradox: A Review Article, 77 Michigan Law Review (1979), pp. 567-640.
- Markovits, Richard**, The Limits of Simplifying Antitrust: A Reply to Professor Easterbrook, 63 Texas Law Review (1984), pp. 41-87.
- Marvel, Howard P.**, Collusion and the Pattern of Rates of Return, 47 Southern Economic Journal (1980), pp. 375-387.
- Mason, Edward S.**, Monopoly in Law and Economics, 47 The Yale Law Journal (1937), pp. 34-49.
- Mason, Edward S.**, Price and Production Policies of Large-Scale Enterprise, 29 The American Economic Review (1939), pp. 61-74.
- Masson, Robert T., and Joseph Shaanan**, Stochastic-Dynamic Limit Pricing: An Empirical Test, 64 Review of Economics and Statistics (1982), pp. 413-422.

- McChesney**, Fred S., On the Economics of Antitrust Enforcement, 68 *The Georgetown Law Journal* (1980), pp. 1103-1111.
- McElroy**, Katherine M., John Siegfried and George Sweeney, The Incidence of Price Changes in the Economy, 64 *The Review of Economics and Statistics* (1982), pp. 191-203.
- McGee**, John, Predatory Pricing Revisited, 23 *The Journal of Law and Economics* (1980), pp. 289-330.
- McGowan**, John J., The Effect of Alternative Anti-Merger Policies on the Size Distribution of Firms, 5 *Yale Economic Essays* (1965), pp. 423-474
- McNulty**, Paul J., Economic Theory and the Meaning of Competition, 82 *The Quarterly Journal of Economics* (1968), pp. 639-656
- McNulty**, Paul J., A Note on the History of Perfect Competition, 75 *Journal of Political Economy* (1967), pp. 395-399
- Meehan**, James W., and Thomas Duchesneau, The Critical Level of Concentration: An Empirical Analysis, 22 *The Journal of Industrial Economics* (1973), pp. 21-30.
- Mestmäcker**, Ernst-Joachim, Das Verhältnis des Rechts der Wettbewerbsbeschränkungen zum Privatrecht, 21 *Der Betrieb* (1968), pp. 787-799.
- Mestmäcker**, Ernst-Joachim, Zur Fusionskontrolle in der Wettbewerbspolitik, 31 *Die Aktiengesellschaft* (1986), pp. 181-187.
- Miller**, Edward M., Do Economies of Scale Attract Entry?, 25 *The Antitrust Bulletin* (1980), pp. 583-588.
- Möschel**, Wernhard, Antitrust and Economic Analysis of Law, 140 *Journal of Institutional and Theoretical Economics* (1984), pp. 156-171.
- Möschel**, Wernhard, Finanzkraft und konglomerater Zusammenschluß, 29 *Die Aktiengesellschaft* (1984), pp. 257-260.
- Möschel**, Wernhard, Use of Economic Evidence in Antitrust Litigation in the Federal Republic of Germany, 32 *The Antitrust Bulletin* (1987), pp. 523-550.
- Mongoven**, James J., Advertising as a Barrier to Entry: Structure and Performance in the Soft-Drink Industry, 8 *Antitrust Law and Economics Review* (1976), pp. 93-101.
- Monteverde**, Kirk, and David J. Teece, Appropriable Rents and Quasi-Vertical Integration, 25 *The Journal of Law and Economics* (1982), pp. 321-328.
- Monteverde**, Kirk, and David J. Teece, Supplier Switching Costs and Vertical Integration in the Automobile Industry, 13 *The Bell Journal of Economics* (1982), pp. 206-213.
- Mueller**, Dennis C., The Persistence of Profits Above the Norm, 44 *Economica* (1977), pp. 369-380.

Mueller, Dennis C., Mergers and Market Shares, 67 Review of Economics and Statistics, (1985), pp. 259-267.

Mueller, Dennis C., and John E. Tilton, R&D Costs as Barriers to Entry, 2 The Canadian Journal of Economics (1969), pp. 570-579.

Mueller, Willard F., A New Attack on Antitrust: The Chicago Case, 18 Antitrust Law and Economics Review, (1986), pp. 29-66.

Müller, Jürgen, The Impact of Mergers on Concentration: A Study of Eleven West German Industries, 25 The Journal of Industrial Economics (1976), pp. 113-132.

N

Needham, Douglas, Entry Barriers and Non-Price Aspects of Firms' Behavior, 25 The Journal of Industrial Economics (1976), pp. 29-43.

Nelson, Richard L., Comments on a Paper by Posner, 127 University of Pennsylvania Law Review (1979), pp. 949-952

Neumann, Manfred, Ingo Böbel and Alfred Hald, Innovations and Market Structure in West German Industries, 3 Managerial and Decision Economics (1982), pp. 131-139.

Noll, Roger, The Political Foundations of Regulatory Policy, 139 Journal of Institutional and Theoretical Economics (1983), pp. 377-404.

O

Otremba, Walter, Die empirische Relevanz von Marktzutrittsbarrieren, 28 Konjunkturpolitik (1982), pp. 190-198.

Orr, Dale, The Determinants of Entry: A Study of Canadian Manufacturing Industries, 56 Review of Economics and Statistics (1974), pp. 58-73.

Ouchi, William G., Markets, Bureaucracies, and Clans, 25 Administrative Science Quarterly (1980), pp. 129-141.

P

Paqué, Karl-Heinz, How Far is Vienna from Chicago? An Essay on the Methodology of Two Schools of Dogmatic Liberalism, 38 Kyklos (1985), pp. 412-434.

Pashigian, B. Peter, Limit Price and the Market Share of the Leading Firm, 16 The Journal of Industrial Economics (1968), pp. 165-177.

Pautler, Paul A., A Review of the Economic Basis for Broad-Based Horizontal-Merger Policy, 28 The Antitrust Bulletin (1983), pp. 571-651.

- Peltzman**, Sam, The Gains and Losses from Industrial Concentration, 20 *The Journal of Law and Economics* (1977), pp. 229-263.
- Peltzman**, Sam, Toward a More General Theory of Regulation, 19 *The Journal of Law and Economics* (1976), pp. 211-240.
- Pepperell**, Harold C., and Robert W. **Turner**, Barriers to Entry: Antitrust's Search for a New Look, 23 *California Management Review* (1981), pp. 29-40.
- Perry**, Martin K., Forward Integration by Alcoa: 1888-1930, 29 *The Journal of Industrial Economics* (1980), pp. 37-53.
- Petry**, Horst, Technischer Fortschritt, Integration, internationale Wettbewerbsfähigkeit und Unternehmensgröße, 183 *Jahrbücher für Nationalökonomie und Statistik* (1969), pp. 271-299.
- Pilon**, Roger, Cooperations and Rights: On Treating Corporate People Justly, 13 *Georgia Law Review* (1979), pp. 1245-1370.
- Pitofsky**, Robert, The Political Content of Antitrust, 127 *University of Pennsylvania Law Review* (1979), pp. 1051-1075.
- Polinsky**, A. Mitchell, Economic Analysis as a Potentially Defective Product: A Buyer's Guide to Posner's *Economic Analysis of Law*, 87 *Harvard Law Review* (1974), pp. 1655-1681.
- Porter**, Michael E., Consumer Behavior, Retailer Power and Market Performance in Consumer Goods Industries, 56 *Review of Economics and Statistics* (1974), pp. 419-435.
- Porter**, Michael E., The Structure within Industries and Companies' Performance, 61 *Review of Economics and Statistics* (1979), pp. 214-238.
- Posner**, Richard A., Theories of Economic Regulation, 5 *The Bell Journal of Economics* (1974), pp. 335-358.
- Posner**, Richard A., The Social Costs of Monopoly and Regulation, 83 *Journal of Political Economy* (1975), pp. 807-827
- Posner**, Richard A., The Chicago School of Antitrust Analysis, 127 *University of Pennsylvania Law Review* (1979), pp. 925-952.
- Posner**, Richard A., The Ethical and Political Basis of the Efficiency Norm in Common Law Adjudication, 8 *Hofstra Law Review* (1980), pp. 487-507.
- Posner**, Richard A., Economics, Politics, and the Reading of Statutes and the Constitution, 49 *The University of Chicago Law Review* (1982), pp. 262-291.
- Powell**, Irene, The Effect of Reductions in Concentration on Income Distribution, 69 *Review of Economics and Statistics* (1987), pp. 75-82.

Preston, L. E., Giant Firms, Large Mergers and Concentration, Patterns and Policy and Policy Alternatives, 1954-1968, 1 The Industrial Organization Review (1973), pp. 35-46.

Primeaux, Walter J., An Assessment of X-Efficiency Gained Through Competition, 59 Review of Economics and Statistics (1977), pp. 105-108.

Pryor, Frederic L., An International Comparison of Concentration Ratios, 54 Review of Economics and Statistics (1972), pp. 130-140.

Q

Qualis, P. David, Concentration, Barriers to Entry, and Long-Run Economic Profit Margins, 20 The Journal of Industrial Economics (1972), pp. 146-158.

Qualis, P. David, Stability and Persistence of Economic Profit Margins in Highly Concentrated Industries, 40 Southern Economic Journal (1974), pp. 604-612.

R

Ravenscraft, David J., Structure-Profit Relationships at the Line of Business and Industry Level, 65 Review of Economics and Statistics (1983), pp. 22-31.

Ravenscraft, David J., and Frederic M. Scherer, Life After Takeover, 36 Journal of Industrial Economics (1987), pp. 147-155.

Reder, Melvin W., Chicago Economics: Permanence and Change, 20 The Journal of Law and Economics (1982), pp. 1-38.

Rhoades, Stephen A., The Effect of Diversification on Industry Profit Performance in 214 Manufacturing Industries: 1963, 55 Review of Economics and Statistics (1973), pp. 146-164.

Rhoades, Stephen A., Market Share as a Source of Market Power: Implications and Some Evidence, 37 Journal of Economics and Business (1985), pp. 343-363.

Rhoades, Stephen A., and J.M. Cleaver, The Nature of Concentration-Price/Cost Margin Relationship for 353 Manufacturing Industries: 1967, 40 Southern Economic Journal (1973), pp. 90-102.

Richardson, G.B., The Organisation of Industry, 82 The Economic Journal (1972), pp. 888 f.

Rittaler, Jan B., Industriekonzentration und Macht - Notwendigkeit einer Neuorientierung?, 28 liberal: Vierteljahreshefte für Politik und Kultur (1986), pp. 29-36.

Robins, James A., Organizational Economics: Notes on the Use of Transaction-Cost Theory in the Study of Organizations, 32 *Administrative Science Quarterly* (1987), pp. 68-86.

Rosenbluth, Gideon, Comment on a Paper by Demsetz, 19 *The Journal of Law and Economics* (1976), pp. 389-391.

Rowe, Frank M., The Decline of Antitrust and the Delusions of Models: The Faustian Pact of Law and Economics, 72 *The Georgetown Law Journal* (1984), pp. 1511-1570.

Rüschen, Gerhard, Wettbewerbspolitik im Umbruch?, 49 *Der Markenartikel* (1987), pp. 218-224.

S

Salin, Edgar, Kartellverbot und Konzentration, 16 *Kyklos* (1963), pp. 178-200.

Salinger, M., Tobin's q, Unionization, and the Concentration Profits Relationship, *The Rand Journal of Economics* (1984), pp. 159-170.

Salop, Steven C., Strategic Entry Deterrence, 69 *The American Economic Review* (1979), pp. 335-338.

Salop, Steven C., and David T. **Scheffman**, Raising Rivals' Costs, 73 *The American Economic Review* (1983), pp. 267-271.

Scherer, Frederic M., The Posnerian Harvest: Separating Wheat from Chaff, 86 *The Yale Law Journal* (1977), pp. 974-1001.

Scherer, Frederic M., Predatory Pricing and the Sherman Act: A Comment, 89 *Harvard Law Review* (1976), pp. 869-890.

Scherer, Frederic M., The Causes and Consequences of Rising Industrial Concentration, 22 *The Journal of Law and Economics* (1979), pp. 191-208.

Scherer, Frederic M., et al., The Validity of Studies with Line of Business Data: Comment, 75 *The American Economic Review* (1987), pp. 205-217.

Schlecht, Otto, Konsequente Anwendung des Rechts erforderlich, 66 *Wirtschaftsdienst* (1986), pp. 382-384.

Schmalensee, Richard, Advertising and Profitability: Further Implications of the Null Hypothesis, 25 *The Journal of Industrial Economics* (1976), pp. 45-54.

Schmalensee, Richard A., Another Look at Market Power, 95 *Harvard Law Review* (1982), pp. 1789-1802.

Schmalensee, Richard L., Do Markets Differ Much?, 75 *The American Economic Review* (1985), pp. 341-351.

- Schmalensee**, Richard L., Collusion Versus Differential Efficiency: Testing Alternative Hypotheses, 35 *The Journal of Industrial Economics* (1987), pp. 399-425.
- Schmidt**, Ingo, Different Approaches and Problems in Dealing with Control of Market Power: A Comparison of German, European, and U.S. Policy towards Market-Dominating Enterprises, 28 *The Antitrust Bulletin* (1983), pp. 417-460.
- Schmidt**, Ingo, Ist Größe an sich gefährlich?, 36 *Wirtschaft und Wettbewerb* (1986), pp. 193-196.
- Schmidt**, Ingo, and Wolfgang **Ries**, Der Hirschman-Herfindahl-Index (HHI) als wettbewerbspolitisches Instrument in den neuen US-Fusionsrichtlinien, 33 *Wirtschaft und Wettbewerb* (1983), pp. 525-534.
- Schwalbach**, Joachim, Strategisches Wettbewerbsverhalten in der Titandioxid-industrie, 54 *Zeitschrift für Betriebswirtschaft* (1984), pp. 388-399.
- Schwalbach**, Joachim, Markteintrittsverhalten industrieller Unternehmen, 56 *Zeitschrift für Betriebswirtschaft* (1986), pp. 713-727.
- Schwartz**, Louis B., 'Justice' and Other Non-Economic Goals of Antitrust, 127 *University of Pennsylvania Law Review* (1979), pp. 1076-1081.
- Schwartz**, Louis B., The New Merger Guidelines: Guide to Governmental Discretion or Propaganda for Revision of the Antitrust Laws?, 71 *California Law Review* (1983), pp. 575-603.
- Scitovsky**, Tibor, On the Principle of Consumer's Sovereignty, 52 *The American Economic Review* (1962), pp. 262-268.
- Shapiro**, Daniel, and R.S. **Khemani**, The Determinants of Entry and Exit Reconsidered, 5 *International Journal of Industrial Organization* (1987), pp. 15-26.
- Shepherd**, William G., What Does the Survivor Technique Show about Economies of Scale, 36 *Southern Economic Journal* (1967), pp. 113-122.
- Shepherd**, William G., The Elements of Market Structure, 54 *Review of Economics and Statistics* (1972), pp. 25-37.
- Siegfried**, John J., and Edwin H. **Wheeler**, Lost Efficiency and Monopoly Power: A Survey, 21 *Quarterly Review of Economics and Business* (1981), pp. 25-46.
- Singh**, Ajit, and Geoffrey **Whittington**, The Size and Growth of Firms, 42 *Review of Economic Studies* (1975), pp. 15-26.
- Smirlock**, Michael, **Gilligan**, Thomas, and William **Marshall**, Tobin's q and the Structure-Performance Relationship, 74 *American Economic Review* (1984), pp. 1051-1060.
- Smith**, Blackwell, Effective Competition: Hypotheses for Modernizing the Antitrust Laws, 26 *New York University Law Review* (1951), pp. 405-450.

- Smith, James L.**, Risk Aversion and Bidding Behavior for Offshore Petroleum Leases, 30 *The Journal of Industrial Economics* (1982), pp. 251-269.
- Sosnick, Stephen H.**, A Critique of Concepts of Workable Competition, 72 *The Quarterly Journal of Economics* (1958), pp. 380-423.
- Spence, A. Michael**, Entry, Capacity, Investment and Oligopolistic Pricing, 8 *The Bell Journal of Economics* (1977), pp. 334-345.
- Spengler, Joseph J.**, Vertical Integration and Antitrust Policy, 58 *Journal of Political Economy* (1950), pp. 347-352.
- Spivack, Gordon B.**, The Chicago School Approach to Single Firm Exercises of Monopoly Power: A Response, 51 *Antitrust Law Journal* (1983), pp. 651-674.
- Sraffa, Piero**, The Laws of Returns under Competitive Conditions, 36 *The Economic Journal* (1926), pp. 535-550.
- Stauffer, Thomas**, The Measurement of Corporate Rates of Return: A Generalized Formulation, 2 *The Bell Journal of Economics* (1971), pp. 434-469.
- Stegemann, Klaus**, Cross Elasticity and the Relevant Market, 130 *Journal of Institutional and Theoretical Economics* (1974), pp. 151-165.
- Stegemann, Klaus**, Workable Competition nach zwanzig Jahren: Bemerkungen zu einem Buch von John Maurice Clark, 9 *Hamburger Jahrbücher für Wirtschafts- und Gesellschaftspolitik* (1964), pp. 237-255.
- Stigler, George J.**, Perfect Competition, Historically Contemplated, 65 *Journal of Political Economy* (1957), pp. 1-17.
- Stigler, George J.**, Report on Antitrust Policy-Discussion, 46 *The American Economic Review* (1956), p. 505.
- Stigler, George J.**, The Economies of Scale, 1 *The Journal of Law and Economics* (1958), pp. 54-71.
- Stigler, George J.**, The Theory of Economic Regulation, 2 *The Bell Journal of Economics* (1971), pp. 1-21.
- Stigler, George J.**, The Existence of X-Efficiency, 66 *The American Economic Review* (1976), pp. 213-216.
- Stonebraker, Robert J.**, Turnover and Mobility among the 100 Largest Firms: An Update, 69 *The American Economic Review* (1979), pp. 968-973.
- Sullivan, Lawrence A.**, Antitrust, Microeconomics, and Politics: Reflections on Some Recent Relationships, 68 *California Law Review* (1980), pp. 1-12.
- Sunstein, Cass R.**, Cost-Benefit Analysis and the Separation of Powers, 23 *Arizona Law Review* (1981), pp. 1267-1282.

T

Tollison, Robert D., Antitrust in the Reagan Administration: A Report from the Belly of the Beast, 1 The International Journal of Industrial Organization (1984), pp. 211-221.

Tucker, Irvin B., and Ronald P. Wilder, Trends in Vertical Integration in the U.S. Manufacturing Sector, 26 The Journal of Industrial Economics (1977), pp. 81-94.

Turner, Donald F., The Role of the "Market Concept" in Antitrust Law, 49 Antitrust Law Journal (1980), pp. 1145-1153.

U

Utton, Michael A., Aggregate versus Market Concentration: A Note, 84 The Economic Journal (1974), pp. 150-155.

V

Vernon, John, and Daniel Graham, Profitability of Monopolization by Vertical Integration, 79 Journal of Political Economy (1971), pp. 924 f.

W

Waterson, Michael, On the Definition and Meaning of Barriers to Entry, 26 The Antitrust Bulletin (1981), pp. 521-539.

Waterson, Michael, Vertical Integration, Variable Proportions and Oligopoly, 92 The Economic Journal (1982), pp. 129-144.

Weiss, Leonard W., An Evaluation of Mergers in Six Industries, 47 Review of Economic Studies (1965), pp. 172-181.

Weizsäcker, Carl-Christian von, A Welfare Analysis of Barriers to Entry, 11 The Bell Journal of Economics (1980), pp. 399-421.

Weizsäcker, Carl-Christian von, Muß der Leistungswettbewerb stärker geschützt werden?, 37 Wirtschaft und Wettbewerb (1987), pp. 706-709.

Wenders, John T., Excess Capacity as a Barrier to Entry, 20 The Journal of Industrial Economics (1971), pp. 14-19.

Westfield, Fred M., Vertical Integration. Does Product Price Rise or Fall?, 71 The American Economic Review (1982), pp. 334-346.

Weston, Glen E., Neue Entwicklungen im U.S. Antitrustrecht und die kartellrechtlichen Beurteilung von Beschränkungen in Patentlizenzerträgen, 86 Gewerblicher Rechtsschutz und Urheberrecht Internationaler Teil (1984), pp. 125-136.

- White**, Lawrence J., What Has Been Happening to Aggregate Concentration in the United States?, 29 *The Journal of Industrial Economics* (1981), pp. 223-230.
- Williamson**, Oliver E., Economies as an Antitrust Defense: The Welfare Trade-offs, 58 *The American Economic Review* (1968), pp. 18-42.
- Williamson**, Oliver E., Economies as an Antitrust Defense: Correction and Reply, 58 *The American Economic Review* (1968), pp. 1372-1376.
- Williamson**, Oliver E., Economies as an Antitrust Defense: Reply, 59 *The American Economic Review* (1969), pp. 954-959.
- Williamson**, Oliver E., The Vertical Integration of Production: Market Failure Considerations, 61 *The American Economic Review* (1971), pp. 112-123.
- Williamson**, Oliver E., Book Review, 83 *The Yale Law Journal* (1974), pp. 647-661.
- Williamson**, Oliver E., Economies as an Antitrust Defense Revisited, 125 *University of Pennsylvania Law Review* (1977), pp. 699-736.
- Williamson**, Oliver E., Assessing Vertical Market Restrictions: Antitrust Ramifications of the Transaction Cost Approach, 127 *University of Pennsylvania Law Review* (1979), pp. 953-993.
- Williamson**, Oliver E., Transaction-Cost Economics: The Governance of Contractual Relations, 22 *The Journal of Law and Economics* (1979), pp. 233-261.
- Williamson**, Oliver E., Symposium on Antitrust Law and Economics, 127 *University of Pennsylvania Law Review* (1979) 918-924.
- Williamson**, Oliver E., Transaction Cost Economics: The Governance of Contractual Relations, 22 *The Journal of Law and Economics* (1979), pp. 233-262.
- Williamson**, Oliver E., On the Nature of the Firm: Some Recent Developments, 137 *Journal of Institutional and Theoretical Economics* (1981), pp. 675-680.
- Williamson**, Oliver E., Vertical Merger Guidelines: Interpreting the 1982 Reforms, 71 *CLR* (1983), pp. 604-617.
- Winter**, S., Economic 'Natural Selection' and the Theory of the Firm, 4 *Yale Economic Essays* (1964), pp. 225-264.
- Worcester**, Dean A., New Estimates of the Welfare Loss to Monopoly: 1956-1969, 40 *Southern Economic Journal* (1973/74), pp. 234-245.

Official Publications, Legal and Other Sources

Antitrust Law Reform Package of 1986, CCH TRR No. 744, February 24, 1986,
Part II.

Antrag der Fraktion der SPD: Stärkung des Wettbewerbs und Verhinderung
des Mißbrauchs wirtschaftlicher Macht (Novellierung des Gesetzes gegen
Wettbewerbsbeschränkungen), BTDr. 11/2017.

**Bericht des Wissenschaftlichen Beirats beim Bundesministerium für Wirt-
schaft**, Wettbewerbspolitik, Bonn 1986.

Black's Law Dictionary, 5th ed., St. Paul, Minn. 1979.

Bundeskartellamt, Tätigkeitsbericht 1967, BTDr. V/2841.

Bundeskartellamt, Tätigkeitsbericht 1985/86, BTDr. 11/554.

Caspari, Manfred, Joint Ventures Under EEC Law and Policy, unpublished
paper, presented at the Fordham Corporate Law Institute, New York,
October 23, 1987.

Clayton Act, 15 U.S.C.A. § 18 (1981); 4 CCH TRRer § 25,130.

Economic Concentration: Hearings before the Subcommittee on Antitrust and
Monopoly of the Committee on the Judiciary, United States Senate,
Washington, D.C. 1964-1969, Parts 1-8a.

Export Trading Company Act of 1982, 4 CCH TRRer § 27,000.

FTC Merger Notification Program, 1 CCH TRRer, § 4455.

Gesetz gegen Wettbewerbsbeschränkungen (GWB) vom 27. Juli 1957 (BGBl. I
S. 1081) in der Neufassung von 1980 BGBl. I S. 1761, geändert durch
Art. 2 Abs. 17 des Gesetzes vom 29. März 1983 (BGBl. I S. 377) und Art.
1 und 2 des Gesetzes zur Bereinigung wirtschaftsrechtlicher Vorschrif-
ten vom 27. Februar 1985 (BGBl. I S. 457; Aufhebung des Kartellregi-
sters und Registers für Wettbewerbsregeln).

Greiffenberg, Horst, Strukturentwicklung und Konzentration - wettbewerbs-
politische Bewertung II, in: Strukturentwicklung und Konzentration im
Einzelhandel. Dokumentation eines Fachgesprächs am 2. Juli 1987 im
Hause der Bundesarbeitsgemeinschaft der Mittel- und Großbetriebe des
Einzelhandels e.V. (BAG), pp. 70 ff.

House of Representatives Report No. 1191, 81st Cong., 1st Sess. 1949.

Immenga/Mestmäcker (eds.), Gemeinschaftskommentar zum GWB, 4th ed. 1981.

Local Government Antitrust Act of 1984, 4 CCH TRRer § 27,104.

Magnuson-Moss Warranty-Federal Trade Commission Improvement Act, 4 CCH
TRRer § 25,515.

Merger Guidelines 1968, 1 CCH TRRer § 4510.

Merger Guidelines 1984, CCH TRR No. 655, June 18, 1984, Part II.

Monopolkommission, Hauptgutachten der Monopolkommission I: Mehr Wettbewerb ist möglich, 2nd ed., Baden-Baden 1977.

Monopolkommission, Hauptgutachten der Monopolkommission III: Fusionskontrolle bleibt vorrangig, Baden-Baden 1980.

Monopolkommission, Hauptgutachten der Monopolkommission IV: Fortschritte bei der Konzentrationserfassung, Baden-Baden 1982.

Monopolkommission, Hauptgutachten der Monopolkommission V: Ökonomische Kriterien für die Rechtsanwendung, Baden-Baden 1984.

Monopolkommission, Hauptgutachten der Monopolkommission VI: Gesamtwirtschaftliche Chancen und Risiken wachsender Unternehmensgrößen, Baden-Baden 1986.

National Association of Attorneys General (NAAG), Counter Vertical Restraints Guidelines, 5 CCH TRRer § 50,478.

National Cooperative Research Act of 1984, 4 CCH TRRer § 27,080

National Productivity and Innovation Act of 1983, CCH TRR No. 649, May 16, 1984

n.n., "Der Novellierungszweck darf nicht der Schutz vor dem Wettbewerb sein", in: Handelsblatt, July 24/25, 1987.

n.n., "Kein Anlaß für eine Novelle", In: Handelsblatt, September 22, 1987.

OECD (ed.), Guide to Legislation on Restrictive Business Practices, vols. 1-4.

Purkayastha, Dev, Note on the Motorcycle Industry in 1975, Harvard Business School, Case 9-578-210 Rev. 9/78, Intercollegiate Case Clearing House, Boston 1978.

Regierungsbegründung zum Entwurf eines Gesetzes gegen Wettbewerbsbeschränkungen, BTDr. II/1158.

Regierungsbegründung zum Entwurf eines Vierten Gesetzes zur Änderung des Gesetzes gegen Wettbewerbsbeschränkungen, BTDr. VIII/2136.

Regierungsbegründung zum Entwurf eines Zweiten Gesetzes zur Änderung des Gesetzes gegen Wettbewerbsbeschränkungen, BTDr. VI/2520.

Schriftlicher Bericht des Ausschusses für Wirtschaftspolitik über den Entwurf eines Gesetzes gegen Wettbewerbsbeschränkungen, BTDr. 3644.

Sherman Act, 15 U.S.C.A. § 1 (1981); 4 CCH TRRer § 25,110.

Statement of Bork, Robert H., White House Task Force on Antitrust Policy, Report 1, CCH TRR No. 415, May 26, 1969, Supplementary.

Stellungnahme der Bundesregierung zum Hauptgutachten VI, BTDr. 11/555.

Treaty of Rome, Vertrag zur Gründung der Europäischen Wirtschaftsgemeinschaft, vom 25. März 1957 (BGBl. II S. 753 and 766; and including all of the Amendments).

Vorschlag einer Verordnung (EWG) des Rates Über die Kontrolle von Unternehmenszusammenschlüssen, 38 Wirtschaft und Wettbewerb (1988), pp. 405-412.

Index of German and U.S. American Cases Cited

A

American Column & Lumber Co. v. U.S., 257 U.S. (1921), 377.

B

Berkey Photo, Inc. v. Eastman Kodak Co., 1979-1 CCH Trade Cases § 62,718.

Berkey Photo, Inc. v. Eastman Kodak Co., 1980-1 CCH Trade Cases § 63,182.

"Biel- und Silberhütte Braubach", WuW/E BGH 1824. .

Broadcast Music, Inc. v. Columbia Broadcasting System, Inc., 1980-2 CCH Trade Cases § 63,289.

Brown Shoe v. U.S., 1962 CCH Trade Cases § 70,366.

C

California Computer Products v. IBM Corp., 1971-1 CCH Trade Cases § 62,713.

Caminetti v. United States, 242 U.S. (1917) 470 ff.

City of Lafayette v. Louisiana Power and Light Co., 1978-1 CCH Trade Cases § 61,936.

Community Communications v. City of Boulder, 1982-1 CCH Trade Cases, § 64,448.

Continental T.V., Inc. v. GTE-Sylvania, Inc., 1977-1 CCH Trade Cases § 61, 488.

"Coop Schleswig Holstein/Deutscher Supermarkt", WuW/E BGH 2389.

"Coop Schleswig Holstein/Deutscher Supermarkt", WuW/E OLG 3591.

"Coop/Wandmaker", WuW/E BKartA 2161.

Copperweld Corp. v. Independence Tube Corp., 1984-2 CCH Trade Cases, § 66,065.

E

"Edelstahlbestecke", WuW/E BGH 2150.

F

Ford Motor Co. v. U.S., 1972 CCH Trade Cases § 73,905.

FTC v. American Medical International, Inc. et al., CCH TRRer TB: FTC Complaints and Orders 1979-1983 § 22,058.

FTC v. Consolidated Foods Corp., 1965 Trade Cases § 71,432.

FTC v. Echlin Manufacturing Co., 3 CCH TRRer § 22,268.

FTC v. Exxon Co., CCH TRRer TB: FTC Complaints and Orders 1979-1983, § 21,866.

FTC v. Kellogg et al., CCH TRRer TB: FTC Complaints and Orders 1979-1983, § 21,899.

FTC v. Procter & Gamble Co., 1967 CCH Trade Cases § 72,061.

FTC v. Schlumberger Ltd., CCH TRRer TB: FTC Complaints and Orders 1979-1983 § 21,989.

FTC v. Standard Oil Co. of California, CCH TRRer TB: FTC Complaints and Orders 1979-1983 § 22,144.

G

"GKN/Sachs", WuW/E BGH 1501.

Greyhound Computer Corp. v. IBM Corp., 1977-2 CCH Trade Cases § 61,603.

"Grote-Revers", BGHZ 38.

I

Immigration and Naturalization Service v. Chadha, 103 Sup. Ct. (1983).

J

Jefferson Parish Hospital District No. 2 v. Edwin G. Hyde, 1982-2 CCH Trade Cases § 64,945.

Jefferson Parish Hospital District No. 2 v. Edwin G. Hyde, 1984-1 CCH Trade Cases § 65,908.

K

Kennecott Copper Corp. v. U.S., 1965 Trade Cases § 71,458.

"Kfz-Kupplungen", WuW/E BGH 1501.

"Klöckner-Becorit", WuW/E BGH 1749.

L

"Linde-Agefko", WuW/E BKartA 2213.

M

"Mannesmann-Brueninghaus", WuW/E BGH 1754.

Memorex Corp. v. IBM Corp., 1980-81 CCH Trade Cases § 63,645.

"Metro/Kaufhof", WuW/E BGH 2231.

"Metro/Kaufhof", WuW/E OLG 3367.

Monsanto Co. v. Spray Rite Service Corp., 1984-1 CCH Trade Cases § 65,906.

"Münchener Wochenblatt", WuW/E BGH 1905.

N

National Collegiate Athletic Association v. Board of Regents of the University of Oklahoma, 1983-1 CCH Trade Cases § 65,366.

National Collegiate Athletic Association v. Board of Regents of the University of Oklahoma, 1984-2 CCH Trade Cases § 66,139.

National Society of Professional Engineers v. U.S., 1978-1 CCH Trade Cases § 61,990.

Northern Pacific Railway Co. v. U.S., 1958 CCH Trade Cases § 68,961.

Northwest Wholesale Stationers v. Pacific Stationary & Printing Co., 1985-1 CCH Trade Cases § 66,640.

P

Parker v. Brown, 1940-1943 CCH Trade Cases § 56,250.

"**Philip Morris/Rothmans**", WuW/E OLG.

"**Pillsbury/Sonnen-Bassermann**", WuW/E OLG 3759.

Process Gas Consumers Group v. Consumer Energy Council of America, 1983-1 CCH Trade Cases § 65,474.

R

Relter v. Sonotone Corp., 1979-1 CCH Trade Cases § 62,688.

"**Revell-Plastics**", WuW/E BGH 1620.

"**Rewe-Florimex**", WuW/E OLG 2862.

Reynolds Metal Co. v. FTC, 1962 Trade Cases § 70,471.

"**Rheinmetall/WMF**", WuW/E BGH 2150.

S

"**Schleifscheiben und Schleifkörper**", WuW/E BGH 1758.

"**Springer/Elbe Wochenblatt**", WuW/E BGH 1691

"**SZ/Donaukurier**", WuW/E BGH 2276.

T

Telex Corp. v. IBM Corp., 1977-2 CCH Trade Cases § 60,127.

"**Texaco/Zerssen**", WuW/E BGH 2025.

Transamerica Corp. v. Board of Governors, 1953 CCH Trade Cases § 67,536.

U

U.S. v. Alcoa, 1944-47 CCH Trade Cases § 57,342.

U.S. v. Aluminum Co. of America, 1964 Trade Cases § 71,243.

U.S. v. Arnold, Schwinn & Co., 1967 CCH Trade Cases § 72,126.

U.S. v. AT&T, 4 CCH TRRer § 45,070 Case 2416.

U.S. v. E.I. du Pont de Nemours & Co., 1957 Trade Cases § 68,723.

U.S. v. General Dynamics Corp., 1974-1 CCH Trade Cases § 74,967.

U.S. v. United States Gypsum Co., 1978-1 CCH Trade Cases § 62,103.

U.S. v. IBM Co., 4 CCH TRRer § 45,070 Case 2039.

U.S. v. Marine Bancorporation, Inc., 1974-1 CCH Trade Cases § 75,125.

U.S. v. Philadelphia National Bank, 1963 Trade Cases § 70,812.

U.S. v. Von's Grocery, 1966 CCH Trade Cases § 71,780.

V

Valley Liquors, Inc. v. Renfield Importers Ltd., 1981-2 CCH Trade Cases § 64,744.

"**VW-Identtelle**", WuW/E BGH 1829.

"**VW-Identtelle**", WuW/E BKartA 1781.

HOHENHEIMER VOLKSWIRTSCHAFTLICHE SCHRIFTEN

- Band 1 Walter Deffaa: Anonymisierte Befragungen mit zufallsverschlüsselten Antworten. Die Randomized-Response-Technik (RRT). Methodische Grundlagen, Modelle und Anwendungen. 1982.
- Band 2 Thomas Michael Baum: Staatsverschuldung und Stabilisierungspolitik in der Demokratie. Zur neoinstitutionalistischen Kritik der keynesianischen Fiskalpolitik. 1982.
- Band 3 Klaus Schröter: Die wettbewerbspolitische Behandlung der leistungsgebundenen Energiewirtschaft. Dargestellt am Beispiel der Fernwärmewirtschaft der Bundesrepublik Deutschland. 1986.
- Band 4 Hugo Mann: Theorie und Politik der Steuerreform in der Demokratie. 1987.
- Band 5 Max Christoph Wewel: Intervallarithmetische Dependenzanalyse in der Ökonometrie. Ein konjunkturaler Ansatz. 1987.
- Band 6 Heinrich Pascher: Die U.S.-amerikanische Deregulation Policy im Luftverkehrs- und Bankenbereich. 1987.
- Band 7 Harald Lob: Die Entwicklung der französischen Wettbewerbspolitik bis zur Verordnung Nr. 86-1243 vom 01. Dezember 1986. Eine exemplarische Untersuchung der Erfassung der Behindерungsstrategie auf der Grundlage des Konzepts eines wirksamen Wettbewerbs. 1988.
- Band 8 Ulrich Kirschner: Die Erfassung der Nachfragemacht von Handelsunternehmen. Eine Analyse der ökonomischen Beurteilungskriterien und der wettbewerbsrechtlichen Instrumente im Bereich der Verhaltenskontrolle. 1988.
- Band 9 Friedhelm Herb: Marktwirtschaftliche Innovationspolitik. 1988.
- Band 10 Claus Schnabel: Zur ökonomischen Analyse der Gewerkschaften in der Bundesrepublik Deutschland. Theoretische und empirische Untersuchungen von Mitgliederentwicklung, Verhalten und Einfluß auf wirtschaftliche Größen. 1989.
- Band 11 Jan B. Rittaler: Industrial Concentration and the Chicago School of Antitrust Analysis. A Critical Evaluation on the Basis of Effective Competition. 1989.

