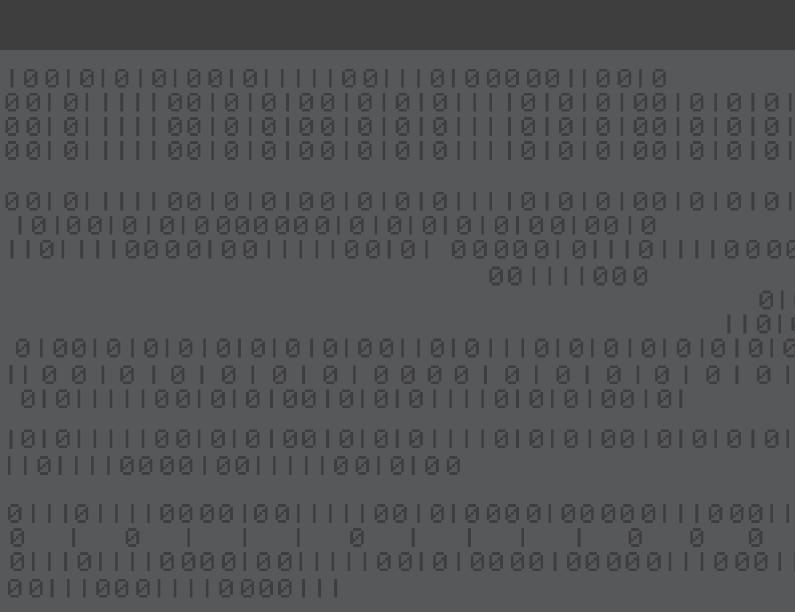


# **Annual Report 1999**



	CAGR¹¹ in %	1999	1998	1997	1996	1995
Fixed assets	33.3	174,696	115,640	101,836	75,060	55,271
Current assets	95.9	3,597,799	1,227,048	684,767	447,394	244,162
Shareholders' equity	23.9	200,166	165,357	121,895	95,163	84,987
Sales	24.4	643,121	474,563	340,450	296,385	268,135
Other operating income	42.2	39,514	27,582	11,445	7,420	9,655
Personnel expenses	7.3	115,501	104,051	85,928	96,679	86,992
Depreciation and amortization	19.8	40,086	29,560	20,513	17,566	19,445
Other operating expenses	31.1	420,492	271,351	188,212	150,903	142,461
Earnings before tax	40.4	123,992	108,963	63,393	46,553	31,947
Net income	50.3	65,987	46,210	34,990	12,804	12,940
Dividend disbursement	117.4	58,720 <sup>2)</sup>	31,149	8,632	8,256	2,627
Head count	2.1	1,276	1,185	1,086	1,145	1,172
Cash flow	36.0	110,173	87,226	55,844	30,453	32,225
Return on sales in %	12.9	19.3	23.0	18.4	15.7	11.9
Return on equity in %	21.9	90.0	88.1	69.4	52.1	40.7
Equity-to-assets ratio in %	-6.4	31.5	38.1	33.4	38.5	41.1

in EUR thousand, except otherwise stated

<sup>2)</sup> planned



<sup>1)</sup> compound annual growth rate 1995–1999

# We provide access



How are the markets performing? The price chart says it all. Which is why it served as the inspiration for our logo. The photographs in our Annual Report are all variations on this theme and offer you a glimpse of our working environment.



06	I	1999 – The Year That Was
10	I	Executive and Supervisory Boards
14	I	European Consolidation
28	I	e-Commerce – Trading under the Sign of e-, $@$ and .com
		Divisions
32	I	Xetra: Liquid Stock Markets – Laying the
		Foundations for Economic Growth
42	ı	Eurex: Worldwide Market Leader in Risk
52	ī	Management Information Products: Enhanced Capital
J_		Market Information Straight from the Source
62	ı	Clearing: From Vision to Merger
		Systems: Systems and Service Provider for
		Exchange Organizations
		Deutsche Börse – The Company
84	ı	<b>Deutsche Börse – The Company</b> Our Staff
88	I	Our Staff Organizational Structure
88	I	Our Staff
88	I	Our Staff Organizational Structure Representative Offices  Deutsche Börse Group Annual Financial
88 89	I	Our Staff Organizational Structure Representative Offices  Deutsche Börse Group Annual Financial Statements
88 89 92	1	Our Staff Organizational Structure Representative Offices  Deutsche Börse Group Annual Financial Statements Group Management Report
88 89 92 104	 	Our Staff Organizational Structure Representative Offices  Deutsche Börse Group Annual Financial Statements Group Management Report Report of the Supervisory Board
92 104 106	       	Our Staff Organizational Structure Representative Offices  Deutsche Börse Group Annual Financial Statements Group Management Report Report of the Supervisory Board Consolidated Balance Sheet
92 104 106	       	Our Staff Organizational Structure Representative Offices  Deutsche Börse Group Annual Financial Statements Group Management Report Report of the Supervisory Board
92 104 106 108		Our Staff Organizational Structure Representative Offices  Deutsche Börse Group Annual Financial Statements Group Management Report Report of the Supervisory Board Consolidated Balance Sheet Consolidated Schedule of Changes in
92 104 106 108		Our Staff Organizational Structure Representative Offices  Deutsche Börse Group Annual Financial Statements Group Management Report Report of the Supervisory Board Consolidated Balance Sheet Consolidated Schedule of Changes in Fixed Assets
92 104 106 108		Our Staff Organizational Structure Representative Offices  Deutsche Börse Group Annual Financial Statements Group Management Report Report of the Supervisory Board Consolidated Balance Sheet Consolidated Schedule of Changes in Fixed Assets Consolidated Profit and Loss Account
92 104 106 108		Our Staff Organizational Structure Representative Offices  Deutsche Börse Group Annual Financial Statements Group Management Report Report of the Supervisory Board Consolidated Balance Sheet Consolidated Schedule of Changes in Fixed Assets Consolidated Profit and Loss Account Notes to the Consolidated Financial Statements

Please fold out the back inside cover

**I** Glossary

# To Our Shareholders

Dear Shareholders.

At the Annual General Meeting on May 4, 2000, the Supervisory and Executive Boards will ask you to vote in support of some exciting changes on the agenda for financial 2000: an IPO, a capital increase, and a change in your company's name to Euroboard. These measures will enable Deutsche Börse to seize the opportunities created by the markets and the competitive climate of tomorrow. We are well-prepared to take these momentous steps, as is confirmed by our superior results for financial 1999, when the sustained upward trend in the markets gave an added boost to our own efforts. Thanks to its market position, which is now stronger than ever, and its professional, highly competent staff, Deutsche Börse AG will continue to create exceptional value for you, our shareholders.

# At Deutsche Börse, the future begins today: IPO planned

Does it make sense for a stock exchange to go public? For Deutsche Börse AG, the answer to this question is an unqualified "yes". For some time now, Deutsche Börse AG has been more than just the German exchange that its name suggests. For one thing, it offers its participants a more comprehensive range of products and services than any other exchange or clearing organization. In addition, it is pushing ahead with the development of an integrated European capital market and is broadening its horizons to become a European company. Furthermore, it has begun to strategically expand its business activities into related areas. From this advantageous position, it will be able to capitalize on the changes taking place in the markets and the opportunities these changes create. In turn, the capital markets will recognize and reward these accomplishments, as will be reflected in the company's value.

Well-prepared for the future
Deutsche Börse AG has significantly enhanced its range of services and products, its market position, the quality of its service, its systems, and the qualifications of its staff – favorable developments that are reflected above all in its achievements in the market:

- the ongoing expansion of the international participant networks for its Xetra® and Eurex® trading systems. Each of these networks now links more than 400 participants in a total of 18 countries;
- the agency contracts concluded on the basis of these systems with the stock exchanges in Dublin, Vienna and Helsinki;
- the merger between Cedel International and Deutsche Börse Clearing to form Clearstream International;
- the joint venture between Eurex and the CBOT;
- the founding of the European Energy Exchange EEX® AG and the subsequent sale of a portion of its shares to various European energy companies.

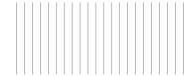
These achievements confirm that Deutsche Börse AG has the superior management capacity and the cutting-edge technology to outshine its competitors in utilizing the opportunities created by the markets and the competitive climate, and to recognize and implement the steps necessary to further its growth.

Changing market environment The integration of the European capital markets is accelerating. Investors and market participants are shifting their focus away from national markets and adopting a European perspective, basing their decisions and actions on indicators for Europe as a whole. In particular, international participants are demanding European solutions that offer a comprehensive range of products and services at low cost, an efficient infrastructure (such as a joint trading platform and a global network), and open, flexible corporate governance structures that are in tune with the markets. However, the consolidation of the European capital market - and in particular the cash market - is not taking place quickly enough, in part because regulations differ from country to country, but also owing to diverging political interests. As a result, large-scale market participants are increasingly becoming involved in alternative projects that are attempting to divert liquidity from established organizations by setting up new, efficient trading platforms.

On the one hand, this trend promotes the fragmentation of the capital markets, which in turn has an adverse impact on prices. On the other hand, it puts pressure on established national exchange and clearing organizations to step up the pace of integration. In this race to consolidate the markets, Deutsche Börse has attained the most promising position thanks to its size and growth.

Attractive opportunities in tomorrow's markets and competitive climate Deutsche Börse AG has achieved success by stimulating new developments in the markets and helping to shape the rules governing competition - strategies that will enable it to continue capturing an above-average share of expected market growth, enhancing its profitability, and using the aforementioned changes in the markets to its advantage. More concretely, Deutsche Börse AG will invest in Xetra, Eurex and Clearstream to further strengthen its position as market leader with respect to technology and cost-effectiveness in the various segments of the capital market (cash market, derivatives market and clearing). It will also boost its competitive edge by anticipating new trends, for example in the area of e-commerce.

Moreover, the value-added chain will be expanded through back-end insourcing (providing trading platforms for and operating the systems of other exchanges) and the establishment of an integrated clearinghouse (central counterparty for exchange-based and OTC cash and derivatives markets with a netting and risk management function). These measures will enable Deutsche Börse AG to pass on an above-average share of the cost reductions expected for the European capital market to its shareholders. This requires that the company and its shareholders move away from what is still largely a national agenda and adopt either a European or a global strategy, depending on the segment involved.



In addition to creating value in the classic capital market segments,
Deutsche Börse AG intends to expand profitably by entering new market segments, e.g. by establishing electronic trading platforms for steel, raw materials or semi-conductors. It will also apply its proven technological expertise to other e-commerce opportunities.

Going public – an advantageous necessity for Deutsche Börse AG In order to send the message that Deutsche Börse AG has truly adopted a strategy with a European focus, the company plans to change its name to Euroboard and reposition itself in the market. Moreover, an IPO will open up the company's ownership structure to major market participants (international intermediaries, institutional investors) as well as to other investors (private investors, technology and media companies). In addition to creating a more flexible, more international

ownership structure, going public will also make it easier for Deutsche Börse AG to implement its growth strategy.

Once its shares can be traded on the exchange, the company will have easier access to the capital market, which will enable it to finance future investments with equity capital. In addition, the fungibility of the shares will create a "currency" for participations in other exchange and clearing organizations or technology firms. Overall, the consolidation of provider structures through measures such as these will serve to accelerate the harmonization of the European stock exchange landscape.

## Value for our shareholders

Is Deutsche Börse AG truly ready for a listing on the exchange? During financial 1999, we were again able to significantly enhance our position vis-àvis our competitors. This fact, together with the concomitant boost in profitability and financial strength, clearly indicates that Deutsche Börse is prepared.

High value added again in 1999 During the year in review, Deutsche Börse Group posted sales of € 643 million, an increase of 36 percent. Sales recorded by the parent company, Deutsche Börse AG, soared by 91 percent to € 379 million. This growth was accompanied by enhanced profitability, with the unappropriated profit standing at €74 million for Deutsche Börse Group and € 59 million for Deutsche Börse AG; these figures represent increases of 76 percent and 89 percent, respectively. Overall, shareholders' funds climbed by 34 percent to € 242 million.





# January

# ► New Year's Reception with Wim Duisenberg

At Deutsche Börse's traditional New Year's Reception, Willem F. Duisenberg, President of the European Central Bank, speaks on the topic of monetary policy.

## Successful conversion to the euro at the exchange

At the beginning of the year, Deutsche Börse converts all prices and systems from deutschmarks into euros.

# Lammersdorf appointed to the Executive Board

Christoph Lammersdorf is the Executive Board member responsible for the Information Products Division.





# **February**

# ► Deutsche Börse as a patron of the arts

Deutsche Börse sponsors "Szenenwechsel", an exhibition at the Museum of Modern Art in Frankfurt. "Threshold", a video installation by Bill Viola, is on exhibit for several weeks at the exchange building.

# Franke accepted into the "Derivatives Hall of Fame" Executive Board Member Jörg Franke is the first Continental European to receive an award from the American magazine Derivatives Strategy for establishing and developing the DTB and Eurex futures and options exchanges.



## March

## Xetra® order book now open

Through vendors, investors can call up the five best bid and ask prices for the DAX\* 100 securities (Xetra market depth).

# Launch of Xemac®

Deutsche Börse Clearing now offers Xemac, a collateral management service that bundles securities collateral furnished by participants into a central pool.

# Benefits for our customers

In light of Deutsche Börse's pending IPO, a review of the company's development over the years is in order. Since 1994, the year after Deutsche Börse was founded, average sales have increased by 21 percent, profit before taxes has risen by 34 percent, and the unappropriated profit has climbed by a full 51 percent per annum.

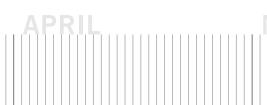
Full distribution planned

In light of these developments, the Supervisory and Executive Boards will again propose to the Annual General Meeting that profits be distributed in full in the form of a dividend of 313 percent. A full distribution will enable current shareholders to reap the benefits of the most recent value enhancement before the company goes public. We expect that Deutsche Börse will continue to develop favorably during financial 2000.

In essence, the objective of Deutsche Börse Group is to provide access to German and foreign cash and derivatives markets, clearing and settlement services, and all data and information required by professional market participants. Through its technology, the Group enables its customers - which include banks and securities trading houses, vendors, investors and issuers - to link up to its markets from virtually anywhere in the world. The quality of its services is measured on the basis of criteria such as price, security, reliability, speed, and degree of innovation.

Separating the interests of users and owners

The planned IPO will clearly delineate the interests of users and owners. In the market of tomorrow, users will be able to pick and choose from a variety of trading and settlement options. Above all for a listed company, it is a strategic imperative to retain today's users on the virtue of a superior range of products and services, and to convince new customers of the advantages that its products and services offer. For this reason, Deutsche Börse AG will continue to apply and internationalize its proven recipe for success: closely involving customers in the Group's numerous projects and enabling them to participate directly in the decision-making process by inviting them to sit on advisory boards, working committees and other user groups. Indeed, it was only by involving customers in this way that Deutsche Börse was able to further reduce the time to market for new products and services during financial 1999 a factor that is critical for maintaining a competitive edge.



# April

# Start of the SMAX® quality segment

Deutsche Börse's quality segment for small caps is launched, with 91 participants. The SMAX seal of quality is bestowed primarily upon medium-sized firms that meet especially stringent requirements with respect to transparency and liquidity.



# May

# ► Merger with Cedel approved

Deutsche Börse Clearing and Luxembourg's Cedel International shake hands on the founding of a joint European clearinghouse as of January 1, 2000.

# Annual General Meeting of Deutsche Börse AG

At the Annual General Meeting, the shareholders of Deutsche Börse AG approve the distribution of a dividend of € 4.24 per share. The distribution is equivalent to the entire unappropriated profit generated in 1998.



# June

## DAX group of indices based on Xetra data

The indices that make up the DAX group are now calculated and published solely on the basis of Xetra prices.

# Orders of all sizes now eligible for continuous trading

In broker-assisted floor trading, FWB\*, the Frankfurt Stock Exchange, reduces the minimum unit of trading to one share. As a result, orders of any size can be traded throughout the day in continuous trading.

Utilizing e-commerce to the full In recent times, there has been increasing speculation as to whether new technologies such as the internet pose a threat to established exchanges. The truth of the matter is that electronic exchanges are the prototype of e-commerce. Seen in this light, Deutsche Börse AG has been a successful dot.com company for many years, and will use the internet to tap markets specific to its target groups and to increase the efficiency of its core business operations while cutting costs. Therefore, it only makes sense for the company to position itself as a technology company as it prepares to go public.

# Prospects for our staff

During the year in review, the market again demanded that all staff members give their very best, a challenge which they cheerfully accepted and mastered with competence.

**Outstanding commitment** Meeting the challenges of the market and implementing the company's strategy often meant that our staff were called upon to give their utmost in terms of dedication and stamina. For many, the project work involved in preparing for the launch of the euro and Y2K comes to mind, providing examples of challenges that also served to significantly enhance the productivity of all systems. In implementing these projects, employees were guided by the motto of "Ask not what your company can do for you, but what you can do for your company". In a staff survey, employees provided a great deal of positive feedback in addition to suggesting potential improvements. Indeed, as we work together to realize these improvements, we are backed by the knowledge that the overwhelming majority of employees indicated they were aware of and supported the goals of the company. Now that's something we can build on!

Furthering our position as a high-performance organization Since 1993, the staff of Deutsche Börse Group have joined to form a close-knit group, thinking and acting as one mind. This is vitally important for a high-performance organization, as the following figure vividly illustrates: on average, each employee at Deutsche Börse Group generated turnover of € 563,000 during financial 1999. It is clear to us that we can - and must - work even faster, more productively and at an even higher level of innovation. We will make Deutsche Börse Group the exchange organization with



# July

# ► 50 years of Clearing

In Frankfurt, customers and employees celebrate the 50th anniversary of the former Frankfurter Kassenverein

## Index launched for "blue chips" listed on Neuer Markt

NEMAX® 50, an index for Neuer Markt blue chips, is launched. It comprises the 50 most liquid stocks traded on Neuer Markt, and is intended to render market activity more transparent, in particular for investors



# August

# ► Roofing ceremony for Neue Börse

The shell of Neue Börse in Frankfurt's Hausen district is complete. In 2000, the staff of Deutsche Börse Group will move into the new office complex.

## US market once again open to Eurex

The American supervisory authority CFTC lifts the ban on admissions it had imposed on the Eurex derivatives exchange. Eurex can now admit new participants in the US and expand its range of products there.





# September

# ► 4<sup>th</sup> German Equity Capital Forum

For the fourth time, Deutsche Börse and KfW Kreditanstalt für Wiederaufbau organize the German Equity Capital Forum in Leipzig. Some 50 capital-seeking firms make presentations to participants in the fields of venture capital financing and investment banking.

# Trading hours harmonized

As part of the measures to harmonize the European markets, trading hours for the cash market are shifted ahead by a half-hour - now trading is possible from 9:00 a.m. to 5:30 p.m. CET.

the highest professional standards; we will be the first that other companies turn to when initiating projects on a global scale; and we will outpace our competitors when it comes to meeting the demands that technological progress is placing on the providers of market infrastructures. In the process of evolving into a high-performance organization, we have become a company of specialists and honed our skills, thus establishing a decisive competitive advantage. Our staff members are professional, willing to take calculated risks, and intent on ensuring that the company stays a cut above the competition. And this is what makes them the most important asset for Deutsche Börse AG when it comes to enhancing value. The Executive Board is proud to work with and as a part of this team.

# Creating an attractive working environment

In 1999, 254 new employees came to work for us from 18 different countries. In financial 2000, Deutsche Börse Group intends to expand its staff by a good 15 percent. All new employees must measure up to the standard that current staff members have set. They must be willing to take on a high degree of responsibility. To act as self-motivators, delving into new topics on their own. To prove their competence outside the framework of traditional hierarchies as part of a team.

While there is no want of new and fascinating tasks and projects at Deutsche Börse Group, there is little room at the current premises to tackle them in a comfortable working atmosphere. For this reason, in 2000 we will move into "Neue Börse", new premises located in the district of

Hausen in Frankfurt. The new building is a physical manifestation of our method of cooperating effectively while enjoying the work we do. This, in conjunction with the IPO, will open up enticing new prospects for current and future staff.

We thus ask you, our shareholders, to vote in support of the IPO that we are planning for the first half of 2000. In addition to motivating our employees, going public will prove to be a worthwhile undertaking for our shareholders. for the market, and for all of our customers.

Frankfurt/Main, March 2000 Deutsche Börse AG

Dr. Werner G. Seifert, CEO



# October

# ► Joint venture signed between CBOT and Eurex

In the future, the world's largest derivatives exchanges. Eurex and CBOT, will both use the Eurex® electronic trading platform. A joint venture company domiciled in the US will establish an electronic trading platform for US derivatives, among other things.

# Standard market model introduced

The CEOs of eight European exchanges agree on a standard market model. Key elements of the model are a joint electronic systems interface and a standardized body of rules and regulations.



# November

# ► Xetra at the Vienna Stock Exchange

Xetra is launched at the Vienna Stock exchange. For the first time, the products of two cash markets can be traded across national borders via one platform.

## FFX® AG founded

The founding of the European Energy Exchange EEX AG is an important milestone for the development of a European spot and derivatives exchange for electricity. Shortly after the company is established. European power companies and banks acquire the majority of the EEX shares.

# December

## Deutsche Börse goes European

The Supervisory Board of Deutsche Börse AG discusses opening up the company's ownership structure. More international market participants are to be given the opportunity to acquire a stake in the company's equity. Moreover, the Supervisory Board considers a motion to change the name of the company from Deutsche Börse to "Euroboard".



From left: Dr. Michael Kuhn, Volker Potthoff, Dr. Werner G. Seifert, Dr. Reto Francioni, Christoph Lammersdorf, Dr. Jörg Franke Taken on the roof of the Neue Börse building complex, Frankfurt

Dr. Werner G. Seifert (50)

Chief Executive Officer
responsible for the Group Coordination and
Risk Management Division,
Frankfurt/Main

Dr. Reto Francioni (44)

Deputy CEO
responsible for the Xetra Division,
Frankfurt/Main
(until March 31, 2000)

Jürgen Blitz (52) responsible for the Clearing Division, Weiterstadt (until December 31, 1999)

**Dr. Jörg Franke** (59) responsible for the Eurex Division, Frankfurt/Main

**Dr. Michael Kuhn** (46) responsible for the Systems Division, Frankfurt/Main

Christoph Lammersdorf (50)
responsible for the Information Products
Division,
Mainz

Volker Potthoff (45) responsible for the Xetra Division, Kronberg (as of April 1, 2000)

# Supervisory Board

Dr. Rolf-E. Breuer

Chairman

Spokesman for the Executive Board of Deutsche Bank AG, responsible at the Corporate Center for Participations, Group Marketing and Communications, Press, Legal Affairs and Compliance, Executive Management and Macro-Economics, Frankfurt/Main

### Gerhard Eberstadt

Deputy Chairman

Member of the Executive Board of Dresdner Bank AG (now retired), formerly responsible for Asset Management, Frankfurt/Main

Uwe E. Flach

Deputy Chairman

Member of the Executive Board of DG BANK, Deutsche Genossenschaftsbank, responsible for Investment Banking and Asset Management, Frankfurt/Main

Friedrich von Metzler

Deputy Chairman

Personally liable partner of Bankhaus B. Metzler seel. Sohn & Co. KGaA, Frankfurt/Main

Klaus M. Patig

Deputy Chairman

Member of the Executive Board of Commerzbank AG, responsible for Investment Banking, Frankfurt/Main

Manfred Zaß

Deputy Chairman

Member of the Executive Board of DGZ Deka-Bank – Deutsche Kommunalbank, responsible for Corporate Management, Fund Advisory Services and Asset Management, Personnel and Admin., Treasury, General Secretariat, Group Auditing, and Communications, Frankfurt/Main

Herbert Bayer

Trade Union Secretary, Gewerkschaft Handel, Banken und Versicherungen, responsible for Banks and Insurance Companies Frankfurt, Frankfurt/Main

Ernst Binninger

Deutsche Börse Systems AG, former staff member of the Architecture and Technology Section, Frankfurt/Main (until May 5, 1999)

Dr. Peter Coym

Member of the Executive Board of Lehman Brothers Bankhaus AG, responsible for Investment Banking, Treasury, London and Tokyo branches, Frankfurt/Main

Hans-Peter Gabe

Deutsche Börse AG, staff member in the Personnel Services Section, Frankfurt/Main

Herbert H. Jacobi

Chairman of the Supervisory Board of HSBC Trinkaus & Burkhardt KGaA, Dusseldorf

Dr. Norbert Juchem

Member of the Executive Board of HypoVereinsbank AG, responsible for International Markets, Munich

Hans-Joachim Mentz

Deutsche Börse AG, staff member in the Sourcing and Logistics Section, Frankfurt/Main

Alfred Möckel

Member of the Executive Board of BHF-Bank AG, reponsible for Financial Markets Equities, Asset Management, Frankfurt/Main

Helmut Münch

Deutsche Börse AG, former Chairman of the Staff Council and former staff member in the Coordination with IHK Section (now retired), Frankfurt/Main

Fritz Nols

Chairman of the Supervisory Board of Fritz Nols Global Equity Services AG, Frankfurt/Main, and Spokesman for the Board of Bundesverband der Wertpapierhandelsfirmen e.V. (Federal Association of Securities Trading Houses), Munich

Sadegh Rismanchi

Deutsche Börse Systems AG, staff member in the Xetra/Eurex Operations Section, Frankfurt/Main (as of May 5, 1999)

Gerhard B. Roggemann

Member of the Executive Board of Westdeutsche Landesbank, responsible for Debt Capital Markets, Global Financial Markets, Global Emerging Markets, Private Banking, European Institutional Customers, Dusseldorf

Rainer Roubal

Official Exchange Broker, Chairman of the Executive Board of the Kursmaklerkammer (Chamber of Official Exchange Brokers), Frankfurt/Main

Josef F. Wertschulte

Member of the Executive Board of Hypo-Vereinsbank AG (until December 31, 1999), responsible for Asset Management, International Markets, Customers, Banks & Institutionals, Munich

Otto Wierczimok

Clearstream Banking AG Frankfurt, staff member in the Coordination with Corporate Services Section, Frankfurt/Main

Johannes Witt

Deutsche Börse Systems AG, staff member in the Internal Systems/Invoicing Section, Frankfurt/Main

# Turning Point for Europe – Using the Disintegration of European Capital Market Structures to Promote Consolidation

During the past 15 years, Europe's exchange and clearing organizations have made a number of attempts to transcend national borders and work together. Unfortunately, the outcome of most of these projects was failure and substantial financial loss because the underlying concepts were not adequately geared to the needs of issuers, investors and intermediaries.

1999 marks a turning point for the capital market infrastructure in Europe. Existing structures, which were already on shaky ground, are disintegrating, giving way to an irreversible process of consolidation on a European scale. Eight major European exchanges have agreed on a joint market model for trading in European blue chips that will be integrated into their respective electronic trading platforms by November 2000. The new model will enable market participants to access the partner exchanges via a single standardized technical interface. But this is merely the first step toward the further consolidation of these eight exchanges, for the goal is to present one face to the customer in as many areas as possible.



Just five years ago, the exchanges would have received unanimous applause for taking this bold step. In today's world, however, intermediaries in particular are demanding a genuine European exchange that operates on the basis of an integrated technical platform and that enables the cross-border settlement of all positions to ensue smoothly while minimizing margin requirements. Although exchange managers are continuing – willy-nilly – to represent agendas influenced by national and local interests, the major securities intermediaries are creating an alternative agenda: these market participants have gone global; when faced with protectionist attitudes on the part of regulatory agencies, central banks, payment systems, exchanges or clearing organizations, they simply circumvent them by diverting their flow of business. In 1999, nearly half of the major intermediaries purchased a stake in their own, albeit small, British exchange, which they will be able to organize and operate as they see fit to benefit from the value added according to the amount of business they generate.

In the meantime, a new trend is emerging in the US. A number of major international institutions have invested in alternative off-exchange trading systems, so-called ECNs\* (Electronic Communication Networks). Presumably they are attempting to exert pressure on existing exchanges to consolidate and adopt a standardized system; another possibility is that they wish to create a proprietary wholesale market that is separate from the retail market which caters to trading in small lot sizes. These systems would enable major market participants to utilize their order flow to change the markets according to their needs. Small-scale participants and investors will ask whether such a situation is in tune with their interests. From a political perspective, it is also important to ask whether these developments are desirable given that the world's economies are becoming increasingly dependent on stock markets.

At present, however, there are no blueprints for an efficient European capital market infrastructure. The "balkanization" of the American capital market by the ECNs cannot serve as a role model for Europe. While the American financial center is still the world leader with respect to size and innovative strength, the two major US exchanges, NYSE and Nasdaq, are inefficient in many respects – namely organization, structure, and computer systems – and utilize a market model that is based on costly market makers and specialists. The establishment of various ECNs will fragment liquidity, and ultimately do little to lower the overall cost of a transaction. Only a few of these alternative providers will survive, and in the end, the infrastructure in America will be no more efficient than the one that currently exists in Europe.

The force behind the disintegration of existing structures is called disinter-mediation. By establishing their own trading systems, banks are bypassing the exchanges, and investors are bypassing the intermediaries. Exchanges are offering end users – i.e. private investors – direct access, forcing banks and institutional investors to adopt new roles. Deregulation and technology are making it happen. The transformation is as chaotic as it should be in a liberal market, and no one can predict what structure will result.

Against this backdrop, established providers of trading and settlement services cannot afford to panic or rush to consolidate at all cost. Instead, they must determine the purpose of future European market structures by taking a farsighted approach, for only then will they be able to chart a possible course for consolidating Europe's exchange and clearing organizations. Deutsche Börse Group has taken such an approach and, under the programmatic title of "Euroboard", ushered in a process in which traditional structures are being broken down, only to be built back up to form a consolidated European market.



# Social benefits of consolidated European market structures

Europe should pin its hopes on the stock market, for a highly developed capital market will generate wealth and employment. Why? Because every economy utilizes capital, labor and natural resources. Particularly during the past decade, the US economy has increased its capital productivity, or return on capital invested, to such an extent that it now has the highest capital productivity in the world. In fact, it is compelled to increase capital productivity because it has a large current account deficit, which means that it must constantly import capital.

Because the American economy is driven to enhance its capital productivity, it is automatically under greater pressure to innovate. This has been a special boon to the US in times of technological advancement. And - as Member of the Executive Board at Dresdner Bank Leonhard H. Fischer is convinced – a system that is under pressure to enhance capital productivity is far more capable of changing and adapting, not only at the level of individual companies, but also with respect to the composition of the GDP. After all, capital is the first indicator of a necessary change in the markets.

What does this mean for the future of Europe? It will be necessary to step up the pace of innovation and restructure GDP – goals that can be achieved by promoting start-ups and reorganizing the traditional sectors of the economy. Boosting capital productivity, and thus creating more value for shareholders, is therefore an objective for the economy and for society as

a whole. The strength of an increasingly borderless capital market translates into greater wealth in the economy via two mechanisms: the market for growth capital and the market for corporate control.

Capital seeking ideas the market for growth capital The market for growth capital enables younger companies to source the capital they require. Record highs in the prices of technology stocks and soaring investments in high-tech firms by no means presage a future in which deserted factories are operated solely by robots. On the contrary: according to US estimates, of every dollar provided by venture capitalists or shareholders prepared to take risks, between 80 and 90 cents goes toward the recruitment of staff. In Germany, a similar trend is emerging in the Neuer Markt segment. In the first three years of its existence, more than 200 companies went public in this segment; during the same period, the sales of Neuer Markt companies rose on average by more than 50 percent p.a. Moreover, these companies created a total of over 50,000 jobs and over € 200 billion in value for their shareholders. Some 65 pfennigs of each deutschmark generated by a Neuer Markt issue went toward expanding the company's payroll. Thus, Neuer Markt is paving the way for the future by linking the markets for products, labor and capital.



The political world must support this innovative strength and channel it into a system comprising the entire economy and society – a system that is dynamic, flexible, and capable of learning. Start-ups should be facilitated in all respects. After all, only 20 percent of new companies are successful, and this minority must compensate for the losses incurred by the other 80 percent. At one point, German politicians had proposed levying a tax on price gains. Fortunately, this notion is no longer discussed, for such a tax would have made it so difficult to procure capital for further start-ups that it would have undermined the innovative capacity of the entire economy. It is up to politicians to multiply the impact of Neuer Markt by creating a framework for new entrepreneurs. The well-educated, successful and achievement-oriented elite that is capable of creating jobs and accelerating the transfer of new knowledge from academia and research to the professional world needs the opportunities offered by a free market for growth capital.

# More of a market for corporate control

The wealth of the overall economy is enhanced not only by a market for growth capital, but also by a functioning market for corporate control, which ensures that the owner who can generate the most value using a company's resources will be able to take charge. In 1997, there was a huge uproar when the German company Krupp made a motion to take over its competitor, Thyssen; it was only after Vodafone successfully acquired Mannesmann that the ice was broken. However, the initial resistance to the

notion of a takeover demonstrates the extent to which the prevailing corporate governance model has stood in the way of the restructuring of the German economy – a process that is long overdue. At this point, it remains to be seen whether the necessary changes will be brought about by the impatience of the markets or through consensus. The important thing is that the result is a functioning market for corporate control. What has been regarded as the harmonization of various interests and a superior form of economic organization in Germany social stability in return for high wages and generous social benefits has become financially unsustainable owing to demographic changes.

By contrast, the central characteristic of the prevailing corporate governance model in Great Britain and America is that friendly and hostile takeovers via the capital market ensure a genuine harmony of interests between labor and capital. While the US is already reaping the benefits of shareholder value, the usefulness and ethics of this concept are still being debated in Germany. In the 1970s, institutional investors began to acquire substantial stakes in listed US companies. Whereas the share capital of these firms was previously in the possession of millions of individual shareholders, it is now becoming increasingly concentrated in the hands of a relatively small number of institutional trustees. In other words. America is relying on its institutional investors and on a functioning market for corporate control.



In the 1980s and 1990s, these investors used their newly acquired influence to effect changes in corporate policy. Most of the companies that were acquired had caused harm to shareholders and employees. By 1990, nearly one in five companies that had made the 1980 Fortune 500 list had been acquired. Taking the corporate sector as a whole, employment rose by an average of 3.7 percent p.a. between 1980 and 1990; by contrast, it increased by just 1.5 percent on average at the acquired companies. The market value of the corporate sector climbed by an average of 5.2 percent p.a. during the same period,

The market will not wait. The probability of a hostile takeover rose by nearly 75 percent for companies ranking in the bottom 25 percent with respect to value enhancement. One direct consequence of takeovers was that unsuccessful managers were more likely to be shown the door. In the US, top-flight managers were replaced around 7 percent on average during the years preceding a takeover. During the year in which the takeover occurred, they were replaced six times as often; in the subsequent year, three times as often.

A free market for equity holdings boosts productivity and profitability, with the result that shareholders benefit from the concomitant rise in market value of the affected companies. Large, developed, overly diversified corporations are coming to realize that they will have to adapt their strategy to the realities of the markets. Because the market is siphoning capital away from them and forcing them to increase capital productivity, restructuring will become inevitable. This will free up capital for new ideas, which will in turn form the basis for further growth. Exchange and clearing organizations must be prepared to cope with increased capital productivity and enhance the efficiency of the securities markets.





whereas the acquired companies destroyed 11.3 percent of their value each year. Hostile takeovers were directed primarily at companies that had underperformed in slowly growing sectors, while friendly takeovers occurred when firms did not take sufficient advantage of the opportunities created by a dynamic environment.

# Accelerating the integration of the European capital markets

Along with the rest of the European economy, the three customer groups of Deutsche Börse Group - issuers, investors and intermediaries - are beginning to seize the opportunities created by the launch of the euro, behaving and thinking "European".

In part on their own, in part through mergers and acquisitions, companies are tapping into new markets. In doing so, they are also redefining their role as issuers in the capital market. Investors in Europe and throughout the world have stopped thinking in terms of currency zones and adopted a sectoral perspective. They no longer compare lire with deutschmarks, but instead measure VW against Fiat, or Alcatel against Siemens. The banking and insurance sectors - the intermediaries - are consolidating throughout Europe with the goal of utilizing technology that will enable them to handle larger volumes and of expanding their sales and service networks to generate even more business. In addition to consolidation within Europe, companies are also cooperating beyond European borders and time zones, in some cases through mergers and acquisitions, but often via the purchase of minority stakes. At the same time, many suppliers are also broadening their range of financial services, redefining former sectoral divisions. The major banks of Continental Europe are acquiring investment banking divisions, mainly through the purchase of American and British companies.

Others are attempting to establish corporate groups that provide conventional banking services, capital market transactions, investment management and insurance all from a single source. As they work toward this goal, they often create opportunities for crossselling through the acquisition of minority stakes in other companies. Indeed, we are starting to see a renaissance of "financial hypermarkets" that aim to tap into the retail business via marketing chains - as was the case with the "socks and stocks" strategy of Sears and Roebuck in the 1980s. With these myriad sales and product strategies, financial service providers are also expanding their role as intermediaries and contributing their part to the rapidly accelerating integration of the capital markets.

Technology has become the driving force behind change. It creates new fields in which companies must compete, new conditions under which competition takes place, and new competitors. As technological freedom increases, companies will have to integrate new technologies into their business systems if they wish to succeed. The costs of technology are continually decreasing, with the capacity of chips available for a given price doubling every 18 to 24 months. Network costs are plummeting following the privatization of Europe's national telecoms firms, and it is becoming increasingly easy to save, process and transfer data. In the past 10 years, the opportunities of the third industrial revolution have had numerous consequences: internationalization, disintermediation, diversification, in many cases redundant

capacity, the development of new products, heightened competition and, as a consequence, an overall increase in cost pressure, which has let up only temporarily during upward phases in the markets.

It is no longer possible for countries to adopt a protectionist attitude towards their domestic markets, and traditional financial centers now only play a secondary role. Suppliers who have adopted a European or global approach can transfer their production to the location with the lowest costs, and outsource entire production sequences. They are aligning their management structures with global product lines, and as a result, structures with local origins and a national reach are no longer meaningful. The new technologies require capital market structures with a European scope, and at the same time are promoting their emergence. Seen in this light, working toward a more efficient European exchange and clearing structure is not an end in itself, but instead will enable the more effective use of future technology, supporting intermediaries. investors and issuers in the effort to globalize their own business systems.

# Steps towards a European solution

The capital market will not be truly European until the framework described above is in place. Only then will it be possible to design European infrastructures for securities trading and settlement.

What are the defining characteristics of the target structure? First of all, market infrastructures must be free of significant friction. More specifically, this means concentrating liquidity of a security in one order book, standardizing the rules and regulations that pertain to trading, offering access to trading and settlement from anywhere in the world under "fair" conditions, virtually eliminating performance risk and fixed costs for participants, minimizing transaction and liquidity costs, providing extensive trading information and ensuring the highest possible degree of integrity in trading via appropriate market surveillance.

Creating this European exchange and clearing organization structure will still require quite a few conceptual efforts, a good deal of ambition – and will take about five more years. Why?

# Capacity:

The fact that there are dozens of exchange and clearing organizations creates redundant capacity and complex structures and therefore excess cost. The discounted redundant costs of the European market infrastructure are estimated to be a good € 10 billion – considerable potential for value enhancement for determined entrepreneurs.

## System standards:

There is a large number of suppliers, many of whom have their own rules and regulations with respect to trading and settlement; existing systems are largely incompatible, both technically and functionally.

- Regulation and supervision: The regulation and supervision of the markets is organized on a national level, giving rise to opportunities for undesirable arbitrage.
- Corporate governance:

The governance of the exchange and clearing organizations still has a national focus and is characterized by technological hegemony and the desire to maintain the current privileges.

We must find ways to eliminate these deficiencies, even in the absence of an appropriate role model – as described above, the US offers little that is worth emulating in this respect.

Eliminating redundancies
In today's world, nobody will be able to design a more efficient European market infrastructure by going back to the drawing board. However, Deutsche Börse Group's recent achievements suggest various possibilities for consolidation, and thus for eliminating redundancies (see chart on the next

page).

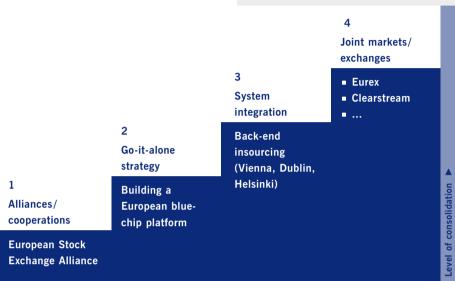
Alliances and cooperations, such as the European Stock Exchange Alliance, are paving the way for subsequent phases of consolidation by standardizing market models. However, these cooperative efforts are having only a limited impact because the individual partners are still giving too much priority to achieving technological and institutional independence.

Thus, an exchange is more likely to succeed by enhancing the attractiveness of its own system platforms in order to win over market participants and boost liquidity, or by establishing its own infrastructure as the "European trading and settlement platform" by integrating it with the systems of other exchanges. Over the medium term, however, the efficient European market infrastructure described above can be created only through consolidation at the institutional level, i.e. via mergers between exchange and clearing organizations. The European markets for derivatives and clearing have reached a more advanced stage of consolidation than the cash market: Switzerland's Soffex and Deutsche Terminbörse DTB have merged to create Eurex, and Cedel International and Deutsche Börse Clearing have joined forces to create Clearstream.

# Standardizing systems

Today, it is the systems that shape the entire workflow of exchange and clearing organizations, which have consequently gone "high-tech". Only two or three institutions in the world have mastered the design, construction, rollout and operation of systems for trading and settlement. Only a few institutions are capable of writing off an investment volume of € 100 million or more in just a few years, and convincing the community to invest many times this amount in adapting their own systems. Exchange and clearing organizations now have a different understanding of what their business is, an understanding that can be summarized in the three terms "building", "operating" and "loading" of systems, in combination with the performance factors "speed", "economies of scale" and "market share" (see chart below).





# Deutsche Börse Group – how we see our business

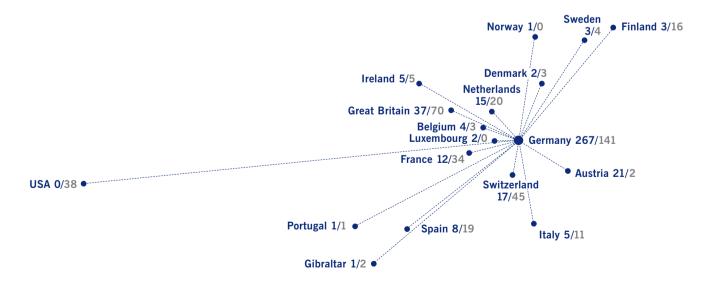


A number of concrete examples indicate which direction the development could take.

■ Just 10 years after the founding of its predecessor, DTB Deutsche Terminbörse, Eurex as an integral part of Deutsche Börse Group has risen through the ranks to become the world's leading derivatives exchange. It owes its success to several key factors: standardized rules and regulations; remote membership\*, which promotes a high degree of liquidity and has enabled the network to expand to include over 400 participants; and attractive benchmark products such as the Bund Future\*. Moreover, in choosing to link up with its integrated system platform, participants are making a sound

investment in the future. Eurex also offers a standardized corporate governance structure: the two national exchanges - the parent companies in Frankfurt and Zurich - have stepped back to assume the role of shareholder and put a joint management team in charge of operating the exchange. In the meantime, the Chicago Board of Trade (CBOT\*) has approved the Eurex® trading system and launched a joint venture with Eurex. The concept of remote membership has also contributed to the success of Xetra®, the system for the cash market. At present, more than 400 participants throughout Europe are also linked up to Xetra (see chart).

Xetra® and Eurex® participants - network and locations



- The European clearinghouse Clearstream was formed at the beginning of 1999 as a result of the merger between Luxembourg's Cedel International S.A. and Deutsche Börse Clearing AG. It combines expertise in the areas of stocks and bonds. handles some 92 million transactions via one system - according to projections, this figure will increase to around 130 million transactions by 2002 - and in addition has implemented standardized corporate governance structures and a joint management team. On the basis of specification profiles provided by the two partners, Clearstream is developing Creation, a real-time gross settlement system. The requirements for joining Clearstream are more stringent than if the two clearinghouses were simply linked via a network, however, the market is demanding that consolidation take place at the institutional level and that liquidity be concentrated in a standardized system. Clearstream offers its participants a market with one body of regulations, one technology, one interface and one network.
- Together with the exchanges in Vienna, Helsinki and Dublin, Deutsche Börse Group has developed an insourcing model for cash and derivatives markets, because even the best system can only contribute to lowering transaction costs if it can achieve economies of scale by processing large volumes. The European Energy Exchange EEX® AG, founded jointly by Deutsche Börse and Eurex and now majority-owned by power generators, power traders and banks, is based on this efficient model.
- For cases in which diversity would undermine efficiency, products are developed in conjunction with partners. In developing the concept for the STOXX<sup>SM</sup> index, the exchanges in Frankfurt, Paris and Zurich collaborated with the Dow Jones publishing house. Each of the four partners owns a 25 percent stake in STOXX AG.
- The cash market, the derivatives market and clearing are being joined under one roof and under uniform corporate governance structures a goal that has already been accomplished in Paris and Frankfurt.



It is still unclear whether the consolidation of existing systems into a single European infrastructure for trading and settlement will lead to the creation of one (hopefully) efficient public-sector provider, or whether it will result in an efficient oligopoly that operates in a competitive environment to maximize value for its shareholders and provide the market with the services it expects. It remains to be seen which model would be more original, adaptive and cost-effective.

Standardizing regulations and market supervision

And how will the differences that still exist with respect to regulations and supervision be eliminated in order to prevent "regulation arbitrage", in which intermediaries and investors selectively choose the marketplace that suits their needs at a given time? A centralized European exchange supervisory authority should be well-equipped to perform this task.

Market supervision should probably be integrated into one institution that operates from a single location and handled by a single supra-sectoral management team that represents the interests of banks, insurance companies and securities houses. In this respect, the Financial Services Authority of the UK is a promising model. A consolidated regulatory institution of this type - that offers one-stop shopping, so to speak - will emerge as a result of the evolution of markets and market participants. Such an institution can assess, from various angles, the factors that determine the stability of a financial service provider, and offer a qualified evaluation of various product lines. A regulatory institution that is consolidated to this extent should also be more cost-effective:



In the UK, the Central Bank and the Supervisory Authority have a staff of just 4,500. By contrast, the payrolls of the three other large EU markets range between 10,000 and 18,000 employees each - too many, even taking into account that these institutions perform different tasks.

Supervisory institutions could first aim to consolidate on a national level, i.e. integrate the relevant sectors, before moving on to create a joint European organization. An alternative would be to first consolidate the relevant institutions within the banking, the securities and the insurance sector at the European level, and then move on to link the three sectors to form a single European institution.

Corporate governance - involving investors and intermediaries Although a number of traditional monopolies have already been toppled, Europe's exchange and clearing organizations are still a far cry from being willing or able to consolidate. In the end, the consolidation of European market structures will be set in motion by outside forces. There are a number of interest groups that not only desire change, but are also capable of initiating it.

It would be too much to expect the impetus for change to come from the political arena, despite the role played by politics in the creation of EMU. Nor can issuers be expected to provide any strong impulses, although companies in a number of countries are considering a listing in a larger market located elsewhere if their domestic market infrastructure does not become more efficient.

Investors, on the other hand, will play an important part in the consolidation process. Above all, they wish to have direct access to trading and to all relevant information, and they expect exchanges and intermediaries to make these things available to them - a statement that is borne out by the fact that a number of large institutional investors have already become Xetra members, and by the boom in day trading and trading in minimum lot sizes.



Of course, it is the intermediaries – and in particular the major international market participants - who will exert the greatest influence as consolidation progresses, be it through the globalization of their own stock-trading business, through the use of technology in general and the internet in particular, or through their capacity to establish organizations that are similar in function to an exchange. In most countries, market participants are already the owners of the exchange and clearing organizations. Consequently, they have every possible opportunity to step up the pace of consolidation to create a single European infrastructure. Until now, however, they have had little say with respect to exchange management. One problem is that their representatives in the exchange boards and committees still think in very national one could even say nationalistic – terms. Another is that the market participants cannot agree among themselves. "Front lines" have formed separating large- and small-scale intermediaries, domestic and foreign institutions, various banking sectors. and various business models, for example direct banks and classic institutions with a branch network. Debates on the concept of remote membership and clearing, and on greater transparency, suggest that, for the most part, a strong desire to preserve the current privileges are standing in the way of consolidation.

Investors and intermediaries determine the process of European consolidation. Exchange and clearing organizations would do well to take into account the interests of these groups, and to involve them in the implementation of the new structures.

The model for an efficient European infrastructure of the future can be defined in terms of its function - see the target structure described at the beginning of this section. However, institutionalizing a unified European exchange is a far more difficult endeavor, and will require that a large European organization set aside its national agenda and proffer itself to the major global intermediaries and investors as an agent of consolidation. To do so, its existing shareholders would have to forfeit some of their influence while inducing new shareholders to invest, for example by contributing their shares of other exchanges. And, by channelling order flows, liquidity could be concentrated in a single order book.

All told, European consolidation could create around € 10 billion in value. This ought to be incentive enough, and indeed it is. By implementing its "Euroboard" concept, Deutsche Börse Group is paving the way for the next stage of European consolidation, to the benefit of an efficient market, its market participants, and its shareholders. In doing so, it is the first and only of the major exchanges to adopt an international perspective and to go far beyond the scope of a classic exchange and clearing organization.

The concept is based on three cornerstones:

- 1. Opening up the ownership structure of Deutsche Börse AG to international intermediaries, institutional and private investors, and technology partners by undertaking a capital increase in conjunction with an IPO. A more open ownership structure and the existence of fungible shares will not only facilitate the company's access to the capital market for future investments, but will also create a currency that will enable Euroboard to participate in other exchange and
- By "relocating" from Germany to Europe, it can convincingly convey the new philosophy embodied in the name Euroboard.
- 3. Taking measures to expand the infrastructure and the range of services. In addition to continuing the Europe-wide expansion of existing trading and clearing services on the basis of Xetra, Eurex and Clearstream, additional online businesses will be established in Europe, be it via the internet or in-house systems. Plans call for the first of these businesses to be brought to the market by mid-2000.



clearing organizations. As a result, consolidation of the European exchange structures could ensue much more rapidly.

 Repositioning Deutsche Börse AG by changing its name to Euroboard and redefining corporate governance structures and management along European lines. By approving the Euroboard concept that is based on these cornerstones, the Annual General Meeting of Deutsche Börse AG on May 4, 2000 will lay the groundwork for the future.

# Trading under the Sign of e-, @ and .com

For a hint of how e-commerce will shape our future, take a look at amazon.com und eBay, the virtual bookstore and the internet auction house - just two of many success stories in this burgeoning sector. e-, @ and .com are revolutionizing the way we trade, with the most dramatic changes taking place in the financial sector. In B2C (Business-to-Consumer), e-commerce is already an established way of doing business for financial service providers.

For some time, the media have also stylized so-called Electronic Communication Networks (ECNs\*) as a modern alternative to traditional exchanges as B2B service providers. However, ECNs, also known as ATSs (Alternative Trading Systems), are by no means a new phenomenon. Instinct, the pioneer in this area, was launched in 1969. ATSs are private electronic platforms for order-driven trading in stocks, bonds or other fungible commodities that can be easily standardized.

"The distinction between stock exchanges and ECNs is blurring."

Benn Steil, Council on Foreign Relations, New York

User quotas at direct banks and online brokers such as Bank 24, comdirect, ConSors or Direkt Anlage Bank are skyrocketing, although this trend has not always gone hand in hand with a surge in profits.

B2B (Business-to-Business) via digital networks became reality for the capital market some time ago. The fast rise of Eurex from a start-up to the largest derivatives exchange in the world and the astounding success of the cash market system Xetra® are signals for the future of the securities business.

"The transaction costs on Xetra. Deutsche Börse AG's trading platform, are considerably lower than those at the NYSE and thus offer less leverage for the ECNs. And unlike the Nasdaq, most European exchanges operate as order-driven markets without market makers. In Europe, the ability of the ECNs to match orders automatically is less of a competitive factor."

Ann-Kristin Achleitner, European Business School (ebs), Oestrich-Winkel

Seen purely from the point of view of its trading functionality, Xetra and its counterparts at other exchanges are in every respect just as good as the ECNs. In fact, Xetra even has crucial advantages. First of all, it is subject to the regulations of the Stock Exchange Act, and thus is monitored by the authorities responsible for market supervision at the exchange and at the state level. Secondly, Xetra is in a completely different league than the ATSs in terms of its technology. Because ATSs have published little data regarding the performance of their systems, only an indirect comparison is possible. Xetra can currently process up to 60 orders per second, whereas the capacity of other European exchange systems is estimated to be around 8 orders per second. Even during peak times, the capacity utilization of Xetra currently stands at less than 20 orders per second. There are no technical restraints that would prevent the system from being expanded at any time, and thus we can assert with confidence that Xetra has met the central criterion used to assess network performance - scalability. Moreover, Xetra is available on average 99.992 percent per month.

e-commerce

Then why are the media paying so much attention to ECNs? The reason is to be found in the US, where ECNs now handle around 30 percent of Nasdag transactions. The ECN boom in the US can be attributed to inefficient market structures. Because neither Nasdag nor NYSE offers a trading system based on a central, open order book and automatic matching, transactions can only be executed on these exchanges with the help of intermediaries (market makers or specialists). Although these intermediaries provide liquidity, they also stand in the way of cost-effective, automatic matching. In this respect, ECNs offer a less convenient yet more cost-effective alternative. Metaphorically speaking, ECNs are the factory outlets and traditional exchanges the designer boutiques of trading. Xetra, on the other hand, is a hybrid system that can handle both order- and quote-driven trading. Its intermediaries, the Designated Sponsors\*, are in direct competition with the open order book and thus under pressure to perform in the free market. Linking the two systems results in reduced costs and liquid trading.

In principle, competition between ATSs and traditional exchanges can be regarded as a favorable development because it increases the pressure to consolidate and innovate. On the other hand, there is a trade-off between healthy competition and a high concentration of liquidity on a central trading platform. As markets

become more diversified, order flows become fragmented, the depth and breadth of the markets are reduced. orders are executed more slowly, and bid-ask spreads widen. As a result, a decisive advantage of trading via electronic systems is lost – the pooling of liquidity across geographical distances and political boundaries in a central order book that can be located anywhere. In Europe, therefore, the future of exchange trading will be in crossborder trading platforms with a single point of liquidity, rounded out by ATSs in market niches.

"ECNs are limited by clearing and settlement capabilities in any attempt to create a pan-European limit order book. While an electronic order book is more easily scaled across countries, without the back end, no ECN will be able to create a definitive pan-European answer."

Rick Spear, Head of Capital Markets E-Commerce Practice, Oliver Wyman & Co. (OWC), New York

"ECNs were created because the stock markets in the US are inefficient. In Germany, the Xetra system provides us with a highly efficient platform."

Karl Matthäus Schmidt, ConSors, Nuremberg

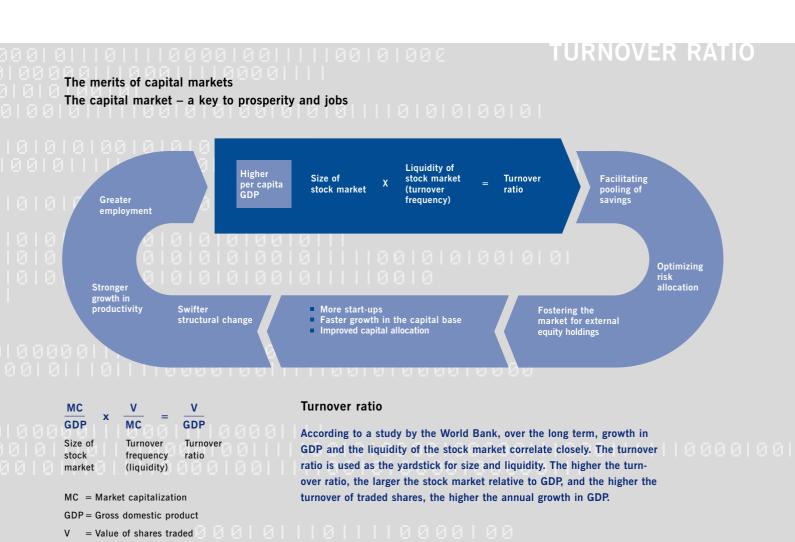
In order to establish an even tighter network between retail trading via online brokers and Xetra, Deutsche Börse has already made its trading system for the cash market internetcompatible. @Xetra is the trademark for this new service, which will be launched during the first half of 2000.

All quotes taken from *vision+money*, the financial market magazine published by Deutsche Börse AG (No. 13, January 2000, "E-Trading", pp. 19, 24, 31, 43).

# Xetra Division: Liquid Stock Markets – Laying the Foundations for Economic Growth

Deutsche Börse Group fulfills an important function in the economy as a whole, for it contributes to growth in GDP and thus helps foster prosperity and employment. This is especially true of the Xetra Division which is responsible within the Group for two levers which impact on GDP, namely the size and the liquidity of the stock market (see chart). It is with this in mind that the Xetra Division endeavors to bring stimulating ideas to bear in the equity markets.

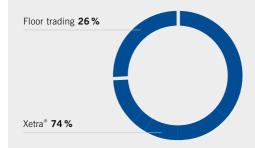
The turnover ratio, i.e. the total value of (domestic) shares traded in relation to GDP has grown appreciably in recent years. While it was equivalent to less than one third of GDP in 1996, by the end of 1999 it had expanded to more than two thirds (see chart on p. 33). Today, just under three quarters of all order book transactions are performed through Xetra®. A superior trading system increases the turnover ratio through higher liquidity and, indirectly, through the increase in price of the shares which have become more liquid.



It is the task of the Xetra Division to promote the liquidity and size of the stock market. Consequently, its business policy focuses on

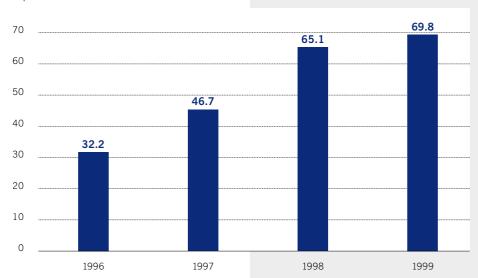
- making efficient trading structures for the secondary market available to investors and intermediaries
- establishing and expanding attractive market segments and thus making it easier for companies to raise capital.

Xetra's share of stock trading 1999 according to order book statistics



# Turnover ratio (value of shares traded/GDP)

in percent



# Boosting the efficiency of the cash market

Deutsche Börse operates the secondlargest electronic cash market in the world. And in the form of Xetra\* it runs the most efficient and flexible system infrastructure in Europe. In the long view, there are no limits to the system's capacity, its functions can be extended almost infinitely. The system executes orders in one tenth of a second – worldwide, and irrespective of the participant's location. Xetra is scalable and designed to carry out up to 60 orders per second simultaneously.

Thanks to Xetra's flexibility, participants can lock into synergies when creating and operating their technical infrastructure: Deutsche Börse has created a uniform technological standard for the cash, futures and options markets, for Xetra and Eurex®. As a result, participants enjoy enduringly lower fixed costs.

Xetra has clearly established itself as the cutting-edge trading platform – it now accounts for up to 94.6 percent of trading in DAX®-listed stocks and over 74 percent of the order book volume of all shares traded on German exchanges. Indeed, in the segments outside the DAX\*, Xetra scored new records in 1999. Xetra's share of the MDAX® market grew by 23.8 percent in the year under review. And in the Neuer Markt segment, Xetra's share of the market has actually surged by a factor of five.

Since June 1999, Deutsche Börse has calculated all its indices exclusively on the basis of Xetra prices. Already since March 1999, the prices calculated on Xetra have served as the basis for settling the following Eurex\* products: the DAX Future, MDAX\* Future and DAX Option.

The high market acceptance of Xetra can be attributed not only to its system leadership but also to

- a diversified, liquid, tradable product range
- cross-border network of participants
- low costs.

Xetra provides central access to cash market products

In 1999, in addition to the standard DAX issues, shares listed on the MDAX, the SMAX®, the Neuer Markt, and those included in the STOXXSM indices\* (excluding UK equities) it was possible to trade both bonds and warrants on Xetra. In other words, the platform now caters for over 3,500 securities. The risk-return profiles of the market segments listed on Xetra offer institutional and private investors customized investment alternatives.

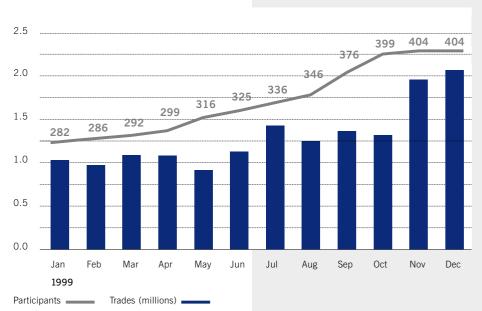


The range of products traded on Xetra is being constantly expanded thanks to partnership agreements reached with exchanges in other countries. For example, by virtue of the strategic alliance with Wiener Börse AG (Vienna Stock Exchange), for the first time products from two cash markets can be bought and sold in crossborder trading on one and the same platform.

Since November 1999, participants in both markets have enjoyed joint, standardized market access and have been able to use the same electronic cash trading system. Pooling resources in this way reduces the costs both exchanges face for developing, introducing and operating the trading system. In addition, this strategy substantially lowers market access costs for Xetra participants. In 2000, Deutsche Börse will deploy the same model in the framework of an alliance with the Irish Stock Exchange. In fact, Deutsche Börse is currently in negotiations with other interested exchanges who run cash markets.

Last but by no means least, in January 2000 Deutsche Börse teamed up with Wiener Börse AG to establish Newex®, the New Europe Exchange for Central and East European stocks. Once again, the project is based on the Xetra platform and serves to afford market participants access to tomorrow's emerging markets.

Xetra® - participants and trading volume



# Xetra networks Europe

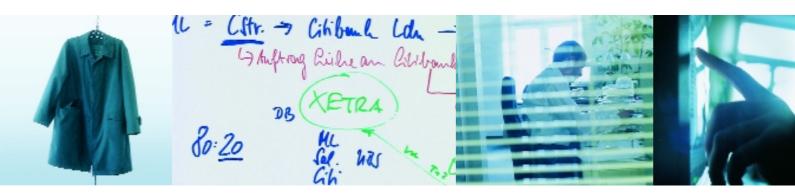
Providing capital market participants with direct access to a market, sidestepping any intermediary stages, serves to lower transaction costs and enhances the appeal of the respective system. At the end of 1999, 404 banks, securities trading houses and institutional investors from 17 European countries traded on Xetra (see chart). Compared with the previous year, this represents an increase of 44 percent. Of the 124 participants newly admitted to trading in 1999, 99 are domiciled in European countries other than Germany and trade on Xetra via a remote access link. At the end of the year, there were 2,205 traders working for the various participants and linked up to Xetra. The more investors and intermediaries gain access to the system, the greater the volume and liquidity of securities traded on Xetra.

The composition of Xetra participants mirrors the banking community in Europe. Among their number are not only globally-active financial institutes, but also numerous online banks and discount brokers. As a result, the Xetra system is opening its virtual doors to the ever-growing number of private investors throughout Europe.

Technologies such as Xetra are swiftly making cash market trading a retail operation: in the absence of such systems it would simply not be possible to provide private investors with services such as intraday trading\* or real-time prices.

Economies of scale strengthen price leadership

Thanks to the ongoing growth in trading volume and the number of participants, Deutsche Börse is able to capitalize on economies of scale and offer trading including settlement at the lowest possible prices. This improved efficiency is passed on directly to participants by means of a price policy that is decidedly competitive—since the beginning of 1999 Deutsche Börse has waived admission fees for trading on Xetra, thus appreciably lowering market entry barriers. With a view to securing Xetra's price leadership over the long term, in the



course of 2000 Deutsche Börse plans to offer participants new Xetra access through the internet as well as a link option via information providers. In other words, participants will be able to select the option which best suits their trading volumes and technical requirements.

# Making it easier to raise capital

In 1999, 91 companies raised over € 8.3 billion through capital increases via the FWB®, the Frankfurt Stock Exchange. And a further 168 companies secured future growth by going public and floating shares with a total issue volume of € 13 billion. The number of new issues doubled for the third year in succession. In this regard, too, Deutsche Börse is one of the world's leading exchanges.

Key figures for Deutsche Börse's Neuer Markt segment for growth stocks illustrate the economic and social significance of an efficient market for growth capital. The corporations listed on Neuer Markt have created over 50,000 highly productive, future-oriented jobs in innovative sectors – and they have generated more than € 200 billion of value for their shareholders. Last year alone 132 companies chose to float their stock on Neuer Markt, a total that has mushroomed 320 percent over the previous year.

By promoting a market for growth capital in this way, Deutsche Börse has made it substantially easier especially for small and mid-sized companies throughout Europe to raise capital; indeed, the process has become more cost-effective thanks to a high p/e ratio.

That said, Neuer Markt is just one investment alternative Deutsche Börse offers national and international issuers and investors alike. Other platforms are the SMAX\* quality segment for small caps and the company's Venture Management Services (see p. 39).

In addition to the favorable impact on the labor market and shareholder value, opening the capital market to small and mid-sized corporations also fosters structural change in the German stock market and contributes considerably to the development of a broad equity culture. According to a study by Deutsches Aktieninstitut (the German Institute for Share Promotion), the proportion of shareholders in Germany increased from 6 percent in 1996 to 7.8 percent in 1999. Today, over 5 million private investors own total assets in excess of € 250 billion. If we factor in indirect share ownership through investment funds, this figure rises to 8.2 million.1

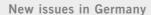
# | MINIMUM | TRADING | UNIT = 1

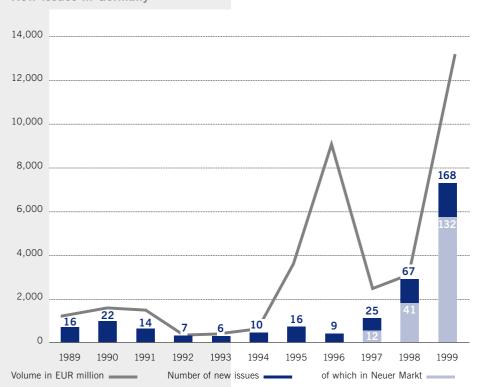
# Market place for private investors

Deutsche Börse makes two efficient platforms for cash market trading available to market participants, namely Xetra® and floor trading on the FWB®, the Frankfurt Stock Exchange – the second-largest trading floor system in the world. Taken together, total sales from both exchanges account for over 90 percent of equity sales at all German exchanges. As from June 1, 1999 Deutsche Börse lowered the size of the minimum unit eligible for floor trading on the FWB to one share, making trading for private investors even more appealing.

From this date, even very small orders are executed in continuous trading\* – at the best conditions. This new service was very well received by investors, as can be seen from the fact that just one month after its launch, volume and trading at the FWB had soared by about one third and remained at this high level throughout the rest of the year. In this way, the FWB further consolidated its commanding position amongst floor trading systems in Germany and is the preferred choice for private investors.

<sup>&</sup>lt;sup>1</sup>) Investors who own both equities and shares in mutual funds are counted only once.





Neuer Markt – Europe's prime exchange for growth stocks

Neuer Markt is the second-largest exchange for growth stocks in the world. The market segment for young growth companies primarily in the new economy clearly out-distances other IPO platforms in Europe. Since its launch back in March 1997, the segment's total issuing volume had grown to over € 10 billion in December 1999.

As at December 31, 1999, 201 corporations from innovative, leading-edge sectors such as telcos, media/entertainment, internet/e-commerce and biotechnology were listed on Neuer Markt. The global significance of this market segment is underscored by the fact that 33 foreign issuers are now listed on Neuer Markt.

In 1999, 10 issuers opted for a dual listing on Nasdaq (9) or the NYSE (1). The fact that 6 Neuer Markt issues are included in the Dow Jones STOXX indices also emphasizes the extended international reach of Neuer Markt. Moreover, investors from outside Germany are increasingly looking to this segment: while in 1997 Neuer Markt was still largely the province of German investors, by year-end 1999 over 20 percent of turnover was generated by non-German players.

The institutionals now account for over 50 percent of turnover on Neuer Markt, in contrast to 1997, when the bulk of trading entailed private investors.

Neuer Markt is quite clearly Europe's preeminent market for growth stocks: it accounts for € 111 billion or more than 56 percent of market capitalization; annual turnover is in the order of 5.4 billion shares or 54 percent of total trading on all European growth segments.

Should the market environment continue friendly, Deutsche Börse expects an additional 100 to 150 new issues to be floated on Neuer Markt in 2000.

SMAX – blue "micro chips"
In April 1999, Deutsche Börse
launched the SMAX quality segment
under the motto "Small Caps – High
Standards". SMAX provides small and
mid-sized companies with a platform
on which to present themselves to
investors. It includes members of the
capital and consumer goods sectors,
as well as service providers, in other
words, a true cross-section of Germany's SMEs. Typically, companies listed
on SMAX foster shareholder value

through continued earnings growth while maintaining a balanced risk-reward ratio. At year-end, 114 corporations were listed on SMAX – including 3 foreign firms – and 25 of them were new issues. Companies must fulfill various criteria to be admitted to the index, all of which are designed to promote corporate transparency and liquidity in the capital market. For example, companies must prove that at least 20 percent of their shares are in free float and are supported by a Designated Sponsor\*, and they must regularly publish quarterly reports.

Venture Management Services the catalyst for innovation A glance at the companies listed on Neuer Markt reveals just how closely venture capital and the stock exchanges are interlocked. Over 50 percent of issuers in this market segment were financed by venture capital prior to going public. To enable equity capital (investors) and business ideas (young companies) to join forces as quickly as possible, together with the KfW Kreditanstalt für Wiederaufbau (Reconstruction Loan Corporation) Deutsche Börse provides a number of integrated services – under the Venture Management Services umbrella.

For instance, the Deutsches Eigen-kapitalforum (German Equity Forum) is now an established institution. A full 600 persons attended the 4th German Equity Forum in Leipzig where a total of 48 companies seeking capital presented themselves to representatives of the venture capital sector. A further area of activities provided by the Venture Management Services are the Internet Services,

Business Angels Forum and Innovation Market, all jointly developed with the German Federal Ministry for Research and Education.

We can expect the stock market to be stimulated in various new ways in 2000. If, for instance, the Federal government goes ahead with legislation exempting sales of participations in companies held in Germany from tax, we are likely to see a process of corporate unraveling, with holdings sold, spin-offs and acquisitions then the order of the day. As a consequence, trading on the cash market would reach record heights. And it is Deutsche Börse Group which makes the infrastructure available for these transactions.

With its exceptional performance, Neuer Markt will attract an increasing number of foreign issuers. Indeed, it is well on the way to becoming the established platform for growth stocks in Europe. On the basis of such market strength, it must position itself internationally.

As Euroboard, together with the most important market participants, Deutsche Börse endeavors to further enhance the infrastructure of the capital market and to move the consolidation of exchange and trading platforms forward. The Xetra Division will bring its own strengths to bear in this consolidation process.



# Eurex Division: Worldwide Market Leader in Risk Management

The futures and options markets make instruments available to participants with which they can transfer the risks arising from price fluctuations in the cash markets. Derivatives exchanges develop standardized risk instruments for market players and give futures and options markets an efficient structure in order to ensure that transaction costs are lower than those for OTC trading.

The Eurex derivatives exchange is the world's largest market for trading and clearing futures and options on stocks, stock indices, capital-market and money-market products. It provides access to the most liquid derivatives products world-wide by means of its all-electronic trading and clearing system Eurex®.

The Eurex exchange is the product of the September 1998 merger of Soffex, the Swiss derivatives exchange, and DTB, the German derivatives exchange. Since that time, the futures and options products of both exchanges have been traded and cleared using a uniform electronic platform. Eurex is the world's first cross-border derivatives exchange and is strong testimony to the fact that consolidation of Europe's capital markets is possible.



Though the term "Eurex" is an acronym for European Exchange, only its origins are European – and not its focus. In year one, it already ranked first amongst the global derivatives markets. And in 1999, Eurex scored the highest turnover ever achieved by a derivatives exchange, 379 million contracts, clearly topping the previous record of 280 million contracts held by the Chicago Board of Trade (CBOT\*).

This success is evidence of the market participants' rousing approval of Eurex's strategic vision, and a motivation to continue on the same course. Eurex identified as its foremost goal the lowering of transaction costs and thus the boosting of the efficiency of the derivatives markets. Economies of scale can only be exploited and the average production costs reduced if turnover increases. Only with high liquidity in every product traded can both large and small transactions be executed at all times, without any appreciable markup or markdown from the fair market price, and transaction costs thus be kept down.

The success of Eurex directly benefits the economy as a whole. A highly liquid derivatives market such as Eurex enhances capital allocation by the financial markets, for participants can make use of effective risk management instruments and can hedge their positions at low cost.

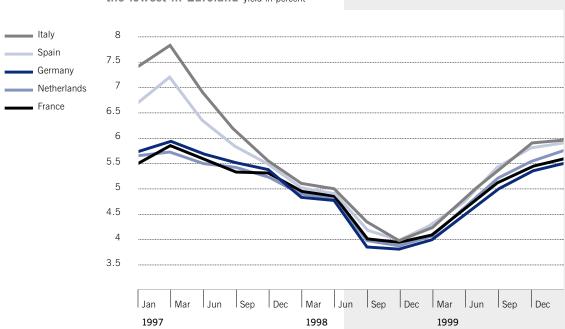
This also applies to the financing of public-sector expenditure. After all, the highly liquid futures and options on German government bonds (Bunds) facilitate Germany's refinancing (see chart). In this respect, Eurex makes a contribution to the Federal government's debt management.

Eurex also fosters the greater efficiency of the capital markets by virtue of its alliances with other key futures and options exchanges. The goal: to use such strategic alliances to establish a presence in three time zones, namely Europe, America, and the Pacific Rim. Now that integration of the derivatives markets has begun in Europe, Eurex represents the spearhead of consolidation in the global context.

With a view to continuing its successes in turnover, Eurex will focus on

- expanding the membership network
- extending the range of innovative products and system functionalities
- establishing global alliances.

## German government refinancing costs the lowest in Euroland yield in percent

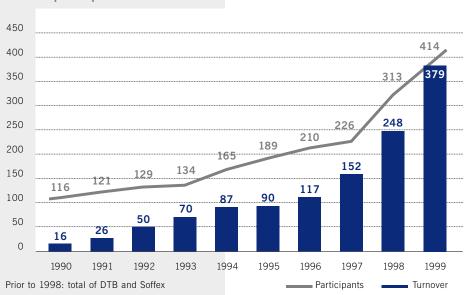


<sup>\*</sup> see glossary

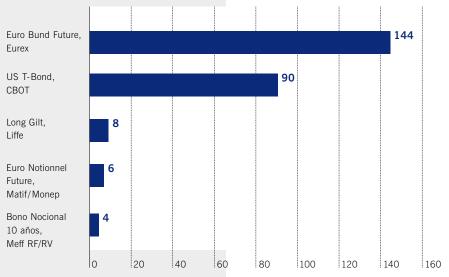
#### 44 | Divisions

Eurex

#### Eurex - participants and turnover in million contracts



#### Capital market futures 1999 in million contracts



#### **Expanding the participant network**

Eurex participants form a global, liquid network in which orders are matched. By creating new access channels and tapping into new markets, Eurex is ensuring that the network will continue to grow faster than those of the competition.

**Growing number of participants** thanks to remote membership Like any other market, the appeal of Eurex hinges on ensuring as many participants as possible are present in the market, guaranteeing high turnover in traded products. Eurex has succeeded in tapping a broad participant base by introducing its unique remote membership\* concept - participants are connected to the trading system Eurex from their respective locations. In its first 15 months, Eurex managed to expand its reach to such an extent that at year-end 1999, 414 members in 16 countries were already connected. Compared to the previous year, this represents an increase of 111 participants or 32 percent.

Expanding the network of international participants has paid off – the new participants who were hooked up to Eurex since the beginning of 1998 already generated 34 percent of total turnover by year-end 1999. In 1999, Eurex posted the highest growth amongst the world's large derivatives exchanges. As already mentioned, volume reached a record 379 million contracts – representing some 131 million contracts more than in the previous year, or a gain of 53 percent.

Year 2000 started off with a new global record in trading volume, 40.2 million contracts. Eurex thus beat its own previous record of 38.4 million posted in June 1999.

The trend for sales of futures on treasury bonds was particularly impressive. Eurex succeeded in increasing its market share in this segment in Europe from 67 percent in 1998 to 94 percent in 1999. And in so doing, the Bund Future\* established itself as the world's most-traded futures contract.

In 1999, Eurex was likewise the market leader for European index products: some 88 percent of all futures products included in the Dow Jones STOXX<sup>SM</sup> stock indices were traded

on Eurex. Average daily turnover in STOXX derivatives surged from some 2,600 contracts when trading started in June 1998 to around 58,500 contracts in fourth-quarter 1999. Since their introduction, the derivatives on the STOXX indices\* have emerged as the European benchmarks.

Eurex will continue to attach the highest priority to expanding its global network of participants, focusing initially on Japan, Hong Kong and Australia. However, in the medium term, Eurex will also endeavor to bring on board new participants in East European countries such as the Czech Republic, Hungary, and Poland – not to mention South America, where efforts will center on Brazil and Argentina in particular.

## Alternative access channels drive further growth

With an eye to securing long-term growth and maintaining its competitive edge, Eurex plans to offer participants a more differentiated range of access channels to its trading system. Depending on the service level required, as of the launch of Eurex Release 4.1 - scheduled for secondquarter 2000 - participants will be offered a service package tailored to their respective needs. In this way, Eurex will enhance the appeal of its systems, in particular for participants with low trading volumes, who can then access the system either via the internet or through an information provider. Moreover, thanks to the internet, participants' branch offices will likewise be able to hook up to Eurex at minimal cost.



## Offering innovative products and system functions

It is Eurex's task to make an efficient trading and clearing platform available to participants. The platform must feature attractive products, and when designing new ones, Eurex takes its cue from participants. Thus, product launches are closely coordinated with them. Moreover, by regularly upgrading software versions, Eurex makes certain its electronic trading and clearing system features the leading technology worldwide.

Eurex product spectrum new equity options In 1999, three options on equities listed on Neuer Markt were included in Eurex, marking the start of trading in products from this segment. Furthermore, an option on an additional DAX® issue and two options on Swiss securities were also listed. And following the alliance with the HEX (Helsinki Exchanges), since September 1999 it has also been possible to trade in three Finnish stock options, as well as options and futures on the Finnish FOX™ stock index and the Dow Jones NORDIC STOXX index - the latter tracks the Scandinavian stock markets. As of January 2000, further Finnish stock options have been added to the product range.

In the current business year, Eurex will expand its range of products and give them a broader international base. The main emphasis will be on the money market – as yet comparatively under-developed on Eurex – as well as on stock and index products. Eurex also intends to more strongly diversify its range by locking into new market and product segments, for example credit and telecom derivatives – products with high growth rates to date primarily traded over the counter.



Eurex system – user-friendly functions for derivatives trading No other electronic marketplace in the world enjoys such a high number of real-time transactions and such a high transaction frequency at peak times as Eurex. Rapid and reliable settlement of market transactions requires an efficient market platform with due capacity reserves.

August 1999 saw the start of the largest rollout to date in the history of electronic trading, namely the latest upgrade to the Eurex system in the form of Release 3.0. It was implemented on schedule in several phases and for some 370 participants, bringing them considerably improved functionalities. Two examples: the system was redesigned to feature a graphical user interface (GUI) modeled on the Xetra® system. And the numerous different interfaces were replaced by a uniform, open, programmable interface known as Values API\*, which provides Eurex participants with much greater flexibility when connecting their own applications.

In summer 2000, Eurex will further sharpen the competitive edge of its system in the form of Release 4.0. This upgrade centers on a new functional core based on new-generation routines for executing futures orders and allows appreciably more orders to be executed per second. Participants will benefit considerably from the heightened performance of the Eurex system: response times during peak-load periods will be substantially shorter specifically for futures products.

Integrating the cash and futures markets – bond trading on Eurex
In addition to expanding its range of "classic" derivative products, Eurex also plans in 2000 to integrate not only cash market and futures trading in bonds but also trading in the underlying (the price differential between the bond and the future). A separate trading platform based on the existing Deutsche Börse Group infrastructure will be created for this new market segment and made available exclusively to professional interbank market\* dealers.

**Eurex Clearing – internationalization** and new system functions Following the successful internationalization of trading, Eurex also wishes to give clearing operations a stronger international focus. To this end, Eurex will expand the Eurex system clearing functions: with the introduction of Release 4.0, the system will also boast a GUI for clearing; the Values API electronic interface will be expanded to include clearing functions. Moreover, Eurex plans to offer foreign members direct access to the Eurex clearinghouse through remote clearing, providing they have a legal status equivalent to that of a bank in Germany and Switzerland. Thus far, it was only possible for banks domiciled in Germany or Switzerland to be admitted to the Eurex clearinghouse.

### ENERGY EXCHANGE

#### European Energy Exchange EEX® AG

In June 1999, the energy industry experts group commissioned by Germany's Federal Economics Ministry decided that the Deutsche Börse concept was the right one. Frankfurt/Main was thus designated the home base for a German energy exchange dealing in futures and options. Eurex was assigned the task of making the concept reality – and it soon emerged that the energy exchange definitely had to be

EEX AG is already assured of the support of the energy industry. Power utilities from Germany, Switzerland, Belgium, the Netherlands, the UK and Austria now hold a majority stake in the company. The exchange will start operating in the course of 2000. And the concept for a projected spot market on the EEX was presented as early as first-quarter 2000.

#### Establishing global alliances

International exchanges face further consolidation. This trend is driven by the fact that market participants seek a European, even a global standard for exchange trading systems. Eurex is pursuing an alliance strategy aimed at covering the three most important time zones together with two strong partners: Eurex is responsible for the European market, the CBOT for the US market. A third partner, still to be identified, will provide a key link to the Asian market. Eurex is concentrating its efforts on giving its market members direct, cost-effective and straightforward access to as many liquid markets as possible.

CBOT and Eurex found a joint venture

Eurex attaches top priority to implementing its strategic alliance with the CBOT – the second-largest futures and options exchange in the world. Alongside commodity futures, some of the most liquid financial futures are traded on the CBOT. The big hitters in turnover terms include US capital market futures such as the T-Bond Future, not to mention futures and options on the world's most important stock index – the Dow Jones Industrial Average.







In addition to entering into partnerships with the global leaders among futures and options exchanges, such as the CBOT, Eurex also acts as an outsourcing partner, providing its services to smaller exchanges, such as the HEX in Finland. Following an interruption by a decision of the CBOT membership in January 1999, the successful cooperation with the CBOT was resumed in June, after a second vote. On October 1, 1999, the cooperation agreements were duly signed. Subsequently, a joint venture was set up which is responsible for establishing electronic trading at the CBOT. The trading platform will be a cloned version of the Eurex system and will replace the electronic trading system in place to date ("Project A"). Several project teams comprising members of both organizations have been working since fourth-quarter 1999 to enable electronic trading to go online in Chicago in summer 2000. The ultimate goal: to establish a global electronic standard for derivatives trading by bringing the muscle of both parties to bear.

The strategic alliance between Eurex and the CBOT offers both partners tangible advantages. They receive direct electronic access to two markets and a broader product spectrum – featuring a single technical infrastructure and high liquidity. They profit from the appreciable synergies sparked by the operation of a joint trading platform and a joint network.

Cooperation with HEX -Eurex as an outsourcing partner In future, a number of smaller derivatives exchanges will be unable to reach the critical turnover level necessary to support the long-term costs for developing and operating their own electronic trading systems. By allowing these smaller exchanges to outsource technical trading operations, Eurex helps them tap the economies of scale it offers. In April 1999, Eurex and HEX signed the first cooperation agreement of this kind. Under the contract's terms, HEX transferred its products and participants to Eurex. This alliance is a step towards expanding the Eurex network northward from Germany. Moreover, it will serve as a model for other such alliances, establishing Eurex as a service provider to other exchanges.



## Information Products Division: Enhanced Capital Market Information Straight from the Source

There is no trading without information. Not surprisingly, only informed market participants are prepared to invest money – and efficient, fair price formation is only possible when the market is sufficiently liquid. Deutsche Börse Group's Information Products Division (IP) is responsible for fulfilling the capital market's requirements as regards information. Its tasks involve developing, providing and marketing capital market information. IP offers all market participants user-friendly and efficient access to information, thus lowering their transaction costs. The division's product portfolio extends from prices and turnover at all German exchanges to the key indicators derived from them, such as indices and statistics.

This information is used by intermediaries and institutional investors, and to an increasing extent also by private investors and the media. With the steady growth in the market for capital market-related information services, in addition to neutrality and authenticity of the information, speed is ever more of the essence. Moreover, with the number of different target groups, there is a keenly felt need for customized information solutions. After all, only if the information flow is carefully and individually channelled, can the "enhanced" information products offer maximum customer benefit.

In 1999, Deutsche Börse was strongly committed to expanding its IP Division. As of January 1, 1999, a Board Member has been responsible for the division, the number of employees has grown by 44 percent, and the service portfolio has been appreciably extended. In a nutshell, the entire division has received a stronger customer focus.

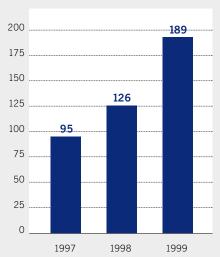
Business has mushroomed, attesting to the quality of the information services and the fact that IP products and services are well received both inside and outside Germany. In the year under review, IP welcomed 70 new clients, 36 of them outside Germany. Overall, the division expanded its client base by 50 percent on the previous year. Starting from a strong position in the German capital market, IP is moving all market segments forward with a view to the European market.

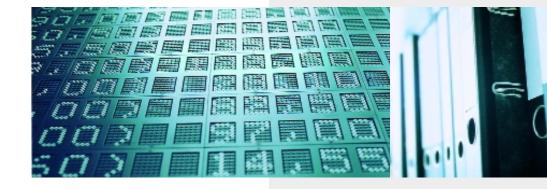
Thanks to its high-quality service portfolio whose elements customers can put together according to their specific needs, IP believes it will emerge as the foremost information provider on the European capital market. To this end, it attaches particular importance to the depth of services and is currently devoted to significantly enhancing it. IP's product portfolio increasingly features information which can directly be passed on to end users. In this context, the division makes use of the incredible technological advances in information transfer, for example by using the internet, and the related e-commerce and B2B services as central distribution channels.

#### IP's priorities are thus:

- to develop systems for distributing information to its clients
- to broaden its information range
- to deploy IT and communications technology to bring the information to the markets.

#### **Number of IP customers**





## Developing information distribution systems

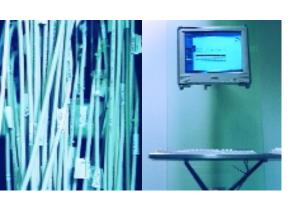
IP's systems supply information on issuers and ongoing trading either as packages or in a form tailored to the individual client's needs. Two new services here: the Consolidated Exchange Feed (CEF) and the securities management system (WMS).

Consolidated Exchange Feed CEF will be launched in the second half of 2000. It will replace the exchange's central price distribution system - currently made up of Ticker Plant Frankfurt (TPF) and the Financial Data Disseminator (FDD). The new data feed is designed to supply vendors and end users directly with price information. CEF will form the basis for the design and dissemination of all Deutsche Börse information products. In addition to prices from the FWB®, the Frankfurt Stock Exchange, the Eurex derivatives exchange, and the other German exchanges, the new system will also make available to IP clients price data from other European exchanges, as well as information on corporate actions, ad-hoc disclosures, financial statements, etc.

Alongside its customized service packages, CEF offers a number of other advantages: data throughput is much higher than that achieved with TPF, and IP is able to monitor the quality of incoming data. What is more, the new system allows the flexible design of information products.

#### WMS Securities Management System

An important milestone of the WMS project was the creation of the prototype system in 1999. Taking their cue from Deutsche Börse's WSS securities service system and the financial database used by the publishing joint venture Wertpapier-Mitteilungen Keppler, Lehmann GmbH & Co. KG, the two partners have devised an integrated systems solution which stores to memory the master and maturity data for all securities on the basis of the Financial Instrument Data Model (FIDM). The project goal: to develop a new European standard for the management of master and maturity data for financial instruments. The project will be completed in 2000 and the system will then also be marketed internationally to financial service providers.



## Expanding the range of information products

There is a steadily mounting demand on the capital markets for both pretrade data (e.g. information from the order book) and post-trade data (information on historical transactions, such as prices and volumes). With this in mind, IP appreciably expanded its range of services in 1999, and by structuring the markets even more clearly, it has enhanced transparency for market participants. To this end, it introduced new indices, and restructured the existing ones. Moreover, IP now supplies information directly from the Xetra® and Eurex® order books. It plans to broaden the product spectrum to feature additional bond-related information.

New index families

The indices are amongst the most important sources of information on Deutsche Börse's various market segments. For a broader section of the general public, they act as a market barometer. And they also serve both as the underlying for derivative products and as the benchmark\* for measuring performance. For example, the STOXX<sup>SM</sup> indices\* which Deutsche Börse took a major part in developing, emerged as the most successful index family in Europe in 1999. The STOXX family is clearly the leading preference as regards futures and options on European indices, claiming a market share of around 96 percent for futures and over 99 percent for options. Since Deutsche Börse continually expands its index offerings, the indices have been taken as the basis for many international investment strategies.

In June 1999, two months after the launch of the SMAX® quality segment, IP started computing the SDAX® which features the 100 largest German SMAX\*-listed corporations. Two criteria are applied to measure the size of corporations, namely market capitalization and turnover in the respective share on the FWB.

NEMAX® 50, the Neuer Markt bluechip index, has been published since July 1999. It comprises the 50 domestic and foreign equities listed on Neuer Markt that boast the highest liquidity and greatest market capitalization. This new index renders the





fast-growing trading segment more transparent for investors and thus makes it easier for private and institutional investors to decide on the best portfolio composition. In addition to the NEMAX 50, IP also computes the NEMAX (Neuer Markt All Share Index).

The BOX bond index family = 728 indices

€BOX/BOX		
<b>€BOX</b> country indices:	+ 13 sub-indices:	BOX country indices:
€BOX Austria	1-10 years	BOX Denmark
€BOX Belgium	15 years	BOX Sweden
<b>€BOX Finland</b>	20 years	BOX Switzerland
<b>€BOX France</b>	30 years	BOX United Kingdom
<b>€BOX Germany</b>		
<b>€BOX Ireland</b>		
<b>€BOX Italy</b>		
<b>€BOX Netherlands</b>		
<b>€BOX Portugal</b>		
<b>€BOX Spain</b>		
+ 10 sub-indices: 1–10 years		+ 10 sub-indices: 1-10 years

All indices are calculated as basket and synthetic indices as well as in the form of price and performance indices

In 1999, IP also began to expand its bond-market information services after all, with an outstanding issue volume of over € 2 trillion, the European market for government bonds is the largest of its kind in the world. For example, the BOX bond index family was launched, featuring 728 indices based on European government bonds (see chart). Together with ABN AMRO, BNP Paribas Group, Deutsche Bank, Dresdner Bank, and Morgan Stanley Dean Witter, Deutsche Börse is now transforming BOX into Box - the first European bond index family based on real-time data.

The banks involved are the leading bond dealers in Europe. They transfer their real-time data to IP, which uses them to compute the indices. In second-quarter 2000, the index family will also include Euroland government bonds. Subsequently, the spectrum will be expanded to include other fixed-income securities such as corporate bonds and Pfandbriefe (mortgage bonds). Plans foresee broadening the index family at a later stage to incorporate non-EMU markets.

This service primarily targets banks, insurance companies, and investment firms, who all use the new indices as underlying for derivative products, portfolio valuation, and risk management purposes.

In addition to the real-time data on bonds, the Box product range also includes a valuation price service which posts fair values (synthetically calculated prices) for European bonds several times a day or at the close of trading. The third item in the box is a real-time price information product designed to support trade controlling or trade itself.

#### Flexible indices

Indices really thrive only if they are well-received by market participants. This is where Deutsche Börse's high standards come into their own, applied when adjusting index composition or calculation method. Adjustments must be objective, foreseeable, and comprehensible. In an era characterized by booming M&As and by a growing number of large corporations going public, index adjustments will become all the more frequently necessary.

As a consequence, in September 1999 Deutsche Börse modified the rules governing the composition of the DAX® to make it more efficient and up-to-date. Moreover, the composition and calculation of MDAX® the mid-cap index, SDAX\* the small-cap index and the NEMAX 50 are also re-appraised several times a year.

At the end of April 1999, the segments of the CDAX® were reorganized. By harmonizing the structure of the index with that of the European STOXX index family and the global Dow Jones indices, Deutsche Börse has significantly enhanced index performance comparability.

Since June 1999, Deutsche Börse has based computation of the entire DAX\* index family exclusively on Xetra\* prices, thus taking into account the growing importance of this electronic marketplace.

Since the start of 1999, Deutsche Börse has been posting a monthly ranking list on the internet offering an overview of the market capitalization and stock exchange turnover of over 270 corporations. These companies are quoted on the Official Trading or Regulated Market segments of the FWB and are listed in a stock index. The ranking thus makes changes to index composition more transparent and easier to anticipate.

Xetra and Eurex market depth
In the form of its Xetra and Eurex\*
market depth services, Deutsche Börse
has opened its order books to a broader section of the public – previously,
the order books were visible only to
stock market and derivatives brokers
on their trading screens.

As of the end of March 1999, Deutsche Börse has been providing data vendors with information on the Xetra market depth of the DAX 100 stocks in close to real time. The vendors act as multipliers: investors interested in the market, but without trading screens of their own, can consult the vendors' web sites for detailed information on the state of the order books for DAX and MDAX\*-listed stocks and thus assess current liquidity of individual issues, as well as market dynamism. As such, it is an important factor for trading decisions.

As of January 2000, comparable data on prices and order volumes for the most frequently traded futures on Eurex is available to market participants in the form of "Eurex market depth".



## Exploiting IT and communications technology

There is a growing wish amongst investors in the European equity markets for information which is as up-todate as possible. To cater to this need, in 1999 IP made considerably stronger use of the internet as a means of distributing information to open and closed user groups. Alongside TPF and FDD, the internet has become the most important distribution system for Deutsche Börse information products: in 1999, some 10,000 users visited IP's web sites several times a week. At present, IP can boast 14,000 hits and over 125,000 page impressions a day.

As part of the services for closed user groups, the division extended their access to its internet service IP File Services. Various end-of-day files are now available for further utilization. Moreover, under the "Prices" section of Deutsche Börse Group's web site, www.exchange.de, users can subscribe not only to daily statistics as well as price information from floor trading and Xetra but also to the prices of public-sector bonds and prices of foreign stocks. In the framework of this new service, in future a file will also be available with data on foreign securities exchanges featuring turnover as well as closing prices.

Under the "Prices" section, information vendors have exclusive access to a wide variety of very detailed market information which they can integrate into their own online services. In addition to market data, the internet pages in question also supply statistics for the Deutsche Börse market segments as well as for Eurex trading.

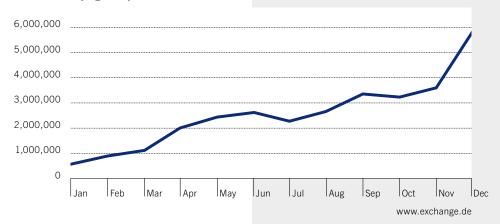
Under "Vendors Only", information vendors have access to special information such as IP customer circulars, price marketing contracts of Deutsche Börse and STOXX Ltd., as well as interface descriptions for the TPF and FDD data feed systems. This service is being expanded in the current business year.



The stock exchange live – in addition to offering an increased spectrum of internet-based services, since January 2000 Deutsche Börse has made realtime price information for all securities traded on Xetra available on international TV channels. The first agreements covering the use of real-time price data have already been signed with the following TV stations: Bloomberg TV, CNBC Europe, Deutsche Welle TV, N24 and n-tv.

With its DAX and STOXX products, not to mention its other indices, Deutsche Börse has succeeded in creating new markets and occupying the leading position in these markets. IP seeks to consolidate this position in a European context. Following its successes with the stock market information products, in future it will also be focusing on the bond market. Moreover, plans envisage not only making information available to other exchanges and markets in Europe, but as an additional service providing them with access to the systems developed for Deutsche Börse.

#### Number of page impressions 1999 on the IP Division web sites



## Clearing Division: From Vision to Merger

Securities trading is the start of a long chain of services. Due to computerization, it already is very efficient as regards cross-border transactions, but it only makes for a fifth of the value added of market participants. The settlement of transactions contributes the largest share of value added. This is a highly complex issue in Europe due to national borders and the clearing organizations' focus on different products. Here, the potential to cut costs is very high in the age of global capital markets and its increasing squeeze on margins. Hence, the efficient and inexpensive settlement of securities is progressively becoming one of the market participants' most important success factors.

Deutsche Börse Clearing AG and its parent company, Deutsche Börse AG, realized this: through the merger with Cedel International, Luxembourg, which came into effect on January 1, 2000, they are at the head of the consolidation process that has become inevitable in Europe. The implementation of its vision of a single European clearing solution is coming within reach due to the foundation of the new corporation, Clearstream International.

Clearing AG's activities in the past financial year focused on two areas:

- a "fitness program" with which Clearing AG brought its range of services into top condition
- the preparations for the merger with Cedel International.



#### Clearing AG 1999: "fit for merging"

Over the past few years, Clearing AG already developed from a purely national central depository to a clearing organization targeting international markets. The corporation again improved its strong points in 1999 and thus was in top condition prior to the merger. It

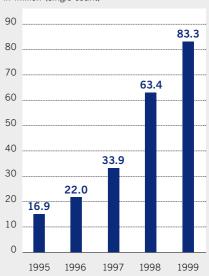
- further stabilized its position as the least expensive and largest European central depository,
- extended its links to other clearing organizations,
- opened up new markets through new depositories,
- further automated its processes,
- met present customer requirements with innovative systems and
- implemented new technologies so that its customers are able to conveniently access its clearing services.

High volumes, low unit costs The transaction volume, i.e. the total number of settled securities transactions, increased in 1999 by 31 percent to 83.3 million items as compared to the previous year. On the whole, Clearing AG settled transactions with a cash equivalent of € 14.4 trillion in 1999. No other European clearing organization held more securities in custody in 1999 than Clearing AG: the domestic custody volume amounted to € 5.5 trillion as at the balance sheet date. The foreign custody volume more than doubled and reached € 182.5 billion (see charts).

Due to high transaction volumes, the resulting economies of scale and its efficiency, Clearing AG was European price leader for the settlement of securities transactions in the year under review. Over the past years, it was able to save its customers a total of  $\leqslant$  20 million  $- \leqslant$  5.6 million alone in the year under review.

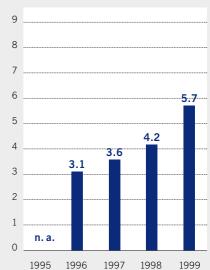
#### Transaction volume

in million (single count)

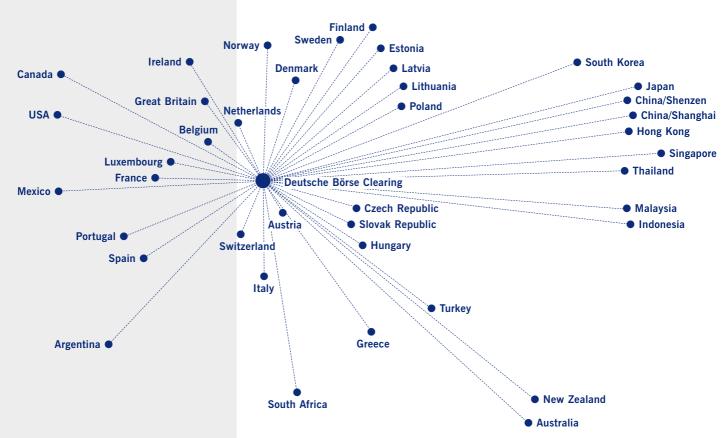


#### **Custody volume**

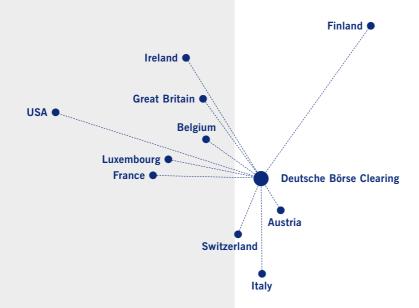
market value in EUR billion



#### Clearing depositories



#### International locations of Clearing customers



## More links, more convenient settlement

In 1999, Clearing AG again expanded its links to other European clearing organizations, such as Necigef in the Netherlands and APK in Finland. A new link to the National Bank of Spain is the bridge to the Spanish market for government bonds.

Clearing AG has pioneered the way in recent years with its links to ten central depositories and two international clearing organizations. It is the only European clearing organization that has such a dense network of account links to the most important financial centers in the world. Clearing AG's customers thus are able to carry out cross-border transactions in these markets in a fast, secure and efficient manner using only one communication interface.

More markets, more internationality Clearing AG also continually expanded its international network of depositories during the last financial year: it now has a direct account link to each country within the EU. Worldwide it held links to 41 depositories (see chart) as at the balance sheet date. For its customers, Clearing AG opens up markets outside of Germany with each of these depositories. However, its customers also contribute towards this opening up of new markets. Clearing AG is the central depository in Europe with the most participants outside its national borders. In 1999 it was able to attract 13 new customers outside of Germany. A total of

64 out of 439 account holders at Clearing AG used the services from abroad as at the end of December 1999.

## Optimized processes, increased efficiency

Clearing AG further automated its customers' and its own business processes in 1999. Customer benefits: lower unit costs, faster processing of information, reduced error margin.

The cash clearing procedure for realtime settlement (RTS), automated in 1999, is one such example. Market participants can thus exchange cash and securities in even less time. Furthermore, Clearing AG has expanded its links to its cooperation partner Cedel International and to Euroclear. Instructions coming in late can now still be settled on the same day. Another innovation in the 1999 financial year: customers of Clearing AG can now send their instructions via the S.W.I.F.T. network - due to a standardized interface to the international communication network S.W.I.F.T. in Clearing AG's settlement system CASCADE\*.



<sup>\*</sup> see glossary

Innovative systems, the best service Clearing AG targets current customer requirements with its innovative systems CASCADE-RS\* and Xemac\*.

The trend of converting bearer shares into registered shares of companies operating internationally is supported by CASCADE-RS, Clearing AG's special settlement system for registered shares. Clearing AG estimates that half of the corporations included in the DAX® will have done so by the end of 2001. Clearing AG improved CASCADE-RS in 1999 to meet the perpetual increase in terms of volume. In the second half of 1999 alone, 15 companies were able to convert to registered shares. A total of 32 companies used CASCADE-RS at the end of February 2000.

Xemac, a service introduced in March 1999, allows market participants to collateralize transactions by way of securities using a minimum of liquidity. This service will progressively increase in importance in view of the anonymity on global markets and the inherent risks for its participants. To collateralize their borrowings with the European Central Bank, customers have already entered securities to the tune of € 40 billion in this collateral pool.

New technologies, more alternatives
New technologies play a major role at
Clearing AG. The best example is the
electronic securities admission by
mouse click. Since its introduction in
October 1999, the internet application
X-list provides issuing houses with all
the necessary information and application forms around the clock. Three
written applications for the admission
to exchange trading, collective safe
custody and listing were required
where now only one application via
internet is sufficient (see text box).

#### X-LIST

#### X-list: securities admission by mouse click

The new internet application is state-of-the-art technology. The most important elements:

- a uniform user interface for the issuer (single-point-of-contact (SPOC) architecture)
- full automation of business processes (straight-through processing)
- electronic research in current admission processes and concluded admission procedures.

The new internet application benefits the customer in many ways:

- One application for all types of admission suffices.
- The admission process is transparent at all times.
- The user guidance makes the application easy to use.
- Research is uncomplicated.
- Customers have free access to the application.

Go to www.exchange.de for further information on X-list.

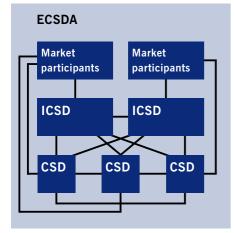
#### Clearstream International: setting the course for the future of the industry

Participants in the European capital market are demanding an integrated settlement process for stocks and bonds in which they can pool liquidity, improve settlement efficiency, and thus substantially reduce their risks and expenses. They are no longer willing to make multiple investments in IT systems for what are in essence the same products and services. The fact of the matter is that 90 percent of all settlement costs could be saved with a more efficient settlement structure thus making consolidation of the clearing industry a must.

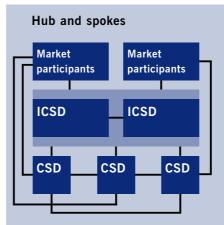
In terms of consolidation, Clearing AG and Cedel pioneered the way in 1999 by founding Clearstream International. The basic idea behind this settlement

structure is the vertical integration of the national central depositories with the international clearing organizations to form a European clearing house. When compared with other models that have been discussed in the industry, the Clearstream solution offers substantially higher efficiency profits for all parties concerned: with both the simple networking of central depositories (as in the model proposed by the Association of European Central Securities Depositories ECSDA) and the so-called hub and spokes model, liquidity remains split and customers still maintain the various connections to a multitude of clearing organizations. Redundancies in the system and the products have not been eliminated (see chart).

#### The Clearstream solution is superior to the alternatives



- ICSDs and CSDs are connected by bilateral links
- Market participants can be linked to each



- CSDs are joined to form one clearing hub
- CSDs as "spokes" are decentralized depositories
- International market participants are served by the hub, small and mediumsized participants by the CSDs



- Consolidation of the European clearing industry
- Breaking up the industry's structure by means of vertical integration
- Single point of access access for national and international, large and small market participants

#### Organizational structure Clearstream International



The Clearstream solution is the only one of the three proposed alternatives to lead to a true consolidation of the European clearing landscape.

The market stands to profit from four essential advantages:

- Clearstream is open to further cooperation agreements (open-door instead of closed-shop approach)
- Clearstream offers clearing and settlement of stocks and bonds from a single source (one-stop shopping)
- Clearstream bundles liquidity and lowers transaction costs (liquidity pooling)
- Clearstream offers uniform technology standards (single point of access).

Open door instead of closed shop: equal opportunities for all clearers
By founding Clearstream International, the two merging partners simply provided the signal for consolidating the European clearing landscape. Other clearing organizations, both large and small, are invited to collaborate in this consolidation, be it by simple account links, utilizing the same IT platforms, or by merging with Clearstream International.

#### One-stop shopping:

one system for stocks and bonds Clearing AG and Cedel International complement each other perfectly. Complementary product and user structures for the first time allow customers one-stop shopping for the settlement of transactions. While Cedel International primarily contributes its international user structure, its expertise in the international bond market, and its infrastructure to the newly created unit, Clearing AG substantially increases Clearstream's value with its own experience in the settlement of stocks, the volume of the largest European market, and access to the stock exchange cooperation alliances. The essential advantage for customers is a clearing system for stocks and bonds as well as national and international transactions settlement.

#### Liquidity pooling:

lower costs, lower risks

This merger has given rise to Europe's largest clearing organization with a custody volume of approximately € 8 billion and an annual transaction volume of over 90 million items. The high volumes translate into low unit costs, which are already benefiting customers: the various price reductions effective from April 1, 2000 are not only a first step towards a uniform pricing model, but also represent an initial savings of approximately € 22 million per year. At the same time, the processing of transactions that used to cross over borders and systems on a single system lowers the clearing risks.

Two partners - combined strength

	Deutsche Börse Clearing	Cedel International	Clearstream International
Number of transactions (in million)	83	9	92
Custody volume (in EUR billion)	5,700	2,300	8,000
Number of participants/customers	400	2,100	2,500
Number of employees	300	1,100	1,400
Balance sheet total (in EUR million)	3,000	4,400	7,400

Basis: figures for the business year 1999



All in all, the market profits from synergy effects from the pooling of liquidity and higher process efficiency to the amount of an estimated cash value of € 600 million. The synergies are due to reduced operating costs (€ 300 million), particularly by omitting multiple investments on the IT sector and through the lowering of prices and the reduction of costs in the back office of the market participants (another € 300 million).

Single point of access: one technology, one interface, one network Clearstream International offers participants modern technology, a uniform interface, and a powerful network. All market participants - small and medium-sized ones included - benefit equally from liquidity pooling due to the single access. The basis of this new IT platform is the RTGS\* (Real-Time Gross Settlement) system Creation that will reach its full functional potential in June 2000. The advantage for customers is a marked reduction of costs due to uniform technological standards and a lasting protection of their investments. Parallel operations, continued development of the software, and the time delays incurred by several interfaces all of which were necessary to date no longer apply.



### | | CLEARSTREAM INTERNATIONAL

#### Goals

- Central and integrated solutions for clearing, settlement and depository services in Europe, including the function of a central counterparty
- First-class service at competitive prices
- Efficient processes for continuous settlement
- Creation of a common IT platform
- Integration of other central depositories

#### The milestones of the merger

#### January 30, 1999

The first exploratory talks between representatives of Deutsche Börse Group and Cedel International take place under the project title "Cerberus".

#### February 13, 1999

A team from Cedel International and Deutsche Börse tackles the manifold economic, legal and technical questions associated with the merger.

#### May 14, 1999

Representatives of both parties sign the preliminary merger agreements.

#### July 15, 1999

Within the framework of an extraordinary general meeting, the majority of Cedel International shareholders vote in favor of the merger with Clearing AG.

#### September 6, 1999

Deutsche Börse AG's Supervisory Board approves the merger with Cedel International.

#### October 6, 1999

Representatives of Deutsche Börse, Clearing AG and Cedel International sign the merger agreements in London.

#### October 28, 1999

The new company "New Cedel International" is founded in Luxembourg as a holding company.

#### November 10, 1999

The shareholders of Deutsche Börse AG vote in favor of the merger within the framework of the extraordinary general meeting.

#### January 10, 2000

Deal closing: effective January 1, 2000, Cedel International transfers all its assets including its subsidiary companies to the new company and, in return, obtains 50 percent of its shares. Deutsche Börse transfers all its shares of Clearing AG to New Cedel International – also in return for 50 percent of the organization's shares. At the same time, the company name New Cedel International is changed to "Clearstream International".



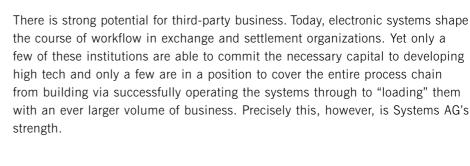
74 | Divisions Systems

# Systems Division: Systems and Service Provider for Exchange Organizations

Deutsche Börse Group has set itself the goal to move the European capital market a decisive step forward – by establishing a consolidated, efficient stock exchange and settlement structure for Europe. The use of technology that is both open to future advances and ensures the smooth allocation of capital not just among exchange organizations, but also among intermediaries, investors, and issuers alike offers the key to a quantum leap in standards.

The Systems Division is Deutsche Börse Group's technology provider. Its task is primarily to make available the right technology to support the individual divisions in putting their strategic initiatives into practice.

In the future, Systems AG will also position itself outside Deutsche Börse Group as a systems and service provider to an even more pronounced extent than hitherto by increasingly developing third-party business. With the implementation of its Xentric® product series and its ability to furnish new clients with start configurations, it has already proven its competitive orientation.





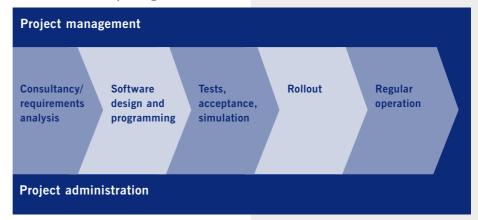
Well before other systems providers, Systems AG realized that fully electronic systems were the future. Today, they form the foundations of Deutsche Börse's core operations.

Since the rollout of the fully-electronic system for DTB Deutsche Terminbörse – the predecessor of today's Eurex\* – ten years ago, Deutsche Börse Group has been a technological pioneer among the exchanges. It has created modern systems infrastructures and set up a worldwide network that offers global players access to the capital market irrespective of where they are based.

All-round services for clients
When building complex exchange systems, the division pursues a strategy with a decisive client focus – both systems and products are developed in close consultation with customers. In this way, Systems AG is able to carefully take specific wishes into account; the latest technological options can be incorporated into projects with a minimal time lag.

What clients are offered are complete solutions, for Systems AG devises comprehensive service packages for their development projects – starting with consultancy and requirements analysis via product and/or systems development as well as rollout through to production operation and systems maintenance (see chart).

The "no-worries" package



This integrated concept has advantages for both partners. Large customers can entrust their automated trading workflow and back-office operations for adjustments to a new release to Systems AG, with all its expertise, and do not have to handle any coordination tasks themselves. Smaller customers are able to free up their own, frequently limited IT resources rather than burdening them with in-house development and implementation projects. Without this comprehensive implementation process and the division's project-oriented organizational structure, Systems AG would not be able to maintain the exceptional speed with which it launches application and product innovations.

Projects and milestones 1999-2000

	1999 Jan	Apr	Jul	Oct	2000 Jan	Apr	Jul	Oct
Cash market	Xetra <sup>®</sup> releas Insoui	es	Rel. 3	.1 na <b>■</b>		Rel. 4.0	) Newex <sup>®</sup>	□ Rel. 5.0
Derivatives market	Eurex releas Allian	es	Rel. 3		☐ Rel. 4.0 ☐ Rel. 4.1 CBOT☐ EEX*☐			
Information products					□В	_	CEF	
Infrastructure				Y2K I	•	Neue Börse		
Completed Planned								

Convincing service quality translates into market success

As the one-stop partner for the construction of exchange systems, the division has three competitive qualities which speak strongly in its favor: the ability to deliver, speed, and reliability. Systems AG's implementation policy is to deliver new trading systems within only a few months and to guarantee on-schedule, smooth rollout of releases. For example, it took only 18 months to develop and launch Xetra<sup>®</sup>. The relevant systems were up and running in time, in scope and in budget. The design concept comprises mechanisms for eliminating down-time. Another fundamental building principle applies: all systems are scalable, in other words they can easily be expanded and adapted to new requirements in the market or among market participants.

#### Internet-based links to customers

#### Client **Exchange** Front-end software Internet Back end **GUI** trading application Internet workstation Java trading interface (API) **ISDN** Internet middleware dial-in Central functionalities such as order book management and matching **Smartcard** reader

Systems AG has continuously optimized software development activities. An example: costs were cut by standardizing software components for the Eurex® and Xetra\* systems, such as front-end software and interfaces (e.g. Values API\*) and projects featuring a larger range of functionalities can thus be handled at the same time. This has enabled Systems AG to shorten the timeframe from feasibility study through to completion of the product.

Cost-effective internet-based access to exchange systems

In developing applications, the division is increasingly reliant on the internet as an alternative access method, thus taking into account the trends in the financial services market. To adapt business models to the internet, Systems AG has developed function modules with clearly defined inter-

faces, which are highly efficient as they are portable, expandable and interchangeable. These modules can quickly be combined to provide high-quality products and systems. The standards for strategic applications in the future will include browser-based GUIs, TCP/IP for data transmission and Java for applications development.

Systems AG already provides customers with cost-effective and rapid internet-based access to the Group's systems; the relevant infrastructure is in place. Customers are offered a front end written in Java based on an open, programmable interface. Data is transferred to the exchange via the internet in encrypted form (see chart). The Systems AG Internet Unit handles the technical side of Deutsche Börse Group's web site (www.exchange.de).

In building systems, the division adheres to the "make and buy" principle. An example: the Consolidated Exchange Feed (CEF) - a new standardized data feed system, which, as of summer 2000, will bring the operation of several established information systems together on one platform (see also the Information Products Division chapter, p. 54). The new CEF information system is flexible in structure and allows the straightforward launch of new products (e.g. indices). Actual development of the system in the sense of integrated production is outsourced and in part performed "offshore", Systems AG prepares the quality tests and production acceptance for the respective application package.

#### Y2K

#### Y2K switchover - check up for all business processes

For Deutsche Börse Group, the year 2000 got off to a good start: the date change was glitch-free; the Y2K project was successfully completed. But Y2K was not just about preparing exchange systems for the switchover to the new millennium. In the course of the project, all the business processes in the Group were also given a thorough check up and made fit for the future.

Taking an approach already successfully tested during the conversion to the euro one year earlier, Systems AG worked closely with participants and third parties during this check-up phase. Not to forget that Systems AG was one of the Y2K coordinators for the Frankfurt financial community. Core exchange business processes were simulated under Y2K conditions; where necessary, modifications were

made. Software development processes were optimized and standardized, new test and simulation options created for participants, especially for clearing and settlement functions.

During the system-wide testing of business processes – and this included the interfaces – the project team devised means of augmenting quality and efficiency for release rollouts which were immediately incorporated into ongoing development work. By stringently concentrating functional modifications in new releases, Deutsche Börse Group software will become even more stable. The fallback applications developed in the course of the Y2K project to deal with possible system downtime enhance the availability of the exchange systems in general – even after the date change.

#### Competitive advantage #2: operating and servicing systems and networks

Systems AG's core business is operating Deutsche Börse Group's trading systems and global network of participants. Every day, securities totaling some € 100 billion change hands through its derivatives and cash market systems.

Fairness is one of the prerequisites for operating electronic trading systems. In the case of Deutsche Börse's systems, a distributed, multi-tier client-server system and network architecture is used to ensure all participants have identical access to the exchange systems – to information, trading or settlement. And identical information is made available to all participants worldwide in fractions of seconds. Systems AG ensures operation is reliable, i.e. that all functions run error-free, and are secure, i.e that any unauthorized access is prevented.

## Systems constantly adapted to transaction loads

In 1999, Deutsche Börse Group's computer systems had to comply with especially high requirements: at the end of 1999, Xetra had 404 participants, 44 percent more than at yearend 1998. And in the same year, the number of Eurex participants surged 33 percent to 416. At the same time, the volume of transactions rose even more swiftly: Xetra order book turnover for 1999 rose by 45 percent to € 582 billion, while the business volume at Eurex soared 53 percent to 379 million contracts. When the DTB system went into operation in 1990, it serviced 56 participants and a daily average of some 30,000 contracts as Eurex, the platform today supports over 500 customers worldwide, ten times as many as at its start.

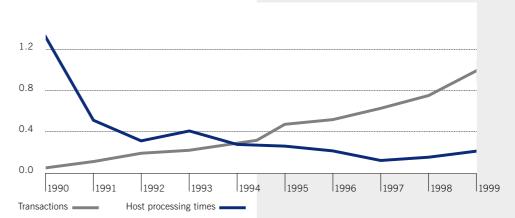
In 2000, Eurex will handle a contract volume which is more than 50 times as large as the original volume processed. One clear reason accounts for this explosion in participant numbers: intelligent remote access links which result in savings for participants by eliminating the costs of physical presence.

With an eye to providing stable operation for all the constantly rising transaction loads, the division continually invests in optimizing systems reliability and performance. For example, the capacity of the processors used in the Eurex back end were boosted in 1999 by around 50 percent. Careful performance optimization of critical functions such as posting and matching also ensures faster processing. In the mainframes area (cash market and settlement), in 1997 Systems AG laid the foundations for scalable growth by introducing Sysplex architecture. At present, up to 32 computers can be operated in a Sysplex cluster; the architecture consists of three production systems. The total processor capacity was tripled in 1999 alone. The number of annual transactions had risen from around 30 million in 1990 by a factor of about forty to over 1.2 billion in 1999. Moreover, Systems AG has succeeded in minimizing the time between ordering a system upgrade and its production readiness to just one week.

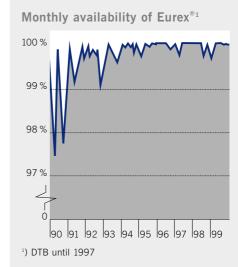
In 1999, Systems AG enhanced the quality of access links using dedicated line networks and extended the range of services. Since participants can now use several providers, they can access exchange systems through two physically distinct infrastructures, so-called dual-rail connections. Network quality is constantly measured and monitored, such that Systems AG can guarantee availability of 99.8 percent a month for every dual-rail connection. In 1999, average connection availability of trading systems was 99.992 percent per month (see charts).

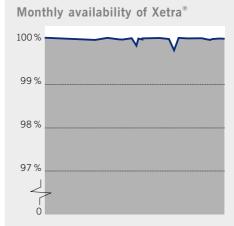
The number of lines in trading networks almost doubled in 1999 – from 1,100 to 1,900; a further increase in 2000 is expected. Thanks to more efficient processes, it was possible to handle this increase with a minimal addition to staff levels and an overall reduction of fixed costs. The creation of a so-called multi-application and multi-organization network means the

Host processing times in seconds and transactions per day in millions for DTB/Eurex



existing network capacity can be exploited to the full. Customers can use existing networks to be linked to Xetra and Eurex as well as to the systems of Deutsche Börse Group alliance partners, namely Wiener Börse (the Vienna Stock Exchange), the Irish Stock Exchange (ISE), and Helsinki Exchanges (HEX).





## Competitive advantage #3: "loading" the exchange systems

In the exchange systems market, those players will win whose systems are sufficiently powerful as to attract high transaction volumes in the short term and who are able to exploit economies of scale on behalf of both themselves and their customers.

Last year demonstrated that Deutsche Börse Group's systems can adapt flexibly to handle increasing transaction volumes and can be easily expanded. Systems AG achieves economies of scale by better utilization of existing operational capacities in three ways: it takes on third-party business, is busy establishing a central counterparty facility that will run on its platforms, and is optimally utilizing its mainframe system. The cost savings generated are passed on directly to the customer in the form of lower prices.

Third-party business boosts capacity utilization

Today, market participants expect a uniform technical platform, easy access to large markets, and comprehensive services – features many exchanges are unable to offer. This is why operating systems on behalf of third parties is an area with enormous growth potential. As a full-service provider developing and operating electronic markets worldwide, Systems AG is an attractive partner for small markets/ exchanges not in a position to perform this function themselves cost-effectively and it also offers tangible advantages to international exchanges, since "systems alliances" generate extensive synergies.

Hard on the heels of the first instances of insourcing small markets - HEX, the Finnish futures and options exchange, has chosen Eurex and Wiener Börse has opted for Xetra for its cash market - others have followed. In January 2000, Deutsche Börse AG and the ISE signed a letter of intent on cooperation: the ISE will operate the Irish market on the Xetra platform; Systems AG will be responsible for the trading system. The new electronic market is scheduled to go into operation in second-quarter 2000. Operation of the European Energy Exchange EEX® AG will create synergies through the cost-effective use of a joint back-end infrastructure. Deutsche Börse Group's existing and proven organizational units, i.e. Operations, Market Supervision, Trading Surveillance and Customer Service, will take over the additional activities associated with the new exchange.

One example of a systems alliance is the operation and service agreement concluded with the Chicago Board of Trade (CBOT\*) in connection with its cooperation with the Eurex futures and options exchange.

Systems AG is offering a full-service package so that contracts previously traded on the floor in Chicago will now be matched through an electronic trading system. The package comprises handling modifications of the Eurex software, coordinating the rollout process, and supporting CBOT in operating the systems. The network, helpdesk and back ends will be operated jointly on behalf of CBOT and Eurex. Participants of both exchanges will enjoy the fruits of the synergies that thus



arise, for they can trade the products of the respective other exchange using a uniform network and standardized interfaces.

## A central counterparty concentrates clearing volumes

A growing number of market participants trade with an increasing number of international customers. They often have to contend with fragmented clearing and settlement structures that are largely geared to the respective national market. The fact that each clearinghouse has its own margining results in high costs.

With its "Integrated Clearinghouse" (IC) project, Deutsche Börse is currently developing a system aimed at reducing the costs market participants face for transactions in the cash and derivatives markets. It will act as the central counterparty for both exchangebased and OTC transactions thereby enabling anonymous trading on the marketplaces tied in to the system cash and derivatives markets for shares and bonds, ECN\* and OTC markets. In addition, the IC will reduce transaction costs by offering multilateral positions netting\* and cross-margining\*, not to mention the overall reduction in settlement transactions.

## Optimal utilization of the mainframe environment

One way of enhancing capacity utilization of the existing IBM mainframes is to extend deployment of the trading, settlement and information systems used to support floor trading. At its computer center, Systems AG runs the BOSS/CUBE\*, BÖGA\* and BIFOS\* applications on behalf of all regional exchanges. Irrespective of the competition between the regional trading floor systems and the Xetra electronic trading platform, the ongoing operation of IBM mainframes at Systems AG's computer center offers cost advantage to all involved.

The mainframes at Systems AG are running the Integrated Share Ledger (Integriertes Aktienbuch, IAB) — a modern application which offers system-supported accounting for registered shares with limited transferability; internet technology is used for the front end. Higher system load is anticipated here, as a growing number of corporations are converting their shares into registered shares as part of intensifying IR activities.

A three-year contract with Clearstream, the corporation which evolved from the merger of Deutsche Börse Clearing AG and Cedel International S.A., covering operation of some of the latter's systems ensures the full utilization of the mainframes for the foreseeable future.



## Our Staff: Simply the Best

# ...To achieve these goa on our uniquely skill

Our "uniquely skilled professionals"...

In 1999, Deutsche Börse Group was able to put another feather in its cap: in a poll asking students to list the 50 most attractive employers, the Group took 33rd place. Given that Deutsche Börse is a medium-sized company in terms of its payroll, this is an excellent ranking indeed, especially when one considers that the Group was rated far ahead of a number of renowned publicly owned firms. The advantages of Deutsche Börse Group an attractive range of products and services and an organization that offers both market and IT know-how obviously speak for themselves.

Deutsche Börse Group orchestrates all aspects of the output chain – cash and derivatives markets, information services, securities settlement, and IT products and services – to create an integrated exchange organization. In doing so, it relies solely on its staff and its systems – two assets that are crucial to its success. Working as a team, the staff again achieved peak performance in 1999 on the basis of qualities such as commitment, flexibility and innovative strength.

01 | Courtney Adante, 27 years old. Since April 1999, Courtney has been Market Supervisor in the Eurex Division at Deutsche Börse Group. She monitors electronic trading in futures and options, communicating with derivatives traders around the world. Her qualifications for this job include a BA in Business Management and Economics and German studies from Miami University of Ohio, and an MBA from Loyola University of Chicago with a focus on Finance and International Business. She completed her MBA while working as an investigator for the Chicago Board of Trade (CBOT\*), a joint venture partner of Eurex\*.

02 | Henry Salvestrin, 35 years old. Henry, who holds a doctorate in chemistry, came to Deutsche Börse in 1997 to work in the IT Security and Process Management Section. Since mid-1998, he has been an IT consultant in the Projects Section at Deutsche Börse Systems. It was here that he helped design the joint venture between DTB and Soffex that was the forerunner for Eurex. After collaborating on the Y2K\* project, he designed a concept for launching electronic trading systems for international projects that was subsequently used as a foundation for the joint venture with the CBOT, a project in which he continues to play an important role. On July 1, 2000, he will be promoted to Head of Internal Auditing.



01 I

02 I

<sup>&</sup>lt;sup>1</sup>) survey carried out by Trendence, a Nurembergbased institute, involving 4,000 Business Management and Economics students at 81 colleges and universities

## ls we build ed professionals ...

03 | Ana Concejero, 28 years old. Ana studied Business Management in Madrid and Reutlingen, graduating in 1994 with a double degree (Diplom-Betriebswirt and Graduado Superior en Ciencias Empresariales). Her interests, which are reflected in her thesis topic ("The European Exchange of the Future"), then took her directly to the Sales Department at Deutsche Börse Group, where she helped to accelerate the expansion of the electronic trading platforms Xetra® and Eurex®. In 1995, she became Key Account Manager for Spain and the UK. She also participated in setting up the London branch office, where she became Branch Manager in 1998.

04 | Jobst Müller-Trimbusch, 29 years old. Since August 1999, Jobst has worked in Group Development, the strategic competence center of Deutsche Börse. As a Eurex controller, he coordinates medium- to longterm planning and supports strategic projects in the derivatives market. His educational background is highly international: James Madison University in Harrisonburg, Virginia (US), École Supérieure de Commerce de Dijon, France, and a doctorate in Economics from the European Business School in Oestrich-Winkel, Germany. He is currently assisting the Value Based Planning project by devising a system for value-oriented management and control. In addition, he helped launch the European Energy Exchange EEX® AG as well as the joint venture between Eurex and CBOT.

#### Some key data:

In 1999, the average number of employees, calculated in terms of fulltime equivalents, rose to 1,143, an increase of 10 percent over the previous year. On the whole, our staff is now younger, even more dynamic, more qualified and more international as a result of this growth. Over 140 competent professionals with at least three years of job experience joined the Group during the year in review. In 1999, the average age of all employees decreased by 0.5 years to 37.4, while the average length of service dropped by 0.8 years to 6.4 years. The share of staff with an academic background rose by 7.7 percentage points to 49.8 percent. 38 nationalities are represented in the Group.

Because of their superior qualifications and excellent performance, our employees reap above-average rewards at Deutsche Börse Group. In 1999, the median cash remuneration of staff members (including part-time staff, excluding executives) came to DM 125,000.



I 04

# ... take advantage of opportunities to move up within the Group and elsewhere ...

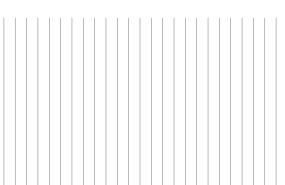
The corporate culture of Deutsche Börse is characterized by its openness, for only in the context of an open atmosphere will changes - for both the individual and the company be regarded as opportunities. A project-oriented organization like Deutsche Börse Group demands that its employees see themselves in a new light and strive to discover new tasks rather than simply fulfill job specifications a precept which requires being an entrepreneur at heart. Deutsche Börse Group has already moved beyond a traditional understanding of the roles of staff and management.

The Group offers excellent career opportunities for top performers: 70 percent of all members of the Executive Board and management staff rose within the ranks of the Group to assume their current leadership position. In 1999, the company-internal job market generated a volume of 172 job ads. 69 employees decided in favor of pursuing their career outside of the Group.

Many former Deutsche Börse staff members remain in close contact with Deutsche Börse Group and cooperate with the company in the financial markets. In this way, Deutsche Börse Group can also serve as a springboard for a career path in other companies. Two examples:

Stefan Stenzel, 36 years old. Stefan, who holds a doctorate in Economics, came to Deutsche Börse in 1990 to assume responsibility for statistics and economic issues. In 1992, he transferred to the Press and Information Department, and went on to become Head of the Corporate Strategy Department in 1994. Starting in 1996, he was initially in charge of the General Secretariat/Media Department, and later became Head of Group Development. In 1999, he was hired by Allianz Aktiengesellschaft, where he heads the Department for Financial Institutions and Strategy.

Roger Müller, 39 years old. In 1990, Roger passed his second state bar exam and received his doctorate in 1991 from the University of Marburg. As a corporate lawyer, he worked in the Corporate Law Department at BHF Bank and headed the Capital Market Law Unit in the Legal Department at Landesbank Hessen-Thüringen. After serving as Vice President & Assistant General Counsel in the Legal Department at J. P. Morgan, he joined the Admission and Legal Affairs Department of Deutsche Börse Group in 1998. Since the beginning of 2000, he has been in charge of IPO Project Implementation in the Corporate Finance Division at Hypo-Vereinsbank in Munich.



#### ... and some choose to return. Welcome back!

Deutsche Börse cooperates virtually and across national borders with different cultures in various time zones, especially with respect to its most important projects. Employees, external service providers and partner firms work together to perform a given task. "Simply the best" is the motto when putting together a team and when recruiting new staff. Three examples prove that the former rule of "they never come back" no longer holds:

05 | Gerhard Leßmann, 41 years old. Gerhard is responsible for the IT Strategy Division at Deutsche Börse Systems. With a degree in Engineering, he worked in the Department of EDP Systems Management at former DTB Deutsche Terminbörse GmbH from 1989 to 1993. When Deutsche Börse AG and DTB GmbH merged, he became the Head of Applications Development/Trading in the DTB IT Department. In 1997, he went to work for Booz, Allen & Hamilton, a corporate consultancy firm, but after a year returned to Deutsche Börse Systems as Division Head with general power of attorney. He was appointed to the Executive Board in December 1999.

06 | Martin Reck, 39 years old. In May 1998, Martin returned to Deutsche Börse Group to head the Market Design and Functionality Division. Following his studies in Information Technology with a focus on software engineering and operations research, he worked as an academic assistant at the Institute for Business Data Processing at the University of St. Gallen, Switzerland. He was the project coordinator for Deutsche Börse's Executive Board from 1993 until the end of 1996, when he left the compa-

ny to work for the Inhouse Consulting

Division of Deutsche Bank.

07 I Jutta Stuhlfauth, 38 years old. Jutta is a lawyer specializing in international, banking and stock exchange law. After completing her studies in Munich and Heidelberg, she initially worked in a law firm, and in 1991 came to Deutsche Börse Group's Legal Affairs Department as a certified lawyer. There, she was initially responsible for providing legal support to Clearing and Settlement. Later, among other things, she participated in drafting the new Rules and Regulations of the FWB®, the Frankfurt Stock Exchange, and of the Neuer Markt.



06 I 05 I

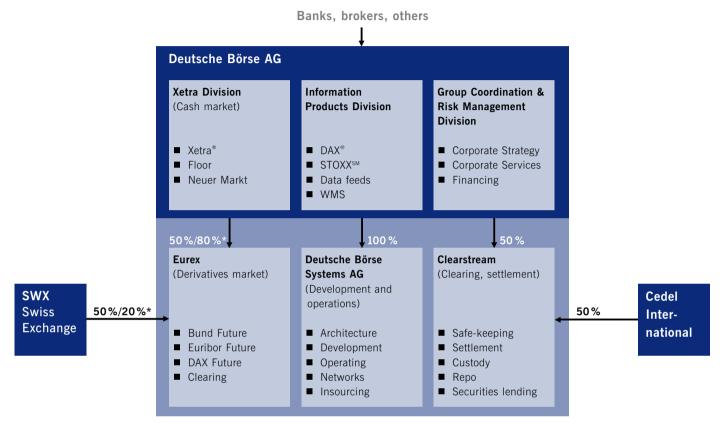


07 I

In 1997, she was hired by the Bundesverband deutscher Banken (Federal Association of German Banks) in Cologne, and on January 1, 1999, she returned to Deutsche Börse Group. In her capacity as Head of Network Management, she is responsible for

international central securities depositories, international depository banks and invoicing for Clearstream Banking Frankfurt (formerly Deutsche Börse Clearing).

# Organizational Structure Deutsche Börse Group



<sup>\*</sup> distribution of ownership/profits

#### **Further activities**

- CFS (Center for Financial Studies)
- DAI (Deutsches Aktieninstitut e.V. the German Institute for Share Promotion)
- DRSC (Deutsches Rechnungslegungs-Standards-Committee GASC German Accounting Standards Committee)
- ebs (European Business School)
- EEX® (European Energy Exchange)
- FBF (Fördergesellschaft für Börsen und Finanzmärkte in Mittel- und Osteuropa mbH)
- Finanzplatz e.V.
- Telebörse (n-tv)

London

UK Representative Office 50 Cannon Street London EC4N 6JJ Phone +44-20-77 78 93 10

#### Chicago

US Representative Office 190 South LaSalle Street Chicago, IL 60603 Phone +1-312-782-22 23

#### **Paris**

Representative Office France 17, rue de Surène 75008 Paris Phone +33-1-1 55 27 67 67

#### Berlin

Representative Office Berlin Unter den Linden 36 10117 Berlin Phone +49-30-5 90 04-100 The various strands of the European capital market are gradually growing together, thus steadily augmenting efficiency. The background: the requirements of issuers, investors, and intermediaries have all changed. Issuers want a European market in which they can raise equity, investors now take their cue from sectors and not from currencies, and intermediaries want to be able to use uniform trading and settlement platforms.

Deutsche Börse Group has taken these market trends into account, as witnessed by the process of strategic realignment during 1999. The key corporate goal was to foster the consolidation of the capital market infrastructure through alliances, mergers, and insourcing. Moreover, Deutsche Börse Group has further expanded its network of participants.

In order to create a uniform market for blue chips in the cash market, Deutsche Börse AG has reached an agreement with seven European exchanges on a joint market model for trading in the most liquid European shares and featuring standardized rules and regulations. As regards the derivatives market, Deutsche Börse AG has developed further its position in the US market: Deutsche Börse AG and the SWX Swiss Exchange have signed a contract with the Chicago Board of Trade (CBOT\*) covering joint efforts to establish an electronic trading platform for options and futures.

Moreover, the Eurex\* futures and options market has put its concept for an energy exchange into practice. The concept was very well received among energy producers and suppliers, industrial consumers, and banks alike: together, they have since acquired a majority stake in the European Energy Exchange EEX® AG operating company set up by Eurex. Deutsche Börse Group electronic trading and settlement systems will form the basis for this exchange, which will initially function as a spot and futures market for electricity.

Deutsche Börse AG and Wiener Börse AG (the Vienna Stock Exchange) each hold an equal interest in the preliminary company established in Vienna in the run-up to setting up Newex®, the New Europe Exchange. Once it has been awarded an Austrian license to operate as an exchange, in fall 2000, Newex will start listing blue chips from Central and Eastern Europe by means of the Xetra® electronic trading system. The focus will be on equities from the Czech Republic, Hungary, Poland, and Russia.

As regards safe custody and settlement operations, the shareholders of Deutsche Börse AG approved the merger of Deutsche Börse Clearing AG's business with that of Cedel International S.A., the Luxembourg central clearing institution, to form a new company. The result: the newlyfounded Clearstream International S.A., Luxembourg, is able to offer a comprehensive range of settlement and safe custody services for equities and bonds.

In 1999, Deutsche Börse AG again demonstrated conclusively how competitive its trading systems are: HEX, the Helsinki futures exchange, relies on the Eurex® system for trading and clearing its options and futures products, and Wiener Börse has introduced the Xetra trading platform for the Austrian cash market.

Furthermore, Deutsche Börse Group extended its international reach – today more than 400 trading participants inside and outside Germany are linked up to Eurex and Xetra respectively through over 10,000 trading screens. The Group thus boasts one of the largest networks of participants of any exchange organization worldwide.

By introducing NEMAX® and NEMAX 50, two indices for the Neuer Markt trading segment, Deutsche Börse AG has consistently expanded its index family and moved the success story of Neuer Markt forward. The new SMAX® quality segment for small caps was also launched, featuring 91 participants. In other words, Deutsche Börse Group has pressed ahead with clear segmentation of the equities market.

Deutsche Börse AG's Systems and Information Products divisions have likewise masterfully squared up to new market challenges and used them to the benefit of both market players and the Group alike. For example, Deutsche Börse Systems AG not only laid the basis for the Y2K\* switchover, thus guaranteeing a smooth start to exchange trading this year, but also introduced a price and service catalog, buttressing its competitiveness as a systems and service provider.

The Information Products Division has broadened its price marketing and information sales activities, thus meeting growing demand for up-to-date price information among both institutionals and private investors. In the wake of strong increases in trading on the exchanges, Information Products doubled the volume of data it supplied to vendors and investors.

In December 1999, Deutsche Börse Group opened a representative office in Berlin. It functions as a central interface between the Group and the world of politics, serving to nurture external contacts to all political groupings and associations. At the same time, the representative office acts as an information hub for the political community, offering details on all Group services and on issues relating to the national and international capital markets. The goal: to foster an appreciable awareness of the capital market and a clear understanding of its functions.

#### **Earnings position**

► Table 1

#### **Xetra Division**

Table 1

The consistent expansion of the Xetra network and the ongoing pace of internationalization are boosting liquidity in equities traded on Xetra. In 1999, 124 new participants were hooked up to the network.

#### Sales and investments in 1999

Division	Sales in EUR m.	Investments <sup>1</sup> in EUR m.
Xetra	139.3	24.5
Eurex	145.4	22.4
Information Products	63.6	11.8
Clearing	195.0	1.0
Systems	99.8	23.3
Corporate Services	0.0	9.0
Total	643.1	92.0

<sup>1)</sup> excl. financial investments

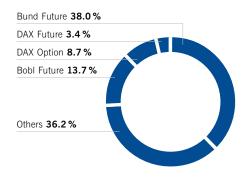
In 1999, the division succeeded in increasing the number of transactions in all product areas. For example, the Xetra volume traded on the FWB®, the Frankfurt Stock Exchange, was raised by 43.2 percent on a year-on-year basis to reach € 1,166,579 million. Indeed, Xetra accounted for a share of approximately 81 percent of the total FWB equities order book volume in 1999, up from 63.2 percent the prior year. This emphasizes the growing importance of the Xetra trading platform. Further alliances with exchanges outside Germany will result in use of this trading system becoming even more wide-spread.

In 1999, the FWB was also by far the largest German exchange for bond trading, holding a 58.5 percent share of the market.

#### **Eurex Division**

In 1999, Eurex scored a record volume of 379.1 million contracts. In other words, for the first time more than 300 million futures contracts were traded on a futures exchange in the course of one year. The transaction volume for the strongest selling product, namely the Bund Future\*, rose 60.4 percent on a year-on-year basis to reach 144.2 million contracts. The number of participants likewise leaped by 101 to 414 market players.

#### Contract volume by segment in 1999



Compared with the previous year, Eurex sales climbed 23.5 percent to € 145.4 million.

#### **Information Products Division**

With the German stock exchanges in a positive mood in 1999, the Information Products Division (IP) successfully boosted in particular business in marketing prices, with sales surging by € 14.6 million. Overall, IP posted sales of € 63.6 million.

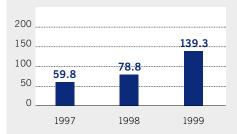
#### **Clearing Division**

By virtue of its position as the European price leader for the settlement of securities transactions, in the year under review Deutsche Börse Clearing AG for the first time managed to push the volume of securities held in safe custody through the € 5 trillion mark, thus extending its leading position among the central securities depositories in Europe. Moreover, sales were increased by 31.4 percent to € 195.0 million.

#### **Systems Division**

The Systems Division guarantees exceptional system availability levels of over 99.9 percent and offers highlyskilled IT support. In 1999, 68.4 percent of its IT service sales were with other Group divisions. On a year-onyear basis, consolidated external sales rose 23.7 percent to € 99.8 million.

#### Xetra Division sales in EUR million



Eurex Division sales in EUR million



IP Division sales in EUR million



Clearing Division sales in EUR million



Systems Division sales in EUR million



#### Sales productivity in EUR thousand



<sup>1</sup> ratio of sales to average staffing levels

# Return on shareholders' equity<sup>2</sup> in percent



<sup>2</sup> ratio of EBT to average shareholders' equity

#### Deutsche Börse Group

The consolidated external sales of the Group grew from € 474.6 million to € 643.1 million in 1999.

This pronounced rise in sales again went hand in hand with an increase in sales productivity, namely the ratio of sales revenue to average staffing levels, of 23.7 percent. Moreover, the return on shareholders' equity before taxes (ratio of EBT to average shareholders' equity) rose from 88.1 percent to 90.0 percent. Sales profitability (the ratio of EBT to sales) fell from 23.0 percent to 19.3 percent.

Total expenses for operations, including those in other accounting periods, rose 42.6 percent in 1999 to € 577.6 million. Personnel expenses grew 11.0 percent for the year; at the same time, average staff levels were up 9.7 percent. The high volume of capital expenditure in earlier accounting periods led to depreciation and amortization growing from € 29.6 million to € 40.1 million. The rise in other operating expenses was attributable to the continuing implementation of a number of projects as well as higher transaction-related costs stemming from the favorable stock exchange climate.

► Table 3

The result of ordinary operations climbed 13.8 percent in 1999 from € 109.0 million to € 124.0 million. The operating result rose by 9.7 percent from € 97.2 million to € 106.6 million and financial earnings by 47.5 percent from € 11.8 million to € 17.4 million. Financial earnings include interest income and income from participations.

#### ► Table 4

The Group disbursed the entire unappropriated profits of the parent company in respect of 1998. The proposal for 1999 is to disburse € 58.7 million – an expression of our value-oriented policy on dividends and a contribution to optimizing our capital structure. As a consequence, the equity-to-assets ratio (ratio of share-holders' equity to total capital excluding factors relating solely to the balance sheet date) fell 6.6 percentage points to 31.5 percent.

#### ► Table 5

Group operational expenses, including expenses in other accounting periods

Table 3

	1997 in EUR m.	1998 in EUR m.	1999 in EUR m.	1999/98 in percent
Personnel	85.9	104.1	115.5	11.0
Depreciation	20.5	29.6	40.1	35.5
Other	190.9	275.4	422.0	53.2
Total	297.3	409.1	577.6	41.2

#### Result of ordinary operations

Table 4

	1997 in EUR m.	1998 in EUR m.	1999 in EUR m.	1999/98 in percent
Operating result	57.3	97.2	106.6	9.7
Financial earnings	6.1	11.8	17.4	47.5
Total	63.4	109.0	124.0	13.8

#### **Earnings policy**

Table 5

	1997 in EUR m.	1998 in EUR m.	1999 in EUR m.
Net income	35.0	46.2	66.0
Unappropriated profits	30.8	42.3	74.5
Dividend	8.6	31.1	58.7

#### Group Management Report

#### Flow of funds statement

Table 6

		1998 in EUR m.	1999 in EUR m.
Cash flow from operating activities			
Cash flow according to DVFA/SG method		87	110
Other operational changes		27	23
Total		114	133
Cash in/outflow from investment activities (incl. final	incial investments)	- 43	- 105
Cash in/outflow from financing activities		- 9	- 31
Change in liquid funds		62	- 3
Development of financial resources		206	203

#### Value added: source of funds

Table 7

	1998 in EUR m.	1999 in EUR m.
Sales	474.6	643.1
Other income	+ 27.6	+ 39.6
Operating output	502.2	682.7
Financial income	+ 11.8	+ 17.4
Depreciation	- 29.6	- 40.1
Other expenses	<b>-</b> 268.6	- 425.3
Total value added	215.8	234.7

#### Value added: utilization of funds

Table 8

	1998 in EUR m.	Stake in percent	1999 in EUR m.	Stake in percent
Shareholders	31.1	15	58.7	25
Staff	104.1	48	115.5	49
Taxes	62.8	29	58.0	25
Creditors	0.0	0	0.4	0
Subtotal	198.0	92	232.6	99
Company	17.8	8	2.1	1
Total value added	215.8	100	234.7	100

#### Financial and assets position

During 1999, we pressed ahead with our policy of strengthening internal financial resources: cash flow calculated using the DVFA/SG method increased in 1999 from € 87.2 million to € 110.2 million.

#### ► Table 6

The cash inflow from operating activities, including taxes on income and financial earnings, came to € 133 million in 1999. Financial resources were reduced by € 3 million owing to high investment outlays of € 105 million and the disbursement of the entire unappropriated profit of the parent company for business 1998.

On the basis of the lower interest rates, in 1999 the potential for financial optimization (leverage) was exploited and as part of financial management, the Group on occasion resorted to the money and capital markets for financing purposes. As at December 31, 1999, the ratio of outside capital incurring interest expense came to 2.2 percent (ratio of outside capital incurring interest expense to total capital excluding factors relating solely to the balance sheet date).

The liquid funds (excluding cash deposits of Eurex participants totaling € 450.1 million) came to € 140.6 million as at December 31, 1999.

As at year-end 1999, the Group had available bank credit lines totaling € 195.0 million. In addition, extensive emergency credit lines exist for clearing and settlement of transactions in the futures market, although no use was made of them in 1999.

In 1999, the Group hedged certain exchange-rate risks. As at December 31, 1999, a forex futures position of US\$ 4.0 million was held.

In 1999, value added rose 8.8 percent to € 234.7 million. The beneficiaries of this were the staff (49.2 percent or € 115.5 million) and shareholders (25.0 percent or € 58.7 million).

#### ► Tables 7 and 8

Fixed assets rose in 1999 by 51.1 percent to € 174.7 million. Investments in the current business year remain at a high level. The fixed assets investment ratio (ratio of investments in fixed assets to sales) rose from 8.6 percent to 14.3 percent.

A total of € 92.0 million was invested in tangible fixed assets including intangible assets during the year under review.

Financial investments increased by € 10.3 million to € 14.3 million.

► Table 9

The high volume of investments underlines the Group's consistent development of its powerful systems.

► Table 10

#### Capital expenditure

Table 9

	Capital expenditure 1999 in EUR m.	Depreciation 1999 in EUR m.
Intangible fixed assets	64.9	18.4
Tangible assets	27.1	21.7
Financial assets	14.3	5.6
Total	106.3	45.7

#### Investments in intangible fixed assets

Table 10

		Investments 1999 in EUR m.	Depreciation 1999 in EUR m.
Divisions		24.1	12.7
	Eurex	22.4	1.6
	Information Products	11.8	0.0
	Clearing	0.0	0.0
	Systems	5.3	3.4
	Corporate Services	1.3	0.7
Total		64.9	18.4

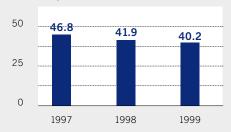
#### Group net worth

	1997 in EUR m.	1998 in EUR m.	1999 in EUR m.
Intangible assets	42.4	54.1	100.2
Tangible assets	36.7	35.5	40.3
Financial assets	22.8	26.0	34.1
Receivables and other assets	583.5	1,034.9	3,007.1
Other current assets	101.2	192.2	590.7
Deferred assets	6.7	5.5	19.5
Balance sheet total	793.3	1,348.2	3,791.9

Group capital Table 12

		1997 in EUR m.	1998 in EUR m.	1999 in EUR m.
Shareholde	' '	113.3	134.2	141.4
Provisions		115.1	171.5	225.9
Liabilities		563.7	1,041.4	3,423.9
	► of which for banking business	485.4	870.9	2,834.5
	► of which for member cash deposits	23.9	93.8	450.1
Accruals a	nd deferred income	1.2	1.1	0.7
Balance sh	heet total	793.3	1,348.2	3,791.9





#### Shareholder structure

Financial services institutes 2.8 %

Credit cooperatives **5.4%**Official brokers **5.2%**Private banks **6.3%** 

Investment companies 10.1 %

Foreign banks 10.9 %

Banks under public law  $11.6\,\%$ 



Current assets rose in 1999 by € 2,370.7 million to € 3,597.8 million. In particular, this increase can be attributed to the change in receivables from banks as at December 31, 1999 stemming from the settlement business of Deutsche Börse Clearing AG.

The balance sheet total grew for the year by 181.3 percent to € 3,791.9 million.

#### ► Table 11

The intensity of investments (ratio of fixed assets to total assets excluding factors relating solely to the balance sheet date) decreased in 1999 to 40.2 percent (see chart).

Total provisions rose in 1999 by 31.7 percent to € 225.9 million.

Liabilities including deferred income and accruals increased in 1999 by € 2,382.1 million to € 3,424.6 million. This was primarily the result of the increase as at December 31, 1999 in liabilities due to banks from Deutsche Börse Clearing AG and cash collateral (member cash deposits) from the Eurex Division.

#### ► Table 12

Other private banks 47.7 %

The Group's shareholders as at December 31, 1999 can be subdivided as shown left.

With the planned change in the company's name to Euroboard AG in first-half 2000, Deutsche Börse Group is also endeavoring to place the share-holder structure on a more international footing.

#### Risk management

Deutsche Börse Group's operational and strategic risks have been regularly monitored for years now. Following the enactment of KonTraG, the German Act on Control and Transparency in Businesses on May 1, 1998, as early as second-half 1998 Deutsche Börse Group started to devise a risk policy and established the central staff section "Risk Management". The section reports directly to top-level Group executives. It analyzed all reporting processes and, wherever necessary, adjusted them. All staff were dutybound to adhere to the comprehensive risk policy; the analysis and implementation phases were buttressed by extensive communications measures.

In 1999, once the initial data had been gathered, monthly and quarterly reports were evaluated and consolidated.

The sections responsible report in the form of early-warning indicators on the operational risks they face.
Risk Management regularly reports on these risks to the Group Executive Board.

With the assistance of internal and external consultants, the Executive Board appraises and monitors strategic risk. Organizational units in contact with bodies directly or indirectly involved in legislative processes are able to discern regulatory risks at an early date and report on them.

The Executive Board is assisted by its marketing and sales departments as well as the staff responsible for products and expert bodies when assessing competitive risk, in particular such as results from the pressure on exchange members and providers of electronic trading systems to adapt to changing needs.

At present, numerous strategic measures are planned by the Group or are already being put into practice. Their successful and timely implementation will significantly boost Deutsche Börse Group's company value. Thanks to long-term strategic planning and a value-oriented controlling system, the Group is able to bring its strategic goals to bear at the operational level, as well as to measure and manage the value they add.

Project risks arising from Deutsche Börse Group's strategic projects are monitored by means of a comprehensive project management and supervision system.

Given the comprehensive project risk reporting system, in 1999 project risks were identified at an early date; the departmental heads then initiated suitable preventative measures to ward them off.

#### Outlook

Assuming the approval of the Annual General Meeting, Deutsche Börse AG will be renamed Euroboard AG in the course of first-half 2000. The goal: to gear the corporation more strongly toward Europe. The aim is to attract a greater number of globally active intermediaries as shareholders, thus moving the internationalization of corporate governance forward. We also intend as part of this realignment to expand our e-commerce business. In future, Deutsche Börse AG will be in a position to offer a whole host of internet activities, ranging from internetbased trading systems through to electronic marketing of price data.

In January 2000, Deutsche Börse AG and the Irish Stock Exchange (ISE) announced cooperation in the Irish market. The ISE will base its domestic market on the Xetra platform. Thus, a further step has been taken down the road to consolidating the systems used in Europe.

In 2000, we plan to reposition our Neuer Markt segment, with the emphasis on a uniform European trading platform for growth stocks.

Eurex will again focus in particular on augmenting the worldwide network of participants, whereby it will concentrate on trading hubs in the United States and the Asia-Pacific region. Moreover, it will press ahead with developing new products and consolidating the market share held by existing Eurex products.

As of mid-2000, the Information Products Division will make an integrated data stream for the cash and futures market available on the basis of a new Consolidated Exchange Feed (CEF) system. The latter will replace the Ticker Plant Frankfurt (TPF) and Financial Data Disseminator (FDD) systems; it brings together data streams hitherto handled separately and provides data vendors and financial institutions with integrated access to information from the cash and futures markets. CEF offers clients worldwide maximum flexibility, as it features an option for customized information retrieval as well as selective inclusion of additional markets.

For 2000, the Systems Division for the first time has an R&D budget and efforts here will hinge on enhancing the efficiency of existing products by improving productivity and quality. The division will also endeavor to tap new market potential and will collaborate with universities and research institutes.

In addition, this division will develop systems for a clearinghouse in order to reduce the costs market participants face for cash- and futures-market transactions.

As part of the cooperation between Deutsche Börse AG and SWX on the one hand, and the CBOT on the other, the Systems Division is coordinating and supporting the launch of an electronic trading system for CBOT contracts. The joint operation of the network, helpdesk, and back end on behalf of CBOT and Eurex generates significant synergies potential.

At the beginning of January 2000, we implemented a new value-based planning agenda with segment-specific value models and balanced scorecards. These new strategic planning tools will be used to define and achieve ambitious value objectives. Value-based planning enables us to evaluate new strategic options and pursue them while prioritizing value.

As at January 1, 2000, the structure of Deutsche Börse Group has changed. Deutsche Börse Clearing AG was transferred to Clearstream International S.A., Luxembourg, a newly founded joint venture with Cedel International S.A., in exchange for a 50 percent stake in said new company. The two partners intend to achieve together their vision of becoming the leading European provider of clearing, settlement and custody services. As a result, from financial 2000 Deutsche Börse Clearing AG will no longer be fully consolidated in the Group annual financial statements; it will therefore be valued at equity. The structure of the Deutsche Börse Group balance sheet will change dramatically as a consequence. The sum of financial assets will rise appreciably owing to the participation held in the new European clearinghouse.

The balance sheet total will, by contrast, fall, as receivables and liabilities from clearing and settlement business will no longer be included. At the same time, Group sales will decrease, as the proportion of Clearstream International's earnings accruing to the Group will be entered under income from participations.

Deutsche Börse Group expects that sales in 2000 (excluding the Clearing Division figures) will rise to above € 500 million.

Planned Group investment volume (excluding financial investments) totals € 104.3 million and is thus 13.4 percent higher than capital expenditure in 1999.

Frankfurt/Main, February 25, 2000 Deutsche Börse AG

Dr. Werner G. Seifert

Dr./Jörg Franke

Christoph Lammersdorf

Dr. Reto Francioni

Dr. Michael Kuhn

In the course of four meetings during business 1999 the Supervisory Board regularly informed itself on the state of company business, as well as on current corporate policy issues and ongoing business matters. Moreover, we regularly consulted on specific issues and received written reports on such questions. In addition to ongoing business trends and important individual business matters, our discussions focused in particular on the strategic impact of the stronger international gearing of Deutsche Börse Group. All proposals made by the Executive Board that required Supervisory Board approval under law or the Articles of Association were examined thoroughly and a resolution duly taken.

In particular, the merger of Deutsche Börse Clearing AG and Cedel International S.A. and its legal, financial and strategic implications were the subject of careful deliberation. The Supervisory Board also discussed the progress of the European Equity Alliance and the Eurex cooperations in the context of the ongoing globalization of the capital markets. Moreover, the Supervisory Board examined the concept of advancing the consistent internationalization strategy of Deutsche Börse Group by opening the shareholder structure of Deutsche Börse AG to include international market players. It thus debated the impact such a change in ownership would have on the Group.

The Supervisory Board was duly informed of the foundation of the European Energy Exchange EEX® AG and took regular reports on the status of preparations for the Y2K switchover of computer systems.

The five meetings of the Supervisory Board's committee for settlement issues hinged mainly on intensive discussions relating to the merger of Deutsche Börse Clearing AG with Cedel International S.A. and the impact the merger would have on the European clearing and settlement industry.

In the course of two meetings the Supervisory Board's committee for IT issues focused on the systems technology required with regard to the Deutsche Börse Group strategy and its joint ventures and alliances, as well as the significance these topics had for clients. The themes were studied against the special backdrop of the pending Y2K switchover of the systems.

The Finance Committee convened three times to closely consider the Group's financial and business situation. The Finance Committee received exhaustive information on the Group's risk management system as well as on examinations carried out by the Internal Auditing section and the latter's planning activities.

The newly-created Strategy Committee, which met twice last year, concentrated on strategic value-based planning for Deutsche Börse Group as regards the individual divisions. In this respect, the careful expansion of Deutsche Börse AG shareholders was also discussed.

In the course of the merger of Deutsche Börse Clearing AG and Cedel International S.A., Executive Board Member Jürgen Blitz took up the position of Group Executive Member of the new Clearstream International S.A. company and retired from the Executive Board of Deutsche Börse AG with effect from December 31, 1999. We would like to take this opportunity to thank Mr. Blitz warmly for his invaluable and unflagging efforts on behalf of our company.

With effect from the end of the Annual General Meeting of May 5, 1999, Ernst Binninger, a Supervisory Board member elected as a staff representative, has retired from the Board. We would like to thank Mr. Binninger for his dedicated and constructive Board work. The staff elected Sadegh Rismanchi Supervisory Board Member in his place for the remaining period of office.

The Annual General Meeting appointed KPMG Deutsche Treuhand-Gesellschaft Aktiengesellschaft Wirtschaftsprüfungsgesellschaft, Frankfurt/Main, as auditors. The annual accounts, the annual financial statements and management report of Deutsche Börse AG, as well as the consolidated annual financial statements and the Group management report were duly examined by KPMG who issued an unqualified audit opinion on them.

KPMG took part in the Supervisory Board meeting and those of the Finance Committee which discussed the annual financial statements and reported on the key findings of the audit. In particular, it elaborated on the assets, financial, and earnings position of both the company and the Group. KPMG's audit reports for the AG and the Group annual financial statements have been presented to the Supervisory Board for scrutiny. The Supervisory Board concurs with the findings of the audit.

Moreover, the Supervisory Board has duly examined the annual financial statements for the year ending December 31, 1999, the management report and the proposal on the allocation of the unappropriated profits, as well as the Group financial annual statements and Group management report. No objections to any of these arose.

The Supervisory Board hereby approves the annual financial statements prepared by the Executive Board and these are thus considered adopted. We concur with the proposal on the allocation of the unappropriated profits.

The Supervisory Board thanks the Executive Board, the staff councils, and all staff members for their efforts during business 1999.

Frankfurt/Main, March 27, 2000

On behalf of the Supervisory Board

Dr. Rolf-E. Breuer Chairman

## **Consolidated Balance Sheet** as at December 31, 1999

Assets	Note	Status as at 31-Dec-1999 in EUR thousand	Status as at 31-Dec-1998 in EUR thousand
Fixed assets	(4.1)		
	Intangible fixed assets		
	Computer programs	74,384	53,151
	Advance payments	25,851	953
		100,235	54,104
	Tangible fixed assets		
	Improvements to buildings or land owned by third parties	1,104	1,135
	Computer hardware, office and other equipment	31,632	34,063
	Advance payments	7,576	332
		40,312	35,530
	Investments and long-term financial assets		
	Investments in subsidiaries	5,273	1,079
	Investments in associates	3,260	290
	Other equity participations	269	272
	Long-term investments	24,396	23,383
	Other loans	951	982
		34,149	26,006
		174,696	115,640
Current assets	(4.2)		
	Receivables and other assets		
	Trade receivables	86,534	50,912
	Receivables from banking business	2,907,100	978,569
	Receivables from subsidiaries	1,063	1,291
	Receivables from associates	415	473
	Other assets	11,967	3,650
		3,007,079	1,034,895
	Securities	38,529	42,532
	Cash in hand, Bundesbank balances, bank balances	552,191	149,621
		3,597,799	1,227,048
Deferred tax ass	ets	11,151	212
Prepaid expense	s and deferred charges	8,290	5,290
Total assets		3,791,936	1,348,190

Shareholder	s' equity and liabilities	Note	Status as at 31-Dec-1999 in EUR thousand	Status as at 31-Dec-1998 in EUR thousand
Shareholders'	equity			
	Subscribed capital	4.3)	18,764	18,764
	Capital reserve		44,761	44,761
	Retained earnings	4.4)		
	Legal reserves		150	12
	Other retained earnings		58,235	56,248
			58,385	56,260
	Unappropriated profit (	4.4)	74,463	42,347
	Minority interests		3,793	3,225
			200,166	165,357
				200,000
Provisions	(	4.5)		
	Pension provisions and similar obligations		38,559	38,429
	Tax provisions		66,371	47,261
	Other provisions		120,973	85,814
	<u> </u>		225,903	171,504
Liabilities		4.6)		
	Liabilities from banking business		2,834,495	870,910
	Bank loans and overdrafts		10,000	11
	Trade payables		54,764	34,143
	Other liabilities		465,869	105,212
	of which taxes: € 6,433 thousand			
	(1998: € 8,430 thousand)			
	▶ of which for social security and similar obligations: € 0 thousand			
	(1998: € 29 thousand)			
			3,365,128	1,010,276
Deferred inco	me and accrued expenses		739	1,053
Total equity a	and liabilities		3,791,936	1,348,190

# **Consolidated Schedule of Changes** in Fixed Assets

as at December 31, 1999 in EUR thousand

Purchase or production cost

	Balance brought forward 01-Jan-1999	Additions 1999	Reclassifications 1999	Disposals 1999	Closing balance 31-Dec-1999
Intangible fixed assets					
Computer programs	123,827	39,000	648	302	163,173
Advance payments	953	25,851	- 648	305	25,851
	124,780	64,851	0	607	189,024
Tangible fixed assets					
Improvements to buildings or land owned by third	parties 7,267	274		1,697	5,844
Computer hardware, office and other equipment	107,048	19,279	332	9,438	117,221
Advance payments	332	7,576	- 332	0	7,576
	114,647	27,129	0	11,135	130,641
Financial assets					
Investments in subsidiaries	5,127	6,298		0	11,425
Investments in associates	1,581	6,549	0	30	8,100
Other equity participations	278	0	0	0	278
Long-term securities	23,383	1,013	0	0	24,396
Other loans	982	184	0	215	951
	31,351	14,044	0	245	45,150
	270,778	106,024	0	11,987	364,815

#### Cumulative depreciation and amortization

#### Net book values

Balance brought forward 01-Jan-1999	Additions 1999	Disposals 1999	Closing balance 31-Dec-1999	31-Dec-1999	31-Dec-1998
70,676	18,415	302	88,789	74,384	53,151
0	0	0	0	25,851	953
70,676	18,415	302	88,789	100,235	54,104
6,132	227	1,619	4,740	1,104	1,135
72,985	21,444	8,840	85,589	31,632	34,063
0	0	0	0	7,576	332
79,117	21,671	10,459	90,329	40,312	35,530
4,048	2,104	0	6,152	5,273	1,079
1,291	3,549	0	4,840	3,260	290
6	3	0	9	269	272
0	0	0	0	24,396	23,383
0	0	0	0	951	982
5,345	5,656	0	11,001	34,149	26,006
155,138	45,742	10,761	190,119	174,696	115,640

ior the period	January 1 to December 31, 1999	lote	1999 in EUR thousand	1998 in EUR thousand
Sales	(E	5.1)	643,121	474,563
Other operating	income (5	5.2)	39,514	27,582
			682,635	502,145
Personnel expen	ses (5	5.3)		
	Wages and salaries		92,260	79,290
	Social security, pension costs, and other benefits		23,241	24,761
	▶ of which for pensions: € 11,372 thousand			·
	(1998: € 13,927 thousand)			
			115,501	104,051
Depreciation and	I amortization of intangible and tangible fixed assets		40,086	29,560
Other operating	expenses (5	5.4)	420,492	271,351
Dividends receiv	ed		128	2,762
	of which from affiliated companies: € 0 thousand			
	(1998: € 2,685 thousand)			
Income from oth	er long-term financial assets		3,318	5,129
Other interest ar	d similar income		38,280	24,904
Write-downs of i	nvestments and short-term securities		5,823	6,423
	► of which investments in subsidiaries: € 2,104 thousand			
	(1998: € 4,034 thousand)			
	of which investments in associates: € 3,549 thousand			
	(1998: € 1,291 thousand)			
Interest payable	and similar expenses		18,467	14,592
Earnings from or	dinary activities		123,992	108,963
Taxes on income			56,509	58,758
Other taxes			1,496	3,995
			58,005	62,753
Net income for t	he year		65,987	46,210
Profit attributable	e to minority interests		647	81
		5.5)	11,191	13.972
Transfer to legal		,	138	12,372
Transfer to other			1,930	17,742
Unappropriated	profit		74,463	42,347

## Notes to the Consolidated **Financial Statements**

#### (1) Scope of consolidation

In addition to Deutsche Börse AG, the subsidiaries shown in table 1 have been consolidated.

#### ► Table 1

Eurex Zürich AG was consolidated using the economic share in the capital of 79.99 percent, reflecting special profit-participation rights held by Deutsche Börse AG. In addition, Eurex Frankfurt AG, Frankfurt/Main, and Eurex Clearing AG, Frankfurt/Main were consolidated. They are both wholly-owned subsidiaries of Eurex Zürich AG and are included as such in the subconsolidation of Eurex Zürich AG. In the past business year, Deutsche Börse Terminmarkt GmbH was merged into Deutsche Börse AG with retroactive effect from January 1, 1999.

Because of their minor significance for the presentation of the Group's asset, financial and earnings position, the subsidiaries listed in table 2 were not consolidated. The European Energy Exchange EEX® AG is a wholly-owned subsidiary of Eurex Zürich AG. In the current business year, the majority of the shares are to be acquired by the power industry. Therefore, as the Group would no longer hold a majority stake in said company, the company was not consolidated as at December 31, 1999 but instead valued at equity.

► Table 2

Table 1

Company	Registered office	Company equity in thousand	Share of capital in percent
Deutsche Börse Clearing AG	Frankfurt/Main	€ 25,000	100.00
Deutsche Börse Systems AG	Frankfurt/Main	€ 2,000	100.00
Eurex Zürich AG	Zurich	CHF 10,000	49.97

#### Table 2

Company	Registered office	Company equity in thousand	Share of capital in percent
Deutsche Gesellschaft für Wertpapierabwicklung mbH	Frankfurt/Main	DM 1,050	100.00
Fördergesellschaft für Börsen und Finanzmärkte in Mittel- und Osteuropa mbH	Frankfurt/Main	DM 500	100.00
European Energy Exchange AG	Frankfurt/Main	€ 9,800	100.00

#### 112 | Financial Statements

Note

#### Table 3

Company	Registered office	Company equity in thousand	Share of capital in percent
FDS Finanz-Daten-Systeme GmbH & Co. KG	Frankfurt/Main	€ 511	50.00
Clearstream International S.A.	Luxembourg	€ 125	50.00
NEWEX EDV-Betriebssystem AG	Vienna	ATS 70,000	50.00
STOXX AG	Zurich	CHF 1,000	25.00

Table 4

Company	Registered office	Company equity in thousand	Share of capital in percent
Deutsches Börsenfernsehen GmbH	Frankfurt/Main	DM 100	35.11
Deutsche Gesellschaft für Ad hoc-Publizität mbH	Frankfurt/Main	DM 600	33.33

#### Methods of depreciation

Table 5

Asset	Form of depreciation	Period of depreciation	Mode of depreciation
Standard software	straight-line	36 months	pro-rated
Customized software	straight-line	individual maturity period	pro-rated
Hardware	straight-line	36 months	simplification method
Office equipment	straight-line	in line with mandatory stipulations	simplification method
Improvements to third-party property	straight-line	according to the duration of the rental contracts	simplification method

The associated companies listed in table 3 were valued at equity pursuant to section 312 of the German Commercial Code (HGB) and this value was included in the consolidated financial statements.

New Cedel International S.A. was founded jointly by Deutsche Börse AG and Cedel International S.A., Luxembourg, in November 1999 and has since been renamed Clearstream International S.A. In January 2000, Deutsche Börse AG transferred its stake in Deutsche Börse Clearing AG to this joint venture. The foundation of MOE EDV-Betriebssystem AG, which has since been renamed NEWEX EDV-Betriebssystem AG, was undertaken jointly with Wiener Börse AG during 1999 in order to offer future international market participants a longterm liquid trading facility for Central and Eastern European financial market products.

#### ► Table 3

As the investments listed in table 4 are not material to the presentation of the Group's asset, financial and income position, the exemption regulation for associated companies pursuant to section 311, para. 2 of HGB has been applied.

#### ► Table 4

#### (2) Principles of consolidation

The consolidated financial statements have been prepared in accordance with the book value method, whereby the acquisition costs of the subsidiaries are set off against the proportionate book value of the subsidiaries' equity at the time of acquisition. The resulting goodwill has been written off against the consolidated reserves.

Intra-Group receivables and payables have been netted against each other.

Computer programs developed within the Group and carried as assets have been eliminated; the corresponding amortization has been reversed retroactively. Revenue from intra-Group sales has been eliminated.

Income and expense items relating to transactions between the consolidated companies have been netted against each other. These items result primarily from intra-Group sales and other operating income, and have been offset against other operating expenses. Deferred tax assets or provisions have been established in respect of consolidation adjustments that affected profit to the extent that they are expected to reverse in subsequent years.

#### (3) Accounting and valuation policies

The annual financial statements of the companies included in the consolidation have been uniformly drawn up and adjusted according to the commercial code regulations applicable to joint stock corporations, taking into consideration regulations specific to the banking sector.

# (3.1) Fixed assets Intangible fixed assets are valued at cost of acquisition less scheduled depreciation.

Tangible fixed assets are shown at purchase cost less scheduled straight-line depreciation. The depreciation rates accord with tax regulations. Minor-value assets are fully written off in their year of acquisition and are included as disposals in the schedule of changes in fixed assets.

Table 5 presents an overview of the depreciation methods used for additions to fixed assets in the year under review.

#### ► Table 5

Shares in subsidiaries and associated companies included under financial assets are on principle entered at equity. Other equity participations are posted at acquisition cost given their subordinate importance. Other loans are entered at their nominal value. Securities are valued at the lower of cost (or book value) or market.

Note

#### (3.2) Current assets

Receivables and other assets as well as other liquid assets are shown at nominal value. Appropriate lump-sum allowances are made to cover the general risk of losses.

In order to take separate account of the receivables relating to banking transactions from the bank included in the consolidation, the balance sheet has been expanded to include the item "Receivables from banking business".

#### (3.3) Deferred tax assets

Tax deferrals are made for differences between the earnings shown in the financial statements drawn up in line with the commercial code and those prepared for tax purposes, to the extent that the differences are expected to reverse in the future. Deferrals are made in the order of the probable tax burden or relief expected in future years.

#### (3.4) Provisions

Pension provisions as at December 31, 1999 are based on actuarial reports. They are calculated on the basis of the actuarial tables compiled by Dr. Klaus Heubeck for 1998 in accordance with the going-concern value for tax purposes in keeping with section 6a of the German Income Tax Law (EStG) using an underlying interest rate of six percent.

With effect from July 1, 1999, a deferred compensation plan was introduced to standardize pension provisions for Deutsche Börse Group staff. Existing pension plans were closed as at June 30, 1999. Deutsche Börse AG is the sole body responsible for the provisions and the organization thereof vis-à-vis the participants in the plan. The provisions relating to the deferred compensation plan were likewise formed on the basis of actuarial reports.

Other provisions have been formed to the extent that they are expected to be required, and cover all discernible risks at financial year-end.

#### (3.5) Liabilities

Liabilities are shown at the amounts scheduled for payment.

Valuations resulting from the regulations specific to the banking sector were retained.

In order to take separate account of the banking liabilities of the bank included in the consolidation, the balance sheet has been expanded to include the item "Liabilities from banking business".

(3.6) Financial derivatives
Financial derivatives are exclusively used for hedging purposes.

To hedge against interest-rate risk arising from a financing transaction, a forward interest-rate swap covering € 60,000 thousand was agreed. The effect of the interest-rate swap is reflected in interest payments made, and in the interest accrual, for the year to December 31, 1999.

A forward exchange contract in the amount of US\$ 4,000 thousand is directly attributable to a specific underlying securities transaction and is therefore treated as one with the underlying transaction for the purposes of valuation.

(3.7) Foreign currency translation
Receivables and liabilities denominated in foreign currencies in the individual company financial statements are translated into deutschmarks at the reference exchange rate at financial year-end. The annual financial statements of the foreign subsidiary (Eurex Zürich AG) are translated into deutschmarks at the rate on the balance sheet date. Differences in translation did not impact on earnings.

(3.8) Flow of funds statement
The flow of funds statement presents
payment inflows and outflows in accordance with the pronouncements of
the German Institute of Auditors. Within cash inflow from operating activities, cash flow as calculated by the
DVFA/SG method is shown separately.

Cash and cash equivalents includes cash balances, bank balances, receivables and liabilities from banking business (including the cash collateral from Eurex business), short-term bank liabilities, and readily marketable money and capital market instruments included within current assets.

## (4) Notes to the consolidated balance sheet

#### (4.1) Fixed assets

The presentation of, and changes in, the fixed assets of the Group are shown in the consolidated schedule of changes in fixed assets. Advance payments primarily refer to software still to be completed (€ 25,851 thousand) and tangible assets and work in progress totaling € 7,576 thousand.

#### (4.2) Current assets

For receivables with a remaining term of more than one year, € 2,901 thousand (1998: € 2,274 thousand) is included under trade receivables; and € 1,894 thousand (1998: € 1,693 thousand) is included under other assets. The other receivables have a remaining term of less than one year.

Receivables from banking business include banking receivables and cash investments of the specialized financial institution included in the consolidation.

Liquid funds includes checks, cash in hand, central bank balances, and bank balances. Of this figure, € 450,108 thousand stems from Eurex-member collateral cash deposits.

# (4.3) Subscribed capital As at December 31, 1999, the subscribed capital of Deutsche Börse AG totaled € 18,764 thousand, divided

into 7,340,000 registered unit shares.

#### (4.4) Retained earnings and unappropriated profit Retained earnings rose by € 2,125 thousand to € 58,385 thousand.

The unappropriated profit increased by  $\leq$  32,116 thousand to  $\leq$  74,463 thousand.

#### (4.5) Provisions

Other provisions primarily contain provisions held by Deutsche Börse AG to cover ongoing and future pension payments to the Chamber of Industry and Commerce in accordance with the transition agreement. They also contain provisions by the Group for personnel-related matters such as early-retirement arrangements, long-service awards, and holiday entitlement.

#### (4.6) Liabilities

Liabilities have a remaining term of less than one year. Creditors have not been given any liens or similar rights.

Liabilities arising from banking business include the banking liabilities of the consolidated specialized financial institution.

Other liabilities totaling € 465,869 thousand concern in particular collateral contributions made by clearing members in the futures market (€ 450,108 thousand) and liabilities for taxes of € 6,433 thousand (1998: € 8,430 thousand).

(4.7) Other financial commitments Total outlays in the coming financial year under long-term rental, lease and maintenance contracts, as well as other contracts, amounted to € 237,998 thousand. The individual items were as follows:

► Table 7

#### Other financial commitments in EUR thousand

Table 7

	Up to one year	One to five years	Over five years
Deutsche Börse AG	22,999	77,385	128,034
Deutsche Börse Systems AG	6,217	2,970	13
Deutsche Börse Clearing AG	157	223	0
Total	29,373	80,578	128,047

Commitments relating to insurance contracts amounted to € 4,096 thousand for the coming year.

Eurex Zürich AG had payment obligations of € 3,500 thousand to European Energy Exchange AG, in respect of its outstanding contributions for the purchase of shares in accordance with company law. Similarly, Deutsche Börse AG owed NEWEX EDV-Betriebssystem AG an amount of € 1,771 thousand.

#### 118 | Financial Statements

Note

#### Other operating expenses

#### 1999 1998 in EUR m. in EUR m. 26.4 49.7 Advertising and marketing 17.5 19.1 Communication costs 20.5 34.3 Computer costs 26.8 32.7 Consultancy fees 87.9 135.3 Other outlays 92.3 149.4 Total 271.4 420.5

# (5) Notes to the consolidated profit and loss account

#### Table 8 (5.1) Sales

Of external sales, € 348,264 thousand were booked by Deutsche Börse AG; Clearing AG recorded € 195,040 thousand; and Systems AG accounted for € 99,817 thousand.

(5.2) Other operating income
Other operating income comprised
mainly reimbursement of project costs
by exchanges with whom strategic
alliances or cooperation agreements
had been signed and fees from
agency contracts with third parties.

# (5.3) Personnel expenses Social insurance contributions and expenses for provisions for pension and social benefits totaled € 23,241 thousand. Of this figure, € 11,372 thousand related to pension provisions

(5.4) Other operating expenses
Other operating expenses primarily
include rental, consultancy, computing, communication and advertising
costs.

(1998: € 13,927 thousand).

- ► Table 8
- (5.5) Profit carried forward
  The profit brought forward from
  the previous year totaled € 11,191
  thousand.

#### (6) Additional information

Emoluments of members of the Executive Board in 1999 for performing their duties in the parent corporation and in subsidiaries totaled € 2,002 thousand. Payments to former members of the Executive Board came to € 245 thousand. Pension provisions totaling € 2,827 thousand were held in respect of former Executive Board members. A total of € 264 thousand was accrued for remuneration of the Supervisory Board members for their work in 1999.

On average, the 1999 Group payroll came to 1,231, compared with 1,126 in 1998. On December 31, 1999, the figure came to 1,276, as against 1,185 the same date the previous year. Allowing for part-time staff members, average employee capacity came to 1,143.0 (1998: 1,042.3). This rise is primarily attributable to the higher staffing levels at Deutsche Börse Systems AG.

Frankfurt/Main, February 25, 2000 Deutsche Börse Aktiengesellschaft

Dr. Werner G. Seifert

Dr. Jörg Franke

Christoph Lammersdorf

Dr. Reto Francioni

Dr. Michael Kuhn

## **Auditors' Report**

We have audited the consolidated financial statements and the group management report prepared by Deutsche Börse Aktiengesellschaft, Frankfurt/Main, for the business year from January 1 to December 31, 1999. The preparation of the consolidated financial statements and the group management report in accordance with German commercial law is the responsibility of the company's management. Our responsibility is to express an opinion on the consolidated financial statements and the group management report based on our audit.

We conducted our audit of the consolidated annual financial statements in accordance with § 317 HGB and the generally accepted standards for the audit of annual financial statements promulgated by the Institut der Wirtschaftsprüfer (IDW). Those standards require that we plan and perform the audit such that misstatements materially affecting the presentation of the assets, financial and earnings position in the consolidated annual financial statements in accordance with German principles of proper accounting and in the group management report are detected with reasonable assurance. Knowledge of the business activities and the economic and legal environment of the company and evaluations of possible misstatements are taken into account in the determination of audit procedures. The effectiveness of the internal control system and the evidence supporting the disclosures in the consolidated financial statements and the group management report are examined primarily on a test basis within the framework of the audit. The audit includes assessing the annual financial statements of the companies included in the consolidation, the determination of the companies to be included in the consolidation, the accounting and consolidation principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements and the group management report. We believe that our audit provides a reasonable basis for our opinion.

Our audit has not led to any reservations.

In our opinion, the consolidated financial statements give a true and fair view of the assets, financial and earnings position of the Group in accordance with German principles of proper accounting. On the whole, the group management report provides a suitable understanding of the Group's position and suitably presents the risks of future development.

Frankfurt/Main, February 25, 2000

KMPG Deutsche Treuhand-Gesellschaft

Aktiengesellschaft

Wirtschaftsprüfungsgesellschaft

Prof. Dr. Nonnenmacher

Wirtschaftsprüfer

Viederhold

Wirtschaftsprüfer

Index

BÖGA 81 BOSS/CUBE 81 BOX 56

**Box** 56

**Business Angels Forum** 39

CASCADE\* 65 CASCADE-RS\* 66 CDAX\*\* 57

Chicago Board of Trade (CBOT\*)

42, **48-9**, 80, 92

- Joint venture with Eurex 48-9

#### **Clearing Division**

**62-71**, 95, 103, 112

- Depositories 64-5
- Merger with Cedel International 62, 67-71, 103-4, 112
- Sales 95

#### **Clearstream International**

20-1, 23, **67-71**, 92, 103, 112

- Corporate goals 70
- Organizational structure 68

#### Consolidated Exchange Feed (CEF)

54, 77, 102

Corporate governance 17, 20 Creation 23, 70

DAX®\* 34, 57

- Adjustments 57
- Share of Xetra trading in DAX-listed stocks 34

# Designated Sponsors\* 39 Deutsche Börse AG

- Executive Board 10
- Supervisory Board 11, 104-5

#### Deutsche Börse Group

- Financial and assets position 98-100
- Organizational structure 88
- Outlook for 2000 102-3
- Representative offices **89**, 93
- Sales 94-5
- Sales productivity 96
- Shareholder structure 100

#### **Dow Jones STOXX<sup>SM</sup> indices\***

23, 34, 45, 55, 57

 Eurex's trading share in futures on Dow Jones STOXX indices 45

Dual-rail connection 79 e-commerce 8, 28-9, 102

**ECN\*** (Electronic Communication

Network) 15, 28-9

ECSDA model 67 Energy exchange

► see: European Energy Exchange EEX® AG

Eurex® (trading and clearing system)

42, 44-5, 47, 77

- Bond trading 47
- Eurex releases 45, 47, 76
- Host processing times 79
- Market share 45
- Monthly availability 79
- Participants 44-5
- Transaction volume 79
- Turnover 44

#### Eurex Division 22, 42-49, 95, 102

- Alliances 48-9
- Eurex and Eastern Europe 45
- Remote clearing 47
- Sales 95

Eurex market depth 57

European Energy Exchange EEX® AG

23, **47**, 92, 111

**Euroboard** 15, **20**, 27

#### Frankfurt Stock Exchange (FWB® Frankfurter Wertpapierbörse)

37. 94

 Xetra trading volume on the Frankfurt Stock Exchange 94

German Equity Forum (Deutsches

Eigenkapitalforum) 39

Growth capital (Market for ...)

16-7, 37

<sup>\*</sup> see also glossary

#### Helsinki Exchanges

(HEX) 49, 79, 93

- Cooperation with Eurex 49, 93

Hub and spokes model 67

# Index families 55-7 Information Products Division 52-9, 93, 95

- Information systems 54
- Internet pages/page impressions 58-9
- Sales 95

**Innovation Market** 39

# Integrated Share Ledger (Integriertes Aktienbuch, IAB) 81

Intermediaries 14, 15, 19, 26, 92

Internet 29, 45, 58-9, 77

IP File Services 58

Irish Stock Exchange (ISE) 79, 80

#### **MDAX**®\* 57

Xetra's share of MDAX trading 34
 Minimal trading unit (Mindest-schlussgröße) 37

#### Nasdaq 15

**NEMAX**<sup>®</sup> (Neuer-Markt-All-Share-Index) 55, 93

**NEMAX**® **50** (Neuer Markt bluechip index) 55, 57, 93

Neuer Markt 16, 17, 34, 38-9, 102

- New issues in Germany 38
- Xetra's share of Neuer Markt trading 34

Newex®\* 35, 92

**NYSE** 15

#### Real-Time Gross Settlement

(RTGS) 70

Remote clearing 47

Remote membership\* 22, 44

Risk management 101

**SDAX**®\* 55

SMAX®\* 38-9, 93

Soffex 42

STOXX<sup>SM</sup> indices

► see: Dow Jones STOXX<sup>SM</sup> indices Systems Division 74-81, 93, 95, 102

- Sales 95
- Systems availability 79

**Turnover ratio** 32-3

Value-based planning 103

Values API\* 47, 77

Venture capital 16, 39

**Venture Management Services** 39

Vienna Stock Exchange

► see: Wiener Börse AG

# Wiener Börse AG (Vienna Stock Exchange)

Alliance with Deutsche Börse AG 35, 92

WMS (Wertpapier-Management-System) 54

Xemac® 66

Xetra®\* (trading system)

28-9, 32, **34-7**, 76

- Monthly availability 79
- Participants 35
- Trading volume 35, 94
- Xetra market share 34
- Xetra releases 34, 76

#### Xetra Division 32-9, 94

- Sales 95

Xetra market depth 57

**X-list** 66

**Y2K\*** 77

#### Published by:

Deutsche Börse Group 60284 Frankfurt/Main Germany

www.exchange.de

June 2000

Order number: 1010-1016

For additional copies of this annual report, please contact Deutsche Börse Group's Publications Service:

Phone +49-69-2101-1510 Fax +49-69-2101-1511

#### Photography

Myrzik & Jarisch (double-page curve photographs)

Robert Fischer (Executive Board, employees, Deutsche Börse impressions)

Günther Bauer (staff photograph 03, p. 85)

The German version of this annual report is legally binding. The company cannot be held responsible for any misunderstandings or misinterpretation arising from this translation.

All rights reserved.

Reproduction – in total or in part – only with the written permission of the publisher.

® Registered trademark of Deutsche Börse AG STOXX<sup>SM</sup> Registered trademark (service mark) of STOXX AG

### **Glossary**

#### Auction

Form of exchange trading that concentrates liquidity in a given security at a particular point in time In an auction, all orders in the order book are pooled and the price of the security is determined according to the principle of highest volume transacted on the basis of all orders received (i.e. such that the greatest possible number of shares changes hands). Liquid securities can be traded either by auction or continually throughout the day (3 continuous trading); less liquid securities are traded exclusively by auction.

#### Benchmark

Value used as a reference or means of comparison for measuring the performance of an investment.

#### BIFOS

Börseninformations- und Ordersystem (Exchange information and order system)
System that conveys price information from the floor at the Frankfurt Stock Exchange to the trading board and the screens in the traders' desks.

#### **Bobl Future**

Future on medium-term fixed-interest securities (Bobl = **B**undes**obl**igationen)

The instrument underlying the Bobl Future is a notional medium-term bond of the German federal government or the former Treuhandanstalt with a maturity of 3 to 5 years and an interest rate of 6 percent.

#### BÖGA

**Bö**rsengeschäftsabwicklung (Exchange transaction system)

System for processing cash market transactions executed both on the exchange and over-the-counter. Together with 3 Xetra® trade confirmations, the contract notes generated by BÖGA form the basis for the documentation of transactions.

#### BOSS/CUBE

Börsen-Order-Service-System/Computerunterstütztes Börsenhandels- und Entscheidungssystem (Order routing system/computer-assisted trading and decision-making system) Banks use BOSS® to transmit orders from their

Banks use BOSS\* to transmit orders from their branch offices to the brokers on the trading floor, or to 3 Xetra\* via an order routing interface. CUBE\* supports brokers in fixing prices.

#### **Bund Future**

Future on 10-year German federal government bonds

The underlying instrument of the Bund Future is a notional long-term bond of the German federal government or the former Treuhandanstalt with a maturity of 8 to 10 years and an interest rate of 6 percent.

#### CASCADE/CASCADE-RS

Central Application for Settlement, Clearing and Depository Expansion

Electronic clearing and settlement system of Deutsche Börse Clearing/Clearstream Banking for all bearer shares held in collective custody. The sub-system CASCADE-RS (RS = Registered Shares) is used to settle registered shares.

#### СВОТ

Chicago Board of Trade

The world's oldest derivatives exchange. In terms of size, it is second only to 3 Eurex.

#### **CDAX®**

Composite DAX

Index comprising all German shares listed on the Frankfurt Stock Exchange in Amtlicher Handel (Official Trading), Geregelter Markt (Regulated Market) and Neuer Markt.

#### Continuous trading

Form of exchange trading for highly liquid securities

During continuous trading, each new incoming buy or sell order is immediately compared with orders on the other side of the order book to determine whether or not it can be executed. If it can be executed, the relevant orders are immediately matched; otherwise the incoming order is entered in the order book. Continuous trading begins with an opening auction at the beginning of the trading day, and ends with a closing auction at the end of the trading day. It is periodically interrupted by intraday 3 auctions.

#### **Cross-margining**

Procedure for determining the margin requirement for an integrated portfolio

Risk positions in a portfolio are offset to yield a single value that is used as the basis for determining the margin requirement. The offsetting procedure serves to reduce the margin requirement.

#### DAX®

**D**eutscher **A**ktienindex

(German stock index)

Index comprising the 30 German shares with the greatest market capitalization and turnover. Trading in these shares accounts for around 75 percent of trading volume in German shares.

#### **Designated Sponsors**

Banks or financial service providers who, upon request or at their own initiative, enter binding bid and offer prices for a particular security in the order book, thereby enhancing the liquidity of the security and making it easier to trade.

#### ECN

Electronic Communication Network

Private electronic platform for order-driven trading in shares, bonds or other standardized fungible goods; it is also referred to as an Alternative Trading System, or ATS). As defined by the US Securities and Exchange Commission, only those ATSs that are linked to the Nasdaq and that meet various regulatory requirements are designated as ECNs.

#### Eurex

European Exchange Organization

European futures and options exchange organization; a joint subsidiary of Deutsche Börse AG and the SWX Swiss Exchange. Eurex<sup>®</sup> is also the name of the corresponding trading and settlement system.

#### Interbank market

Market in which banks buy and sell money, currencies and securities.

#### Intraday trading (day trading)

The purchase and sale of a security during the trading hours of a single trading day.

#### MDAX®

Mid-cap DAX

Index comprising the 70 stocks included in continuous trading at the Frankfurt Stock Exchange that rank behind the 30 3 DAX\* equities in terms of market capitalization and turnover.

#### Netting of positions

Procedure for determining net positions In this procedure, long and short positions are offset against one another. The resulting net position forms the basis for risk management and serves as the starting point for determining margin requirements (3 cross-margining).

#### Remote access/membership

Enables participants to access or become members of an exchange in another country.

#### **RTGS**

Real-Time Gross Settlement

Settlement system in which transactions are processed individually, resulting in the immediate, irrevocable and final settlement of securities transactions between two participants.

#### SDAX®

Small-cap DAX

Index that comprises the 100 stocks with the greatest capitalization and turnover in the 3 SMAX\* segment

#### SMAX®

Quality segment for German small caps listed in Amtlicher Handel and Geregelter Markt that rank behind the 3 MDAX\* shares in terms of capitalization and turnover.

#### STOXX<sup>SM</sup> indices

Group of indices for European shares, developed by Deutsche Börse AG, ParisBourse, the SWX Swiss Exchange and Dow Jones and launched in early 1998.

#### Values API

Virtual Access Link Using Exchange Services Applications Programming Interface New open, programmable interface in the Eurex® system that makes it easier for participants to link their systems to 3 Eurex.

#### Xetra

Exchange Electronic Trading
Deutsche Börse AG's system for decentralized cash market trading.

#### Y2K

Year 2000

Project implemented at Deutsche Börse Group to prepare its systems for the switchover to the year

