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Regulatory Impact Analysis

Best Practices in OECD Countries

REGULATORY IMPACT ANALYSIS : BEST PRACTICES IN OECD COUNTRIES

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

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Publié en français sous le titre :

L'ANALYSE DE L'IMPACT DE LA RÉGLEMENTATION :
MEILLEURES PRATIQUES DANS LES PAYS DE L'OCDE

FOREWORD

Governments are seeking to improve the effectiveness, efficiency, and transparency of regulations. Regulations are a key instrument of government and will continue to be used to promote public interests, but it is increasingly apparent that they must be carefully designed to minimise negative impacts on businesses – particularly SMEs – citizens, trade and investment, responsiveness to technological change and the opportunities of global markets. In addition, the effectiveness of regulations in achieving policy objectives is often disappointing, raising questions about regulatory design, content, and priorities.

To address these problems, OECD countries are adopting broad-based programmes of regulatory reform aimed both at improving the quality and reducing the costs of regulations that are necessary to protect the public, and eliminating unnecessary regulation. Such programmes embrace reform of regulatory policies, processes, and institutions.

In March 1995, the Council of the OECD adopted a Recommendation on Improving the Quality of Government Regulation, which included a ten-point checklist. The systematic use of Regulatory Impact Analysis (RIA) is a key part of that checklist. Member country experiences show that a systematic analytical approach is essential to the development of high-quality regulation. Most Member countries now have systems for RIA in place. On 27 May 1997, ministers of Member countries endorsed the OECD Report on Regulatory Reform, which recommends that governments "integrate regulatory impact analysis into the development, review, and reform of regulations".

There are, however, many questions about how to design and apply RIA so that it is effective at improving regulatory decisions taken within complex administrative processes. This report examines the experiences of several OECD countries to identify best practices in the design and implementation of a system of RIA.

This report is based on work carried out by the Regulatory Management and Reform Group under the work programme of the OECD's Public Management Committee. In May 1996, the OECD held a meeting on "Regulatory Impact Analysis: Best Practices in OECD Countries." The meeting brought together RIA

practitioners and regulatory policy officials from 25 Member countries, independent experts, and business and trade union representatives. It was chaired by Sally Katzen, Administrator of the Office of Information and Regulatory Affairs in the U.S. Office of Management and Budget; Juhani Korhonen, Senior Advisor, Public Management Department in the Finnish Ministry of Finance; and Bryan Avery, Deputy Director of the Deregulation Unit in the UK Cabinet Office.

This report collects the expanded and revised meeting papers, and other papers written for the Public Management Service (PUMA) on various aspects of RIA. It was prepared by Rex Deighton-Smith and Scott H. Jacobs of the Public Management Service. Technical assistance was provided by Jill Stobie and Marthe Wambaugh of the Public Management Service.

The report is published on the responsibility of the Secretary-General of the OECD.

TABLE OF CONTENTS

Executive Summary 7

Part I
Introduction

Chapter 1. An overview of regulatory impact analysis in OECD countries
by Scott H. Jacobs 13

Part II
A description of some RIA programmes in selected Member countries

Chapter 2. Regulatory reform through regulatory impact analysis: The Canadian experience
by Apogee Research 33
Chapter 3. Regulatory compliance cost assessment: UK experience
by The Better Regulation Unit 63
Chapter 4. An assessment of the US regulatory impact analysis program
by John F. Morrall III 71
Chapter 5. Reviewing existing regulations: Australia's national legislative review
by Sue Holmes and Steven Argy 89

Part III
Comparative analyses of RIA programmes and methodologies

Chapter 6. Alternative approaches to regulatory analysis: Designs from seven OECD countries
by Thomas D. Hopkins 123
Chapter 7. Alternative approaches to regulatory analysis: Description and assessment
by Thomas D. Hopkins 143
Chapter 8. Improving the analytical basis for regulatory decision-making
by W. Kip Viscusi 175

Part IV
Synthesis

Chapter 9. Regulatory impact analysis: Best practices in OECD Countries
by Rex Deighton-Smith 211

Part V
Data strategies for RIA and for regulatory reform

Chapter 10. Collecting and using data for regulatory decision-making
by Ivy E. Broder and John F. Morrall III 245
Chapter 11. Developing general indicators of regulatory costs
by Thomas D. Hopkins 263

EXECUTIVE SUMMARY

REGULATORY IMPACT ANALYSIS: BEST PRACTICES IN OECD COUNTRIES

Regulatory impact analysis (RIA) encompasses a range of methods aimed at systematically assessing the negative and positive impacts of proposed and existing regulations. The development of RIA is part of a general trend in Member countries toward "regulatory management", aimed at improving how governments use their regulatory powers.

Experience in OECD countries shows that, properly designed and applied, RIA can improve the effectiveness and efficiency of governments and can help address broader issues of competitiveness and economic performance in innovative and globalising economies. RIA by itself is not a sufficient basis for decisions; instead, RIA is best used as a guide to improve the quality of political and administrative decision-making, while also serving important political values of openness, public involvement and accountability.

Most OECD countries now use some form of RIA in regulatory decisions, and OECD countries have agreed to expand its use. In May 1997, for example, ministers of OECD countries endorsed the recommendations in the OECD Report on Regulatory Reform, which include a recommendation that governments "integrate RIA into the development, review, and reform of regulations."

This report **describes** RIA systems used in a range of Member countries and their historical development (Chapters 1-5). It **compares** the elements of those systems and their practical implementation (Chapters 6-7). Based on country experiences, it **identifies** current best practice in RIA (Chapter 9). The ten elements of "best practice" are:

1. **maximise political commitment to RIA;**
2. **allocate responsibilities for RIA programme elements carefully;**
3. **train the regulators;**
4. **use a consistent but flexible analytical method;**
5. **develop and implement data collection strategies;**

6. **target RIA efforts.**;
7. **integrate RIA with the policy-making process, beginning as early as possible;**
8. **communicate the results;**
9. **involve the public extensively;**
10. **apply RIA to existing as well as new regulation.**

Although significant gains from a RIA programme can be seen early, achieving the full benefit of the best practices requires major cultural change among regulators, politicians, and interest groups. Full integration of RIA into decision processes is a long-term task requiring sustained political and administrative support.

METHODS AND QUALITY CONTROL

One of the goals of RIA is to ensure that the benefits of government action justify the costs, and that the option chosen maximises benefits and minimises costs. This principle, at the core of benefit-cost analysis (BCA), is already widely accepted in Member countries, and should be the central principle of an RIA programme. This does not mean that full-fledged benefit-cost analysis is always feasible nor appropriate. While RIA programmes should apply the BCA principle to all regulatory decisions, the form of analysis used should be based on practical judgements about feasibility and cost.

Several analytical approaches other than BCA are currently used in Member countries. Chapter 8 discusses their relative merits. A basic conclusion is that all are essentially partial BCAs. Thus, all can provide relevant input to decisions made under the BCA principle. Governments may wish to improve their RIA programmes gradually so as better to support the BCA decision principle.

A key to good RIA is the quality of the data. Data problems are significant and can be costly to resolve. To reduce data problems, many governments have adopted analytical methods that are less data-intensive. Chapter 10 discusses strategies for collecting and analysing data.

EMERGING ISSUES

Adopting best practice in RIA is not a "one-off" task. Several emerging issues have major implications for the conduct of RIA and will require new responses as understanding and abilities improve. Replacement of traditional command-and-control regulation with more flexible, "performance-based" regulation poses difficult issues of cost estimation. The importance of the dynamic costs of regulation in terms of lost growth, productivity, innovation, trade, and investment are

increasingly recognised. Better tools are needed to understand these impacts more fully. Compliance and enforcement strategies can also be crucial in determining the real impacts of regulation and must be carefully considered in RIA.

The cumulative impacts of regulation ("regulatory inflation") may also be greater than the sum of individual impacts if indirect costs such as falls in investment and employment due to perceptions of a "hostile" environment take hold. Understanding the magnitude and impact of "regulatory inflation", considered in Chapter 11, comprises some of the greatest challenges for RIA.

EXISTING REGULATION

RIA can be useful in assessing existing as well as new regulation, but the review of existing regulation raises particular practical issues. Maximising RIA's impact on regulatory quality means setting the right priorities for reform. Countries have set priorities that focused on functional types of regulation (*e.g.* regulation restricting competition), regulations identified by expert bodies, and sectors, such as certain industries or professions.

RIA AND POLITICAL DECISION-MAKING

An important challenge for RIA is ensuring that the information generated by the process has maximum impact on political decision-making. Some pressures currently favour the acceptance of RIA insights. These include competing calls on governments for both budgetary stringency and measures to promote competitiveness, on the one hand, and for new and extended social and environmental programmes on the other.

However, it is also necessary to take positive action to enhance the effectiveness of RIA. Such actions can include attempts to inculcate RIA perspectives as part of long-term processes of cultural change and to build political commitment through broad principles of reform and allocation of specific responsibility for reform outcomes.

Part I

INTRODUCTION

1

AN OVERVIEW OF REGULATORY IMPACT ANALYSIS IN OECD COUNTRIES

by

Scott H. Jacobs[1]

1. INTRODUCTION

Improving the empirical basis for regulatory decisions through impact analysis of new regulatory proposals is a popular reform strategy in OECD countries. By 1996, more than half of OECD countries had adopted Regulatory Impact Analysis (RIA) programmes, up from one or two in 1980, and an increasing proportion of laws and other regulations affecting citizens are being shaped in part by various forms of RIA. In 1995, governments in all OECD countries agreed to use techniques such as RIA to improve the quality of new regulations (OECD, 1995).

The importance of RIA in public decision-making – for those who benefit from regulation, for those who pay the costs of regulation, and for those concerned about effective and transparent government – is clear. But the operational issues are not yet clearly answered: What can RIA realistically be expected to contribute to regulatory quality? How can RIA programmes be designed to produce the greatest benefits at least cost? How can methodological issues be resolved? What is the role of interest groups? What are the limits of RIA in democratic processes? These kinds of questions are at the forefront of policy debates about the use of RIA.

2. WHAT IS REGULATORY IMPACT ANALYSIS?

RIA comes in many forms that reflect various policy agendas of governments. Some countries assess business impacts, others, administrative and paperwork burdens. Others use full-fledged benefit-cost analysis based on social welfare theories. Environmental impact assessment is used to identify potential impacts of regulations on environmental quality. Other regulators assess how proposed rules affect sub-national governments, or aboriginal groups, or small businesses, or international trade. The RIA programme currently under development in

France examines regulatory impacts on employment, among other effects (Premier ministre, 1995).

In each of these cases, RIA is a decision tool, a method of *i)* systematically and consistently examining selected potential impacts arising from government action and of *ii)* communicating the information to decision-makers. Both the analysis and communication aspects are crucial. It is a flexible tool. Its objectives, design, and role in administrative processes differ among countries and even among regulatory policy areas.

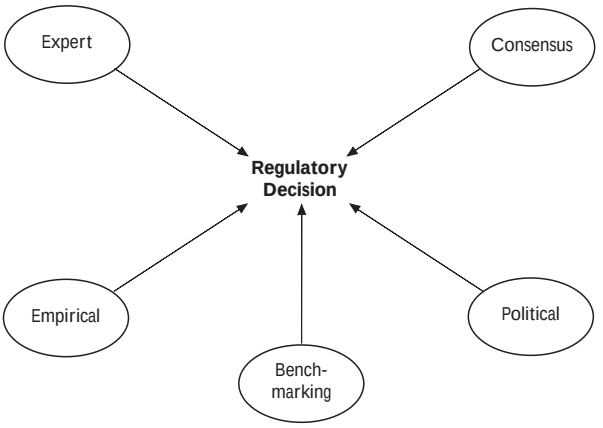
RIA then is an adjunct to good decision-making. In the United Kingdom, Compliance Cost Assessments are used to inform ministers of likely costs to businesses and to "identify the key factors on both sides of the equation as an aid (not a substitute for) the Government's social and political judgement...." (UK Department of Trade and Industry, 1985). RIA is perhaps best understood as one "decision method" among several methods used to reach regulatory decisions. The methods used by regulators in OECD countries to reach decisions can be simplified into five categories:

1. **Expert** – The decision is reached by a trusted expert, either a regulator or an outside expert, who uses professional judgement to decide what should be done.
2. **Consensus** – The decision is reached by a group of stakeholders who reach a common position that balances their interests.
3. **Political** – The decision is reached by political representatives based on partisan issues of importance to the political process.
4. **Benchmarking** – The decision is based on reliance on an outside model, such as international regulation.
5. **Empirical** – The decision is based on fact-finding and analysis that defines the parameters of action according to established criteria.

Every regulatory decision stems from a mix of these decision methods. The mix differs according to national culture, political traditions, administrative style, and issue at hand. For example, the Netherlands depends more on consensus methods than does most countries, while the United States depends more on empirical methods. Small countries use benchmarking more than do large countries. Crises in newspaper headlines tend to move decisions toward political methods and away from empirical methods.

RIA falls within the empirical method of decision-making. Its influence is determined, not only by the formal role of empirical methods, but by its contribution to other decision methods in the regulatory process. The five decision methods are complementary: RIA itself is neither "necessary nor sufficient for designing sensible public policy," (American Enterprise Institute for Public Policy

◆ Figure 1. ***Five Methods of Regulatory Decision-Making***



Source: OECD.

Research, 1996, p. 3) but it can play an important role in strengthening the quality of debate and understanding within the other decision methods.

That RIA does not in itself determine decisions is not to suggest that RIA is neutral. Information is powerful, and the questions to which RIA is addressed, the method of analysis and presentation, and its placement within the decision process can strongly influence the relative influence of the values at stake, strengthen or weaken parties involved in the decision and the capacity to Marshall arguments, and even render certain decisions impossible to take, depending on the interaction between RIA and the other decision methods. The capacity of RIA to change the nature of the discussion is one reason why RIA remains controversial and difficult to implement.

In essence, RIA attempts to widen and clarify the relevant factors for decision-making. It implicitly broadens the mission of regulators from highly-focused problem-solving to balanced decisions that trade off problems against wider economic and distributional goals. Far from being a technocratic tool that can be simply ''added on'' to the decision-making system by policy directive, it is a method for transforming the view of what is appropriate action, indeed, what is the proper role of the state.

3. OBJECTIVES FOR RIA

Regulation is under pressure – from those concerned about regulatory costs and regulatory inflation in today's difficult business environment; from those who see regulation as an essential tool in protecting social values of all kinds; and from those concerned about regulatory impacts in other policy areas, such as trade, competition, and job creation. The central management challenge is complexity – dealing with new linkages, actors, trade-offs, tasks, and tools within efficient decision processes where high-quality decisions can be made in a timely way.

Governments that use RIA have defined four main objectives that respond to these pressures:

1. **Improve understanding of real-world impacts of government action, including both benefits and costs of action**

   A trend toward more empirically-based regulation can be seen in OECD countries. This signals a growing concern about efficiency, both with respect to the private sector and to the operation of governments themselves. High-quality regulation is increasingly seen as that which pursues efficient policies as cost-effectively as possible. The era is past when government officials can respond, as they did in one OECD country in 1993, when asked about the cost of a law: "It's a legal requirement, so the costs are not important."[2] Depending on how it is used, RIA can inform the decision process about the efficiency of the policy, and about the cost-effectiveness of the instruments.

   An example is the "Locally Adapted Regulatory Impact Analysis" process developed by the Norwegian State Pollution Control Authority, which weighs all possible regulatory options to address a specific problem, values benefits and costs, and assigns a priority ranking of projects according to the benefit-cost ratio (Navrud, 1996, p. 149).

   A role for RIA that has great promise is that, by improving the basis for comparing the costs and benefits of different regulations, it can help establish regulatory priorities across regulations and regulatory areas. Allocating resources from less efficient regulations to more efficient regulations will improve effectiveness and reduce the cost of government action.

   Better empirical justification of regulatory decisions is strongly supported by international trade rules. In the Uruguay Round, for instance, the General Agreement on Trade in Services (GATS) requires that standards on the supply of services be "based on objective and transparent criteria" and be "not more burdensome than necessary to ensure the quality of the

service." The proportionality principle used by the European Court of Justice carries much the same impact for EC Members.

2. **Integrate multiple policy objectives**

   A key challenge for regulators is **integration** of multiple policies that affect each other. As the world becomes more complex, regulators should be aware not only of their own objectives narrowly defined, but also of other effects, such as those on economic efficiency, trade, equity, and the environment. Experience suggests that policy trade-offs can be better managed through a more thorough understanding of policy links and careful design of interactive regulatory policies.

   RIA can be used as a common integrating framework to expose impacts and linkages among policies and to give decision-makers a capacity to weigh trade-offs. In this sense, RIA is not only an ***analytical*** tool, but a ***co-ordination*** tool for bringing together different interests. RIA programmes are now being used to assess an increasingly broad range of regulatory impacts across policy areas, and are placing those impacts into frameworks in which benefits and costs can be compared more clearly. The OECD, for example, has stated that benefit-cost analysis can be "a primary tool for integrating environmental and economic policies" (OECD, 1996, p. 46).

3. **Improve transparency and consultation**

   Over the past ten years, a strong trend toward more open and participative rule-making has emerged in many OECD countries. Governments are using a variety of methods to allow interested groups earlier, more effective and wider access to decision-making processes. This process is part of the larger movement in the OECD area to improve the openness, transparency, and responsiveness of government.

   By contrast with other decision methods which tend to be opaque to outsiders, RIA exposes the merits of decisions and the impacts of actions. For this reason, RIA is, in many countries, closely linked to processes of public consultation. Consultation, in fact, is often built around RIA documents that state the goal and effects of proposed rules. Incorporation of RIA into consultation has enhanced the transparency of regulatory processes, provided quality control for impact statements, and improved the information on which decisions are based. In some countries, such as Australia, RIA is justified in terms of its utility in informing the consultation process as well as a decision tool in its own right.

   Transparency is also a key value underlying the development of the international trading system. The GATT, like CUSTA and NAFTA, placed great emphasis on the need to clearly state regulatory decisions and the reasons for them. Here, too, RIA can play an important role.

4. **Improve government accountability**

RIA can improve the involvement and accountability of decision-makers at ministerial and political levels through reporting of more extensive information and demonstrating how government decisions benefit the society. The high priority placed on better regulatory analysis in the United States reflected a strong belief that regulators would not truly be accountable to the electorate unless the consequences – the social benefits and costs – of their actions were known.

Many RIA programmes are meant to enable ministers to understand and take personal responsibility for regulatory decisions. Indeed, in some countries ministers are required to directly approve the regulatory analyses produced under their jurisdiction.

4. SOME CHARACTERISTICS OF RIA PROGRAMMES IN OECD COUNTRIES

There is no model of the ideal RIA programme. A number of key aspects of RIA programmes in 14 OECD countries are described in Table 1.

Methodologies vary considerably. In six countries there is a general requirement to assess all important impacts ("consequence analysis"), while two countries focus only on fiscal costs and two only on compliance costs to businesses. The other four countries explicitly require benefit-cost analysis, but only Canada and the United States have established strict benefit-cost tests for new regulations. In general, countries are moving toward methods that, even if they fall short of rigorous benefit-cost analysis, include a wider range of direct and indirect costs, and include benefits as well as costs.[3]

Institutions responsible for overseeing regulatory analysis programmes and in providing quality control also vary widely in function and design. Of the seventeen countries in Table 1, ten have established specialised bodies responsible for (among other things) overseeing RIA programmes: four are in industry, economics, or commerce bodies; three are in bodies responsible for budgeting and general public sector management; two are at the centre of government (*i.e.* cabinet offices); and one is in a parliamentary auditing office.

Selection of these different bodies is partly a result of historical accident, but it also reflects varying RIA objectives and power structures in each government. Each body must be judged in terms of the governing environment in which it work, but experience suggests that, in general, the bodies located nearer the centre of government and particularly near budgeting functions seem to have an easier time of penetrating the regulatory process and making their presence felt to regulators. This is in part because they can exploit the credibility, information resources, and management authorities of these influential organisations.

But in every country **regulators themselves (usually as represented by the responsible minister) are primarily responsible for RIA.** That is, RIA programmes are essentially decentralised, with varying levels of government-wide quality control, persuasion, and oversight provided by the central bodies. Nowhere do central bodies have authorities over regulatory analysis approaching, for example, those wielded by budget offices to protect the integrity of budget analysis.

Therefore, the defining tension in the functions of oversight bodies has been to find the right balance between co-operative and confrontational relationships with regulators. Experiences in OECD countries show no exceptions to the general rule that RIA will fail if it is left entirely to regulators, but will also fail if it is too centralised. Regulators must take primary responsibility under a system of incentives overseen by reformers. Much RIA, for example, is carried out because central overseers are able to convince regulators and policy officials that it is worth the benefits.

Central oversight bodies draw formal authority from a wide range of cabinet decisions, presidential orders, prime minister directives, and so forth. Such directives are almost always described as "mandatory," but in practice they tend to have the status of internal administrative guidance whose application fluctuates with political commitment, which can pose serious problems.

Scope of coverage is patchy. Three countries use RIA only when developing proposed laws; five use RIA only for lower-level (subordinate) regulations; and nine use it for both, though RIA requirements can vary for the two kinds of regulations. Exemptions to RIA programmes are often broad. The use of RIA at lower levels of government is not well-mapped. In federal countries, many states have some kind of RIA programmes. In almost no country is RIA used at local or munipical levels. Uneven coverage of RIA programmes seriously reduces effectiveness. Given that laws and lower-level regulations can have similar impacts, there is no reason *a priori* to distinguish between them; hence, the differences seem to be related to institutional relationships and historical circumstances rather than to rational programme design.

The *development of written guidance* for regulators with respect to carrying out RIA seems to be an indicator of the effectiveness of the programme. Of the 17 countries, the eight that have issued government-wide guidance documents tend to be the programmes with longer histories, wider coverage, more rigorous analytical requirements, and higher political attention to RIA.

Finally, *public disclosure* of RIA also varies. Of the 17 countries, three publish draft RIAs for comment; six make RIAs available in final form; and nine countries do not usually make RIAs available. Given the very positive responses of countries who find public consultation valuable in collecting information and checking

the quality of analysis, there seems to be substantial scope for expanding the use of public consultation as aide to the RIA process.

5. ASSESSMENTS AND ISSUES

Assessments of the results of two decades of investment in RIA show a very mixed picture. On one hand, there is nearly universal agreement among regulatory reform offices that RIA, when it is done well, improves the cost-effectiveness of regulatory decisions. In 1987, for example, the US Environmental Protection Agency evaluated 15 RIAs, and found that they cost $10 million to conduct but resulted in revisions to regulations with estimated net benefits of about $10 billion, or a benefit-cost ratio of about 1 000 to 1 (US Environmental Protection Agency, 1987). RIA contributes to a "cultural shift" whereby regulators become more aware of the costs of action, and more ready to adapt decisions to reduce costs. RIA also improves the transparency of decisions, and enhances consultation and participation of affected groups, thereby adding an empirical dimension to consensus and political decision methods.

Yet positive views are balanced by evidence of massive non-compliance and quality problems in RIA. A recent survey of benefit-cost analyses in the United States found that half of the adopted regulations did not pass a benefit-cost test, even after 15 years of investment in a benefit-cost programme (Hahn, 1996). In other countries with explicit programmes, regulations continue to be made without even rudimentary cost analysis. In Finland, a parliamentary committee found that assessments of the costs of new laws on the private sector were often non-existent, four years after RIA was mandated by the Norms Act (Constitutional Committee of the Parliament, 1994, p. 4). The cost of doing analysis is soundly criticised by regulators, while its shortcomings are criticised by interest groups. In 1992, an Australian official listed several problems with the federal RIA programme, seven years after its adoption:

> *Quality varies enormously. Assertions are often not well-supported. Little assessment of benefits is the most common failing. The statement of purpose is often inadequate. We have real problems getting departments to apply welfare economics analysis to benefit-cost type judgements. The RIS often becomes a justification for what they want to do anyway.*[4]

For these reasons, the RIA policies in Table 1 have varying practical effect. There are several apparent explanations for these problems:

Technical issues

1. Analytical methods are not fully developed, and there continue to disagreements about important issues. This is more the case with methods such as benefit-cost analysis, where issues such as the establishing a social discount rate and valuing intangible benefits continue to provoke

discussion,[5] than with straight-forward cost measurement methods, such as business impact assessments. Methods for developing and using qualitative analysis need more attention.

2. Data are often costly or non-existent;
3. Methods are too complex and costly to be practical, given the capacities of regulatory bodies.

Value conflicts and power struggles

4. Resistance is high, since some interest groups and regulators continue to oppose RIA as contrary to their ethos;
5. Interest groups who benefit from other decision methods feel threatened by new arrangements resulting from RIA;

Institutional and resource issues

6. Requirements that regulators carry out analysis are not supported by adequate incentives for compliance. Sanctions for non-compliance with RIA requirements are not very credible in most countries;
7. Many regulators do not have the capacity to comply, either because of lack of skills or resources;

Legal issues

8. In some cases, laws require regulators to pursue their regulatory missions at all costs and not to weigh other impacts and trade-offs;

Procedural issues

9. Quality control is often poor, reducing the benefits of RIA;
10. RIAs are often prepared too late in the regulatory process, after decisions are taken;
11. Regulators are under constant pressure to make decisions more quickly – analysis and consultation can slow down the process;

Political issues

12. Although RIA supplies information, there is often not a demand for information from politicians, perhaps because it is difficult to take political credit for making decisions that serve wider and more diffuse interests, relative to narrower programme interests.

6. PRELIMINARY POLICY LESSONS

RIA has delivered gains in each country where it has been implemented, but in most countries it is still a marginal influence on regulatory decision-making. Given positive experiences to date, expanding its use could substantially improve the quality of regulations throughout the OECD area.

RIA is a case where the perfect can be an enemy of the good. Experience makes clear that the most important contributor to the quality of regulatory decisions is not the precision of calculations, but the action of analysing – questioning, understanding real-world impacts, exploring assumptions. RIA can change the "logic of decision-making" to improve the ways that problems are defined, and to create a broader vision of the role of government in society. Most failures of RIA stem partly from the mistaken view that impact analysis is a way of producing the right numbers, and a failure to understand the deeper institutional and cultural changes required to make analysis genuinely a part of increasingly complex decision-making environments.

While a RIA programme is not easy to do well, careful programme and institutional design can reduce problems. Success seems to be supported by seven conditions:

1. **political support** at ministerial or parliamentary level;
2. establishment of **clear quality standards** (such as cost-effectiveness or benefit-cost tests) for regulations that can be measured by RIA;
3. selection of **a methodology that is flexible and administratively feasible** given capacities and resources. In most cases, simplicity is more important than precision, even if only the order of magnitude of impacts can be reliably determined. In all cases, use of a few consistent analytical rules can greatly improve the quality of the analysis;
4. **development of an institutional structure** for a RIA programme that charges regulators with primary responsibility for RIA, and places quality control with an independent oversight body empowered to establish quality standards for analysis;
5. testing of assumptions through **public consultation**;
6. integration of analysis into administrative and political decision processes, including **communication of information** in a coherent and systematic manner;
7. development of a programme to **build expertise and skills among regulators**, including development of written government-wide guidance. Canada has, for example, shifted its focus from examining individual RIAs to providing training, communication and best-practice seminars for personnel involved in the analytical process.

Two programme designs appear to be particularly ineffective: delegating full responsibility to regulators without adequate oversight sacrifices RIA to the narrower incentives and mission of the regulators, while, at the other extreme, placing responsibility for RIA in an independent body isolates the analysis from the decision-making process, and renders it an academic and impotent exercise.

Table 1. **Formal policies for regulatory analysis in OECD countries**

(See definition notes at bottom of table)

	Type of analysis and date begun	Required by	Scope of coverage	Analysis performed by	Purpose and decision criteria	Public disclosure?	Quality control?
AUSTRALIA							
Commonwealth (Federal level)	B/c, 1985	Cabinet policy, some laws	Bills, lower-level rules, and decisions with regulatory effects that have business impacts	Regulators	To inform decisions	Yes. Circulated for review	Independent review by Industry Commission. Guidance issued
State of New South Wales	B/c, 1989; c/e where b/c is "impractical"	Law	Lower-level rules "as far as reasonably practical"	Regulators	To inform decisions	Yes. Circulated for review	Some advice by independent body in Cabinet office, parliamentary committee
State of Queensland	B/c, 1990, expanded 1995	Cabinet policy, law since 1995	Lower-level rules with "appreciable" costs	Regulators	B/c and c/e tests are preferred, but not mandatory	Yes. Circulated for review	Independent review by Department of Business, Industry, and Regional Development
State of Victoria	B/c, 1984	Law since 1984	Lower-level rules "with appreciable burdens"	Regulators	Regulations "should not normally proceed" if b/c test is not met	Yes. Circulated for review	Regulators required to seek "independent advice" from experts parliamentary committee. Guidance issued

Table 1. **Formal policies for regulatory analysis in OECD countries** *(cont.)*

(See definition notes at bottom of table)

	Type of analysis and date begun	Required by	Scope of coverage	Analysis performed by	Purpose and decision criteria	Public disclosure?	Quality control?
AUSTRIA	Fiscal analysis recommended, 1992	Federal Chancellery Guidelines	Bills	Regulators	To inform decisions, support cost-accounting budget system and support cost reduction	No	Responsibility of regulators. Guidance issued
CANADA	"Socio-economic impact analysis" (SEIA), 1977; general impact analysis, 1986; b/c and c/e, 1992	Treasury Board Decision, under authority of Financial Administration Act	All lower-level federal rules requiring ministerial approval. " Quick test" for "low-cost" rules, full b/c for rules with present value costs over C$ 50 million	Regulators	Provide "accurate estimates" of impacts to inform ministerial decisions that regulation results in "greatest net benefit"	Yes. All RIAs published in draft form in national gazette	Advice by Treasury Board Secretariat. Guidance issued
DENMARK	General impact analysis, 1993. Expanded in 1995	The Cabinet Office	Bills	Regulators	To inform decisions in Cabinet and Parliament	Yes	Review by the Ministry of Finance
EUROPEAN UNION	Impact assessment (since 1990 and regularly updated)	Commission of European Union	All legislation	Regulators	Assessments must be specific and quantified where possible. Effectiveness of current legislation and its possible secondary effects must be monitored	Results may be disclosed in green or white papers and communications. Results concerning new legislation are circulated to legislators and to affected sections of the public	Internal evaluation

Table 1. **Formal policies for regulatory analysis in OECD countries** *(cont.)*

(See definition notes at bottom of table)

	Type of analysis and date begun	Required by	Scope of coverage	Analysis performed by	Purpose and decision criteria	Public disclosure?	Quality control?
FINLAND	General impact analysis, distributional and fiscal analysis, including impacts on municipalities, mid-1970s; expanded in 1990	Law, Cabinet instructions on drafting bills	Bills, lower-level rules	Regulators, or working group drafting rules	To inform decisions	Only for bills when submitted to Parliament	Responsibility of regulators. No guidance issued
FRANCE	General impact analysis with specific address of employment impacts, fiscal impacts, 1996 (one year trial basis)	Prime Ministerial decree	Bills, principal decrees	Regulators	To informs decisions	No	Secretary-General, Council of State
GERMANY	B/c and budget cost analysis suggested by Blue Checklist, 1984; requirements for "effects" and "practicality" analysis expanded in 1989. Since 1996 stronger requirement for calculation of effect on business and administration	Government Resolutions	Bills, lower-level rules, and (since 1989) rules internal to the administration	Regulators	Help determine if rule is "necessary" and "likely to be effective", and to calculate budget costs for all levels of government	No	Responsibility of regulators. No guidance issued

Table 1. **Formal policies for regulatory analysis in OECD countries** *(cont.)*

(See definition notes at bottom of table)

	Type of analysis and date begun	Required by	Scope of coverage	Analysis performed by	Purpose and decision criteria	Public disclosure?	Quality control?
ICELAND	Fiscal analysis. General impact analysis would be required by bill under preparation	Cabinet policy, law under preparation	Bills, cabinet policy, lower-level rules, decisions of general character (proposed)	Regulators	(Under cabinet policy and proposed bill) To inform decisions in Cabinet and Parliament, to enhance accountability	(In proposed bill) Only for bills when submitted to Parliament	(In proposed bill). Responsibility of regulators. Provisions for *ex post* complaints by public. No guidance yet
ITALY	"Cost-output analysis" – costs evaluated, with emphasis on fiscal costs	Law	Bills, government-issued regulations	Regulators (Parliamentary departments or government, as appropriate)	To inform decisions	No	Responsibility of regulators
JAPAN	Benefits test for permits, 1987; general impact analysis as considered "necessary", by regulators, 1988	Cabinet decisions	All permit and authorisation rules; "social regulations" (for general impact analysis)	Regulators	To clarify the need for regulation	No	Responsibility of regulators. No guidance issued
MEXICO	Benefit/cost, introduced 1995	Presidential directive	All "business related" procedures and requirements	Regulators	"Reduce and rationalise" existing requirements and "govern the creation of new procedures"	No	• Authorization by President • Review by Ministry of Commerce • Review by Economic De-regulation Council (multipartite)

Table 1. **Formal policies for regulatory analysis in OECD countries** *(cont.)*

(See definition notes at bottom of table)

	Type of analysis and date begun	Required by	Scope of coverage	Analysis performed by	Purpose and decision criteria	Public disclosure?	Quality control?
NETHERLANDS	General impact analysis, 1985	Prime Ministerial Directives	Bills and lower-level rules	Regulators	To inform decisions in Parliament	Yes, upon publication or submission to Parliament	Advice by other ministries, particularly Ministry of Justice and Ministry of Economic Affairs; review by independent Council of State
NEW ZEALAND	Fiscal analysis; compliance cost assessment (from 1 January 1996)	Cabinet Policy	All laws determined by Cabinet	Regulators	To inform decisions, support goal of "eliminating excessive compliance costs"	Not required	Responsibility of regulators, with Ministerial oversight
NORWAY	"Consequence analysis", 1985; emphasis on economic costs, 1995	Cabinet instructions, some laws	Bills, lower-level rules, recommendations for policy decisions	Regulators	To inform decisions, b/c analysis recommended, but no b/c test	Not required, but usually released during consultation process	Responsibility of regulators. Some guidance issued by individual ministries
PORTUGAL	Fiscal analysis	Policy directive	Bills and lower-level rules	Regulators	Control public expenditures – must respect budget decisions	No	Finance Ministry
SWEDEN	"Consequence", distributional and fiscal analysis, often including b/c and c/e, 1987; for bills, 1994	Cabinet Ordinance; guidance from PM (for bills)	Lower-level rules, weaker recommendations for bills	Regulators	To inform decisions and to support consultation with affected groups	Yes. Circulated to affected groups in draft	Independent review by National Audit Bureau. Guidance issued

Table 1. **Formal policies for regulatory analysis in OECD countries** *(cont.)*

(See definition notes at bottom of table)

	Type of analysis and date begun	Required by	Scope of coverage	Analysis performed by	Purpose and decision criteria	Public disclosure?	Quality control?
UNITED KINGDOM	Business cost assessments, 1985	Cabinet Policy	Bills and lower-level rules at national level with business impacts	Regulators	Make decision process more transparent, and clarify costs to businesses to support policy of reducing regulatory costs	Yes. Made public as part of final review by parliamentary committee. Published in summary *ex post*	Responsible ministers, independent review by Department of Trade and Industry. Business task force reviews a sample on *ex post* basis. Guidance issued
UNITED STATES	Inflation impact assessment, 1974; b/c, 1977; expanded in 1981, revised in 1993	Presidential order, some laws	All "major" lower-level rules at federal level, unless forbidden by law, with costs of more than US$100 million/yr	Independent office, 1976-1980, regulators since 1981	Demonstrate that rule meets strict b/c and c/e tests	Yes. All RIAs published in draft and final form in national gazette	Independent review by presidential Office of Management and Budget. Guidance issued
New York State	Cost/benefit analysis supplemented by analysis of distribution of effects (since 1983)	Law	New or revised regulations	Regulators	To inform decisions	Yes (?)	Informal review by Governor's office and "outside peer review generally expected" (Hopkins)

RIA Regulatory impact analysis.
Bills Proposed laws prior to submission to legislature.
Lower-level rules Regulations made by Cabinet, ministers, or regulatory under delegates authorities.
General impact analysis Assessments of impact without specifying a specific methodology.
B/c Benefit-cost analysis.
B/c test Requirement that the regulation produces net social benefits (benefits exceed costs).
C/e Cost-effectiveness analysis.
C/e test Requirement that the regulation maximises net benefits or minimises net costs (compared to other options, the regulation produces the highest b/c ratio).
Fiscal Analysis Quantifying the direct budget costs for government administration.

NOTES

1. Scott H. Jacobs has been responsible within the OECD's Public Management Service for work on Regulatory Management and Reform since 1991.

2. Remark by an environmental policy official about a national recycling programme, quoted in *The Economist*, 29 May 1993, "Survey: Environment", p. 18.

3. One of the factors limiting the move to full benefit-cost analysis are continuing questions about its ability to fairly balance benefits with costs. As a federal official in Australia has noted about the use of benefit-cost analysis, "There is a healthy scepticism in Australia, by both politicians and officials, as to the weight that should be given to such analysis, not least because of the difficulty in attaching quantitative estimates to what are often the most important costs and benefits. Reflecting that, there are not rigid rules that benefits must exceed costs."

4. Interview with OECD Secretariat, February 1992.

5. There has been some progress recently on refining methods to value environmental impacts. For example, the OECD and the World Bank recently updated a 1974 manual for appraising environmental programmes and policies within a benefit-cost framework. See OECD (1995), *The Economic Appraisal of Environmental Projects and Policies: A Practical Guide,* Paris.

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Part II

A DESCRIPTION OF SOME RIA PROGRAMMES IN SELECTED MEMBER COUNTRIES

2

REGULATORY REFORM THROUGH REGULATORY IMPACT ANALYSIS: THE CANADIAN EXPERIENCE

by

Apogee Research[1]

1. INTRODUCTION

Regulatory reform means different things to different people. Thomas McGarity (1991) identifies three "themes" of regulatory reform. Some equate regulatory reform with regulatory relief or, more precisely, deregulation and slowing the growth of new regulations. To others, it means increasing the accountability of and political control over civil servants creating regulations. To yet others, regulatory reform means improving regulatory decisions by ensuring they have a rational analytical basis.

Regulatory impact analysis (RIA) is a tool for regulatory reform that directly relates to the theme of rational analysis. Requirements for RIA force regulators to think in a structured way before they act.

Regulatory impact analysis also relates to the other two themes, assuming that decision-makers and the public heed the analysis, by:

- increasing accountability by opening regulators' analyses to the scrutiny of politicians, "watchdogs" within the civil service, industry and public interest groups;
- reducing the quantity of regulations, where critics are correct in the assertion that regulations cannot pass the test of rigorous analysis.

Skeptics rightly point out, however, that by the choice of methodologies, assumptions and data inputs, a regulatory impact analysis can be shaped to support even a severely flawed regulation. And even if the analysis is valuable, there is no guarantee that decision-makers will take it into account. Regulators can view RIA requirements as simply one last hurdle they face in promulgating their preferred regulation.

Research into other countries' RIA programmes identifies how programme design impacts the ability of the programme to achieve the above three themes

(Armstrong *et al.*, 1994; McGarity, 1991). For example, some programmes take a "command-and-control" approach, effectively regulating the regulator by halting any regulation for which the analysis does not clearly show positive net benefits. Other programmes take a less strict approach to enforcing the requirements for each and every regulation, but make more efforts to instil the principles of RIA within the culture of regulatory departments.

Have RIA programmes been effective reform tools? This paper contributes to the debate by describing and assessing the impacts of Canada's RIA programme.

The next section describes the purpose of Canada's RIA programme and its historical background. Subsequent sections characterize the programme features, and identify its effectiveness and weaknesses. We conclude with the major lessons learned from the Canadian experience.

2. PURPOSE OF CANADA'S RIA PROGRAMME AND HISTORICAL BACKGROUND

Canada uses regulatory impact analysis as one component of its federal regulatory reform. Canada's Regulatory Impact Analysis (RIA) programme complements other regulatory reform tools, including:

- policy guidance, such as the Citizen's Code of Regulatory Fairness and the Regulatory Policy;
- regulatory process management standards;
- mandatory public notice and comment for most proposed regulations;[2] and
- regulatory review.

Canada's RIA programme serves three major purposes:

- it provides a framework for the consideration and management of regulatory initiatives in federal departments and agencies;
- it summarizes the basic information required by ministers to reach a decision on proposed regulations; and
- it provides the public with information on regulatory proposals (Treasury Board of Canada Secretariat, 1991).

More specifically, the RIA programme uses Regulatory Impact Analysis Statements (RIAS) as a means by which federal departments demonstrate that proposed regulations meet the requirements of Canada's Regulatory Policy (Government of Canada, 1995*c*). To ensure that the use of the government's regulatory

powers results in the greatest net benefit to Canadian society, regulators must ensure that:

- They can demonstrate that a problem or risk exists, federal government intervention is justified, and regulation is the best alternative.
- Canadians are consulted and that they have an opportunity to participate in developing or modifying regulations and regulatory programs.
- The benefits outweigh the costs to Canadians, their governments and businesses. In particular, when managing risks on behalf of Canadians, regulatory authorities must ensure that the limited resources available to government are used where they do the most good.
- Adverse impacts on the capacity of the economy to generate wealth and employment are minimized and no unnecessary regulatory burden is imposed. In particular, regulatory authorities must ensure that:
  - information and administrative requirements are limited to what is absolutely necessary;
  - the special circumstances of small businesses are addressed; and
  - parties proposing equivalent means to conform with regulatory requirements are given positive consideration.
- Intergovernmental agreements are respected and full advantage is taken of opportunities for co-ordination with other governments and agencies.
- Systems are in place to manage regulatory resources effectively. In particular, regulatory authorities must ensure that:
  - the Regulatory Process Management Standards are followed;
  - compliance and enforcement policies are articulated, as appropriate; and
  - resources have been approved and are adequate to discharge enforcement responsibilities effectively, and to ensure compliance where the regulation binds government.

Canada's RIA requirements, therefore, go well beyond benefit-cost analysis (BCA), although BCA is one requirement. Analysis of impacts on international competitiveness, small businesses and other social concerns is also required.

Canada's RIA programme has evolved since the first requirements for a professional Socio-Economic Impact Analysis for major regulations were introduced in 1978, supported by a 1976 Treasury Board guide on how to conduct cost-benefit analyses. (See Appendix A for a chronology of regulatory reform in Canada.)

In the early 1980s, regulatory reform focused on specific deregulatory initiatives and on improving citizen access to the process through publication of an

Annual Plan describing current regulatory initiatives. By the mid-80s, further progress was made in the processing of specific program changes, a formal government-wide regulatory policy was introduced. In 1986, the requirement for a Regulatory Impact Analysis for all proposals was instituted.

RIA of proposals has continued to evolve in practice with the introduction of new "how-to" guides, training courses and tools such as the Business Impact Test (see below). Regulatory reform remains an essential part of the government's overall economic agenda to promote job creation and economic growth; Cabinet expects regulators to make a persuasive case that the benefits of their regulatory proposals exceed the costs, and therefore enhance the efficiency and effectiveness of Canadian programs.

3. PROGRAMME DESCRIPTION

Questions answered in the RIAS

The RIA programme is designed to encourage regulators to think through in a structured way the foundations for their regulatory proposals. The RIAS provides a framework for answering questions such as:

- Is the problem one that justifies government intervention?
- If so, is regulation the most effective and efficient means of government intervention?
- What are the government's specific objectives in intervening?
- Will the proposed regulation result in a reasonable balance of benefits and costs?
- To whom will the benefits accrue? Who will pay the costs?
- What will the impacts be on international competitiveness, small business and other relevant factors?
- How were stakeholders consulted, and what do they think of the proposed regulation and its likely impacts?
- How will compliance with the regulation be monitored and enforced?

Format of output

To facilitate consistency between each RIAS and the Regulatory Policy, the Treasury Board Secretariat has developed a standard format for all RIAS. The format consists of six headings, as follows:

- *Description*: to explain why the proposal is being made.
- *Alternatives*: to demonstrate that the proposed regulation is preferred over other means (such as voluntary programs, market-based instruments and other types of regulations) to achieve the objectives.

- *Benefits and Costs*: to identify and quantify the benefits and costs resulting from the regulation and qualitative assessments of benefits and costs if quantitative analysis is not feasible or possible.
- *Consultation*: to summarize the interdepartmental, intergovernmental and private-sector consultation that has taken place in identifying and characterizing the problem, developing the regulation, and assessing benefits and costs.
- *Compliance and Enforcement*: to explain the strategy being adopted to ensure compliance, and to describe the enforcement mechanisms in place or anticipated.
- *Contact*: to identify who can be contacted for more information.

The requirement for stakeholder consultation is a very important aspect of the RIA programme. Stakeholder consultations strengthen and provide a reality check for the analysis contained under the other headings of the RIAS.

Methods and degree of analysis

The methods and degree of analysis in a RIAS vary in proportion to the significance and likely impact of the regulatory proposal. An initial screening of regulatory proposals classifies each proposed regulation as a low-cost initiative, intermediate-cost initiative or major initiative, based on the anticipated cost and degree of stakeholder acceptance or support of the proposed regulation (see Table 1 below).

About 10 per cent of regulatory proposals approved by Cabinet have anticipated costs exceeding $50 million. Half of these are tax or programme expenditure authorities and not really regulatory in nature. The remaining major regulatory initiatives require detailed quantitative analysis of costs and benefits (Government of Canada, 1995*a*).

About 30 per cent of regulations are administrative in nature and have almost no economic impact. The initial screening typically provides all the information needed to complete the RIAS. The economic analysis usually consists of

Table 1. **Classification of regulatory proposals**

Anticipated cost (present value of all costs to all members of society)	Degree of acceptance	
	High	Low
< $100 000	Low-cost initiative	Low-cost initiative
$100 000 to $50 million	Intermediate-cost initiative	Major initiative
> $50 million	Major initiative	Major initiative

qualitative justification outlining why costs are expected to be negligible and a description of the benefits.

Sixty per cent of regulatory proposals fall somewhere between these two extremes, with small to medium impacts (costs of $100 000 to $50 million). Since this class covers a wide range of cost impacts, the required analysis varies from detailed quantitative analysis to less rigorous qualitative assessments.

A streamlined process can be used for assessing the impacts of certain regulatory proposals, namely:

- *repetitive regulations*: those that are replicated in essentially the same form on a regular basis (*e.g.* regulations naming members to boards of various agencies);
- *minor regulations*: those that have no policy implications (*e.g.* minor amendments to existing regulations); and
- *minor types of external user fee regulations* (*e.g.* small amendments to existing fee schedules).

The streamlined process allows pro forma RIAS with some standardized boilerplate material, as well as exemption from prepublication or shortened prepublication periods.

To help sponsoring departments in selecting appropriate analytical methods, guides exist for various tasks in preparing RIAS, including:

- writing the RIAS (Treasury Board of Canada, Secretariat, 1994);
- undertaking benefit-cost analysis (Government of Canada, 1995*b*);
- assessing regulatory alternatives (Government of Canada, 1994); and
- designing regulations to minimize adverse impacts on competitiveness (Treasury Board of Canada Secretariat, 1992).

The guides are necessarily general, given the diversity of regulations subject to the RIAS requirement (standards for environmental performance, energy efficiency, occupational safety and consumer safety; programmes for approving pharmaceutical drugs, medical devices, new chemical substances and pesticides; economic regulations; cost recovery regulations; administrative regulations; etc.).

Preparation of the RIAS

The department or agency sponsoring the regulation (hereafter called the "sponsoring department") is responsible for the content of the RIAS, which is signed by the Minister.

The actual drafting of the RIAS is almost always done by staff working in the sponsoring department. Depending on the department, the RIAS may be prepared by economists, technical staff or legal staff.

In drafting the RIAS, staff rely on inputs such as assessments of alternatives, cost-benefit analyses, risk-cost analyses and socio-economic impact assessments. Background analysis may be conducted in-house or by outside consultants, depending on the internal resources available at the time, the timeline for the proposal, the amount of analysis required, departmental practice and other factors.

In preparing the RIAS, staff also rely on consultations with stakeholders. In at least one case, industry participation has gone so far as to include seconding business representatives to government for the duration of the analysis.

Quality control

Each RIAS undergoes a staged review. Some stages are prescribed by Canada's federal regulatory process. Other stages may be used depending on the sponsoring department's practices and the classification of the regulation.

The common review steps are as follows:

- Typically, the draft RIAS is reviewed internally by technical, economic and legal staff, as well as senior managers.
- Sponsoring departments have generally implemented external stakeholder review processes, particularly for major initiatives. Stakeholders are usually asked to comment, or in some cases to help develop, background technical and economic assessments that are inputs to the RIAS. In addition to providing a reality check for the regulatory impact analysis, stakeholder review also helps satisfy the Regulatory Policy's requirements for consultation with parties that would be affected by the proposed regulation.
- The Regulatory Affairs Directorate of TBS[3] is the central agency responsible for reviewing each regulatory proposal and RIAS in draft form. The review verifies that the proposal is consistent with the Regulatory Policy and that the potential impacts of the proposal have been adequately considered and drawn out in the RIAS. A sponsoring department does not need formal approval from TBS to proceed with a proposed regulation.
- The Privy Council Office[4] also reviews each draft regulation and RIAS for consistency with overall government policy and constitutional and legislative authority.
- In order to elicit comments from the public, the RIAS is then published for a 30-day period in the *Canada Gazette, Part I*, along with the proposed regulation. When required by legislation or international trade agreements, this period is extended.

- If, after public comment, the proposal goes ahead, the final regulation and RIAS incorporating any revisions are published again, this time in the *Canada Gazette, Part II*.

Support for regulatory departments

The Regulatory Affairs Directorate of TBS provides support in various forms to departments and agencies sponsoring regulatory proposals.

In addition to the numerous guides and manuals mentioned earlier, training workshops are provided periodically for government staff involved in preparing RIAS. The most recent round of workshops provided training in assessing alternatives to regulation, benefit-cost analysis and regulatory impact analysis. The cost of regulatory training varies from workshop to workshop ranging from $350 per participant for a one-day workshop on Regulatory Impact Analysis to $550 per participant for a two-day workshop on Benefit-Cost Analysis for Regulations. In addition, there are free monthly seminars and workshops on regulatory issues and best practices.

Specialized analytical tools have been developed to assist regulatory agencies in assessing specific types of impacts. Two of the most important analytical tools are packages designed to test for specific classes of impacts.

The *Business Impact Test*, developed by TBS, Industry Canada and the Canadian Manufacturers' Association in consultation with business, is an interactive software-based tool for consultation. It is designed to help governments understand and assess how regulations will have an impact on the private sector by obtaining feedback from business on regulatory proposals. The *Business Impact Test* identifies direct costs to firms from regulations, as well as how regulations affect the way firms operate, organize and innovate; it provides businesses with an opportunity to suggest how the proposed regulation can be adjusted to reduce the impact on business.

A similar tool to assess workplace impacts is currently under development by TBS and Human Resources Development Canada, in partnership with the Canadian Labour Congress and the Canadian Federation of Labour. The Workplace Impact Tool (WIT) should improve and structure the dialogue between regulators and individuals interested in the workplace. The scope of the WIT is intended to capture any regulatory initiative impacting on the workplace.

4. ASSESSMENT OF THE RIA PROGRAMME

Programme effectiveness

Programme effectiveness is defined here as the expectation of "better" regulatory decisions. In the tradition of microeconomic theory, "better" regulatory decisions are defined as decisions that result in greater net benefits to society.

Greater net benefits might be achieved by: not proceeding with any government intervention; intervening with a non-regulatory tool; redesigning the regulation to achieve the same objectives at a lower cost; or altering the objective to be achieved.

Before reviewing a number of indicators of better regulatory decisions resulting from Canada's RIA programme, let's look at design features that influence programme effectiveness.

Design features influencing programme effectiveness

The Regulatory Policy and the Citizen's Code of Regulatory Fairness, the policy foundations of the RIA programme, apply to regulations made by federal departments or agencies. No department is exempt. Two agencies, the Copyright Board of Canada and the Canadian Radio-Television and Telecommunications Commission are arms-length independent administrative tribunals; technically, they are exempt from the policy, although they participate in several ways in the government's overall programme of regulatory reform and management. These agencies conduct similar analyses in assessing the impacts of their decisions, through the hearing process.

Canada's programme covers regulations promulgated under any statute. There are no inherent statutory limits on departments' authority to take into account regulatory impact analysis when making decisions, although statutes can affect the range of options available to regulators.

All new regulations and amendments to existing regulations are subject to the RIA programme. Periodic regulatory reviews, another component of Canada's overall regulatory reform programme, focus on the impacts of existing regulations.

The RIA programme also applies to statutes establishing new regulatory programmes. However, because much legislation sets out only a framework of objectives and government regulatory powers, it is often more difficult to be precise about impacts.

The RIA programme is an administrative policy directive promulgated under the authority of Section 7 of the *Financial Administration Act*; policy directives are mandatory but do not have the same legal status as regulations. Federal departments and agencies must follow the policy in developing regulatory proposals; however, once a proposed regulation is sent to Cabinet for approval by the sponsoring Minister, it legally enters the legislative process (as opposed to the administrative process). It is then up to Cabinet to choose to honour their Regulatory Policy.

There is no bureaucratic "gatekeeper" created under the programme; that is, the Regulatory Affairs Directorate (RAD) of the Treasury Board Secretariat that

administers the programme does not have the authority to block regulatory proposals that do not conform to the policy. This is a change from the 1986 to 1991 period, when RAD's predecessor had to formally approve all RIAS.

RAD focuses on demonstrating, through training and various communications vehicles, the benefits of conforming to the regulatory policy. This approach, in RAD's view, allows it to achieve its objectives cost effectively; over time, it can also change attitudes and gain "buy-in" for the policy's objectives. It was not clear that the 1986-91 approach was particularly effective.

Some analysts have suggested that lack of statutory backing for the programme (and possibly subjecting regulatory decisions to judicial review), and the few resources allocated to its administration, are major weaknesses in the programme's design. Stanbury, for example, contrasts RAD with regulatory departments that have the clout of legislation behind them, and large staff for administrative and analytical support. The result, he claims, is like "trying to hold back a flood with an index finger" (Stanbury, 1992).

Although RAD's minister (the President of the Treasury Board) is a major Cabinet player, RAD's efforts have been aimed largely at influencing regulatory proposals prior to their presentation to Cabinet. RAD's approach focuses as much or more on influencing the regulatory culture within sponsoring departments than battling each regulatory proposal that falls short of the full requirements of the regulatory policy. Nevertheless, proposals which clearly violate the regulatory policy are systematically challenged at the Cabinet table. And, in the highly collegial and consensus-oriented world of Ottawa decision-makers, that represents a significant deterrent to regulators.

The impacts on regulatory decisions of this approach are discussed below.

Increases in net benefits

A direct empirical measure of the effectiveness of the RIA programme is the increase in net benefits to society arising from regulatory improvements attributable to regulatory impact analysis.

For example, the US Environmental Protection Agency's (EPA's) benefit-cost analyses between 1981 and 1986 were instrumental in revisions to three regulations (US Environmental Protection.Agency, 1987). Estimated net benefits to society were increased by over $10 billion as a result of the revisions. Since only $8.1 million was spent to conduct the benefit-cost analyses, the EPA's "return on investment" was over 1 000 to 1.

Estimates of increases in net benefits resulting from Canada's RIA programme are not available. This is not surprising considering what would be required to produce such a measure.

First, we would need to know what regulation or policy would have been implemented in the absence of the RIA programme. Without this, there is no "baseline" for evaluating a programme's impacts. Second, we would need an estimate of the net benefits for the baseline intervention. Third, we would have to establish that the RIA was responsible for the revised decision.

This information is rarely available. Regulatory decisions typically evolve rather than leap from one option to another. Many revisions to regulatory proposals are made in the early stages of development – as a result of consideration of alternatives, consultation with those most affected and qualitative assessment of possible effects – before estimates of the benefits and costs are produced. As well, regulatory decisions are political acts and, by their very nature, must take into account many factors that are often impossible to quantify in any meaningful way. When decisions change, therefore, it is rarely possible to conclude that the impact analysis was always the deciding factor that tipped the scales – and it is difficult to measure the impact in quantitative terms.

The lack of empirical estimates of increases in net benefits should not be interpreted as a sign of programme ineffectiveness. As long as regulators are seriously considering costs, benefits and alternatives early in the regulatory development process, "bad" proposals will be weeded out and the RIA programme's objectives will be achieved.

Anecdotal evidence of better regulatory decisions

We interviewed regulators and decision-makers in five major regulatory departments. The purpose of the interviews was to gather anecdotal evidence of specific revisions to regulatory proposals resulting from impact analysis.

Overall, these regulators and decision-makers indicated that the RIA process had been effective. They identified some of the positive impacts of the process (specific examples are given in the appendix):

- it helped to develop short lists of good intervention options;
- it identified design changes that were subsequently built into the regulation;
- it identified instances in which different (sometimes more stringent) standards would yield higher net benefits;
- it raised enough warning signs that the regulation was sent back for further analysis and verification; and
- it helped to overcome industry opposition to the proposal by allaying fears of adverse regulatory impacts.

The substantial positive impacts of the RIA process have been achieved despite intrinsic constraints. Some of these constraints could be eliminated, but

the costs of doing so would be substantial and it is unclear whether doing so would achieve significantly better results. These constraints fall into five categories.

First, enabling legislation constrains the forms of government intervention available to regulatory departments. For instance, the *Canadian Environmental Protection Act (CEPA)* contains few powers that would allow Environment Canada to implement economic instruments. Nevertheless, Environment Canada continues to examine economic instruments when assessing alternatives, believing that accumulated evidence regarding these economic instruments has long-term importance in implementing more efficient environmental protection tools.

Second, good analysis requires resources. Because of limited budgets, innovative alternatives to regulation are frequently dismissed without exploring the detailed design options that would overcome initial concerns about their implementation.

Third, timing is a constraint when there is a need, real or perceived, to respond quickly. This is not the case for the large majority of proposed regulations.

Fourth, the well-known limitations of benefit-cost analysis frequently constrain the usefulness of some RIAS. Limitations include inadequate data, inadequate models, inability to quantify or place monetary values on many types of risk reductions, and significant uncertainties in the underlying assumptions.

Fifth, in some cases cost-benefit analyses cannot cope well with non-quantifiable criteria which may be the most important. To take a non-regulatory real example from Ottawa, an unusually large number of cases of meningococcal infections created considerable public fear about the safety of school children. This led local public health authorities to commit resources to an inoculation programme that, from the perspective of pure risk reduction, was not cost-effective. The decision was taken on the basis that it was necessary to reduce the near-panic situation among parents. One could have attempted to develop a quantitative proxy for "peace of mind," but not within the time frame that decisions had to be taken.

Quality of information produced for RIAS

Rarely do regulatory impact analyses live up to the theoretical ideals developed in academia. It is easy to find shortcomings when such standards are used.

Our goal is more practical: to assess whether regulatory impact analyses have provided valuable information in making regulatory decisions. A RIA programme cannot be effective unless the information provided is valuable. If valuable infor-

mation is available but not used, the decision-making process needs to be revised.

We examined regulatory impact analyses for a sample of regulations. The regulations spanned different fields (environment, agriculture, transportation, consumer safety, etc.), types of regulations (standards, cost recovery, etc.) and magnitude of impact (low-cost, intermediate and major initiatives).

The major findings are summarized below.

The quality of analysis varies significantly between regulatory departments, and between different branches within a department.

More significant variations are evident across different types of regulations. Usually, these are consistent with the three classes of regulations (low-cost, intermediate and major initiatives).

Very few "full" benefit-cost analyses are done. The most significant omissions are benefit estimates, although important costing categories are frequently neglected, as well.

Impact analysis is usually conducted for only one proposal. Rarely are benefits and costs estimated and compared across a wider range of proposals. However, this is changing. Several departments are starting to estimate benefits and costs for a short list of alternatives, and for different levels of stringency.

The initial screening of alternatives typically involves qualitative assessment criteria that span much more than economic costs and benefits. Commonly applied criteria include statutory authority, consistency with policy objectives such as the polluter pays principle, public acceptability, and fairness/equity.

Relatively little effort is expended in estimating benefits. Indeed, half of the RIAS examined did not quantify benefits at all. For example, no benefits were estimated for Environment Canada's 1992 *Pulp and Paper Effluent Regulation*, a regulation with a price tag of nearly $3 billion in capital costs and over $200 million in operating costs. However, consensus was achieved on the regulation (the industry supported the proposal) without estimates of net benefits (Stanbury, 1993).

In some cases, the lack of effort at benefit estimation reflects justifiable concerns about the ability to quantify benefits. This is particularly true for benefits related to the public good and risk reduction. For example, regulations to implement the *Canadian Environmental Assessment Act* did not attempt to quantify uncertain benefits such as protection of endangered species and "biosphere effects."

A small percentage of RIAS quantify benefits without setting a monetary value on them. This is particularly true for regulations aimed at risk reduction, where "body counts" and estimates of human morbidity are rarely valued in monetary terms. Reasons cited include the inability to ascribe values to risk

reductions. Some staff in regulatory departments remain adamant that reductions in risk cannot be assessed in monetary terms.

Direct costs to industry and government are generally better quantified. But this is not always the case. For example, Health Canada's RIAS to implement cost recovery fees for drug evaluation did not quantify costs to industry, even though a background study of the Department's first fee proposal estimated that the industry's start-up administrative costs would top $17 million. However, it did describe in detail the consultation process, including the *Business Impact Test* for the initial fee proposal, and the ways in which the fee structure was revised to account for industry's concerns. And, on the basis of the impact analysis, the fee structure was revised and accepted by both industry and government.

Analyses of indirect cost impacts are very weak. Rarely are costs estimated for withdrawal of products from markets, substitution of non-regulated for regulated goods, displacement of investment, etc.

Analyses of impacts on small businesses and international competitiveness are rare. A major problem in assessing impacts on competitiveness is the lack of operational measures and analytical methods. As mentioned earlier, the *Business Impact Test* was developed to identify costs to firms resulting from regulations and, in particular, how the proposed regulation is likely to impact on the way firms operate and new or improved products or services are introduced.

RIAS generally focus on the distributional impact of costs and benefits. Seldom are there good estimates of the impact on economic efficiency, in part because this is very difficult to do. Sometimes, regulators are confused about efficiency and distributional impacts.

Despite weaknesses, nearly all the RIAS we examined contained information that would be valuable in making regulatory decisions. The information included quantification of direct costs, identification of some distributional impacts, and at least some discussion of benefits. Some RIAS went further and discussed the ability of regulated companies to absorb and/or pass through compliance costs.

Costs of the RIA programme

Analysis used as inputs to the RIAS are undertaken for many reasons, not just to meet the requirements of the RIA programme. To that extent, programme costs are difficult to estimate.

The major costs, however, can be identified as:

- costs to industry and other stakeholders to participate in greater consultations through meetings, reviewing analyses, use of the *Business Impact Test*, etc.;

- costs to regulatory departments for in-house and external (consultants') analysis; and
- costs to the Regulatory Affairs Directorate to administer the programme, including reviewing draft RIAS and developing analytical tools, training workshops, guides, etc.

Legitimacy

A final indicator of the programme's impacts is the degree to which regulatory departments have "internalized" the new way of thinking embodied in the RIA programme. Is the analysis being conducted because it is required by the regulatory policy, or are regulators really questioning the need for government regulation and how best to design a regulation to maximize net benefits and minimize competitiveness impacts?

In general, all regulatory departments appear to have accepted in principle that economic impacts of proposed regulations must be examined prior to promulgation, and that a range of alternatives should be evaluated before deciding on regulatory interventions. Nonetheless, some regulatory decisions still appear to precede the regulatory impact analysis.

While the need for impact analysis is not disputed, there are different views among and within regulatory departments on the value of formal benefit-cost analysis. Some departments claim they have replaced benefit-cost analysis with forms of analysis that address a broader range of impacts. Some staff also believe benefit-cost analysis is inappropriate when it involves placing a monetary value on human life or health.

Perhaps the most important sign of the programme's impact is that, in at least two cases, regulatory departments have implemented new regulatory development processes that reflect a new approach to regulating. Both processes increase stakeholder consultation early in the process, increase the range of possible government interventions examined, and make explicit the trade-offs in benefits and costs of the possible interventions. In addition, the regulatory process management standards, developed in 1995 by the Treasury Board Secretariat in consultation with departments, are mandatory "quality assurance" standards for the regulatory process. Regulatory authorities are responsible for having management systems in place that meet the standards by the end of 1996, and must review their performance periodically and report to the President of the Treasury Board.

The new approaches developed and adopted by two regulatory departments, Agriculture and Agri-Food Canada and Environment Canada, are summarized below.

AGRICULTURE AND AGRI-FOOD CANADA'S REGULATORY PROPOSAL ASSESSMENT

Agriculture and Agri-Food Canada developed the Regulatory Process Assessment ("Regtool") to ensure that the department complies with the Regulatory Process Management Standards. The Regtool is a checklist and list of questions designed to help policy analysts assess the need for government intervention and, if required, the most appropriate means of intervening. More specifically, the Regtool provides analysts with: guidance on assessing issues of international trade and consistency with international agreements; an impact assessment framework covering social costs and benefits and impacts on government and industry; and a test for identifying impacts on industrial competitiveness. After completing the Regulatory Proposal Assessment, analysts have much of the information needed to complete a RIAS.

Agriculture and Agri-Food Canada, 1996.

ENVIRONMENT CANADA'S STRATEGIC OPTIONS PROCESS

Since 1994, Environment Canada has been using the Strategic Options Process (SOP) to develop regulatory proposals. The SOP is a time-limited process to: establish environmental and health objectives; identify and evaluate with key stakeholders a range of tools for meeting the objectives; and make recommendations to the accountable ministers on the most effective and efficient tools to implement. Background technical and economic studies feed into the evaluation of strategic options. Typically, the evaluation is conducted in two phases: a preliminary screening of strategic options; and detailed benefit-cost analysis of a short-list of promising strategic options. All key stakeholders are invited to participate in a SOP, either as members of an "Issue Table" that develops the recommendations, or as part of the stakeholders team validating and challenging the recommendations.

Environment Canada, 1994.

5. LESSONS LEARNED

The Canadian experience with regulatory impact analysis has been very positive. The specific costs and benefits attributable to a RIA programme are not easy to estimate, since regulatory proposals are analyzed for many reasons, not just to provide inputs to a RIAS. Nonetheless, we have learned some significant lessons.

To improve regulatory decisions, a RIA programme doesn't have to take a strictly command-and-control approach involving a "gatekeeper" agency with the power to block regulatory proposals. A central policy review, however, is necessary. It is, however, difficult to say whether Canada's RIA programme would be more effective if regulatory impact analysis was a legislated requirement.

How well the principles of a RIA programme are accepted by regulatory departments is the most important long-term measure of success. One can argue that an effective RIA programme will likely modify the regulatory culture within departments.

The flexibility of Canada's RIA programme is a significant strength. Different departments are adopting effective – albeit different – approaches in assessing regulatory impacts. Departments also need the flexibility to focus analytical resources on the most important regulatory proposals and the most important impacts of their proposals.

Making stakeholder consultations a requirement of the RIA programme is perhaps its most important feature. Stakeholder consultations help ensure that the "best" regulations or alternatives are selected, and that all regulatory impacts are identified and assessed appropriately.

A RIA programme should go well beyond the requirements for benefit-cost analysis. Benefit-cost analysis, if focused exclusively on the measurable, will pass over some factors that should be considered in regulatory decisions.

Other topics that should be addressed in RIAS include: impacts on competitiveness and small business; the ability to monitor and enforce compliance with the proposed regulation; and stakeholder buy-in.

Regulatory departments usually need help in assessing impacts beyond direct benefits and costs. Analytical tools, such as the *Business Impact Test*, training programs and guidelines, are needed to improve the quality of analysis.

A RIA programme can benefit regulatory departments. Benefits include providing analytical support to engage in more informed consultation with stakeholders, providing justification for regulatory proposals, and improving regulatory proposals.

Appendix A

REFORMING CANADA'S REGULATORY PROCESS: 1971-1995

1971

Law Reform Commission of Canada (LRC) proposed to study "the broader problems associated with procedures before administrative tribunals."

The Minister of Consumer and Corporate Affairs asked the Canadian Consumer Council to undertake a series of studies of consumer interest in regulatory agencies, including marketing boards and so-called self-governing professions and government monopolies.

1972

Parliament passed the *Statutory Instruments Act* and created the Standing Joint Committee of the House of Commons and Senate on Regulations and Other Statutory Instruments.

1973

The Canadian Consumer Council, funded by the federal government, published its report on regulatory agencies.

1974

The Consumer Research Council (successor to the Canadian Consumer Council) published a report on regulatory agencies, dealing with both substantive and process issues.

1976

The Way Ahead document was issued by the federal government after wage and price controls had been introduced in October 1975. The paper indicated the government was undertaking a "fundamental examination of the major structural

components of our economy and our society.'' It proposed that cost benefit analysis be applied to government regulation.

1977

Ontario established the Professional Organizations Committee.

The Treasury Board Secretariat required federal departments and agencies to evaluate the effectiveness and efficiency of all federal regulatory and expenditure programs at least once every three to five years.

The Institute for Research on Public Policy established its Regulation and Government Intervention Program, which produced a number of studies of regulation put in place in Canada between 1978 and 1982; some of these studies were done jointly with the Economic Council.

1978

The Province of Ontario appointed an Agency Review Committee to examine statutes and regulations; the aim was to reduce ''red tape.'' Later in the year, the Committee proposed to eliminate 46 agencies.

A Regulation Reference was given to the Economic Council of Canada (ECC) based on the First Ministers' meeting.

Treasury Board imposed the requirement for a Socio-economic Impact Analysis (SEIA) of all major new regulations in the areas of health, safety and fairness.

Ontario Economic Council's *Issues and Alternatives* volume focused on ways of reforming the regulatory process.

The federal government established the Office for the Reduction of Paperburden in the Treasury Board; its mandate was to reduce the cost to small businesses of complying with a wide variety of government intervention (*e.g.*, taxes, UIC, Statistics Canada, etc.) It was transferred to the Ministry of State for Small Business in 1980.

1979

The *Final Report* of the Royal Commission on Financial Management and Accountability recommended changes in regulatory agencies and the regulation-making process.

The Clark Government established the Office of the Co-ordinator, Regulatory Reform (OCRR), in the Treasury Board Secretariat. It was the ''parent'' of the present Regulatory Affairs Directorate in the Treasury Board Secretariat.

The interim report of the ECC's reference, *Responsible Regulation*, was published. It proposed extensive changes to the regulatory process, including a regulatory calendar and Regulatory Impact Analysis Statement. The former was later adopted by the Trudeau government and the latter was adopted by the Mulroney government.

1980

The Parliamentary Task Force on Regulatory Reform (Peterson Committee) issued a 23-page "Discussion Paper" listing 28 suggestions for improving the regulatory process.

The OCRR "work plan" was approved by Cabinet. It focused on improving the regulatory process and reducing the regulatory burden.

The Parliamentary Task Force's (Peterson Committee) *Final Report* made 29 recommendations, most involving the regulatory process. No changes were made, however.

The Law Reform Commission published its working paper, *Independent Administrative Agencies*, which contained many recommendations for changes in regulatory agencies.

1982

Bill C-119 was introduced to repeal 124 unused and unnecessary federal statutes.

The federal *Access to Information Act* was enacted.

Federal legislation was enacted to standardize and simplify records retention (savings to the private sector were estimated at $100 million a year).

1983

OCRR required major regulatory departments and agencies to publish a Regulatory Agenda twice a year in May and November.

1984

The Ministerial Task Force on Program Review, under Deputy Prime Minister Erik Nielsen, was announced one day after the Progressive Conservatives under Brian Mulroney took office.

1985

The Office of the Controller General published *Evaluating Regulatory Programs* (the final version was published a year later).

Twenty-one reports by the Ministerial Task Force on Program Review study teams were submitted to the federal government; two studies on regulatory programs and agencies were also submitted.

1986

Cabinet confirmed that the Office of the Controller General was to undertake the evaluation and review of existing regulatory programs.

The first elements of the Mulroney Government's *Regulatory Reform Strategy* were announced: (1) a formal federal regulatory policy; (2) appointment of a Minister for Regulatory Affairs; (3) a Citizens' Code of Regulatory Fairness; (4) 43 specific regulatory reform initiatives, half of which dealt with process; and (5) "Guiding Principles of Regulatory Policy."

The reports of the Nielsen Task Force on Program Review (Nielsen Task Force) were released.

OCRR, created in late 1979, was abolished and replaced by the Privy Council Secretariat for the Cabinet Committee on Privatization, Regulatory Affairs and Operations, until August 1986.

The "Regulatory Process Action Plan" was announced.

The PCO Secretariat was replaced (six months after its creation) by the Regulatory Affairs Branch (RAB) of the Office of Privatization and Regulatory Affairs, under a Minister of Privatization and Regulatory Affairs.

RAB put into effect the new Regulatory Process Action Plan consisting of five elements: an annual Federal Regulatory Plan; a Regulatory Impact Analysis Statement for new regulations; public consultation and information on all draft regulations and amendments; review of all regulatory statutes on a 10-year cycle; review of all regulations over a seven-year period; and evaluation of all regulatory programs at least once every seven years.

The federal Regulatory Agendas became the annual Regulatory Plan. The first one, for 1987, was published in December 1986.

1988

The Mulroney Government re-elected, but with a smaller majority.

1991

The Budget Speech announced the dissolution of OPRA. Regulatory Affairs became the Regulatory Affairs Directorate in the Treasury Board Secretariat (with half the staff of RAB).

Treasury Board modified its 1977 policy statement on the evaluation of government programs.

1992

The Minister of Finance in his Budget Speech announced a department-by-department review of existing regulations to ascertain their effects on Canadians' prosperity, reflecting concerns about international competitiveness. The House of Commons Standing Committee on Finance was to review existing federal regulatory programs to determine Canada's international competitiveness, and suggest ways of improving such programs, the regulatory process and inter-governmental co-ordination.

Treasury Board turned the federal government's regulatory policy into a formal Treasury Board Directive to regulatory departments and agencies.

The House of Commons Standing Committee on Finance received a letter from the President of the Treasury Board suggesting how the Committee might fulfil its responsibility for the review of the impact of regulation on competitiveness.

The private sector advisory group, the Steering Group on Prosperity, recommended: (1) a competitiveness impact assessment for existing and proposed laws and regulations; and (2) a regulatory budget to analyze and report on the economic impact and overall burden of regulations.

1993

The Sub-committee on Regulations and Competitiveness submitted its report to Parliament.

Regulatory reviews were completed by regulatory departments, which will ultimately lead to 835 modifications to, or revocation of, regulatory requirements.

The Liberal Government was elected and put forward its position regarding further regulatory change. The Liberal Party's election platform, laid out in the booklet *Creating Opportunity*, stated that a Liberal government will enhance the regulatory reform exercises currently under way in several key federal departments, ensuring that these reforms result in maximum efficiency without any comprise in Canadian standards.

1994

The 1994 Budget clearly identified regulatory burden as an issue, and promised to reduce the regulatory and paper burden for business.

In late 1994, the government published *Building a More Innovative Economy*, a strategy to promote job creation and economic growth. It featured a package of regulatory reform initiatives emphasizing the need for partnerships with other governments and the private sector. The package outlined legislative initiatives, management initiatives, completion of earlier promised actions (1992-93 regulatory review outcomes), and a review of regulation in six key sectors of the economy.

The Regulatory Affairs Directorate of the Treasury Board Secretariat, in conjunction with regulatory departments and agencies, facilitated the development of several new training courses to improve knowledge and skills at the working level; this was done to facilitate implementation of innovative approaches throughout regulatory departments and agencies.

Courses developed and launched in 1994 included Introduction to Regulatory Impact Analysis, Regulatory Alternatives for Executives, Regulatory Alternatives for Analysts, Benefit/Cost Analysis of Regulations, and Compliance Strategy.

1995

Treasury Board updated its regulatory policy, introducing the regulatory process management standards to ensure departments had the management systems in place to adhere to the policy.

1996

A number of new courses were developed and delivered in 1996: Business Impact Test, Risk Assessment, Risk Communications, Consultation, Introduction to Plain Language Writing Workshop, and Plain Language Regulations Drafting Workshop.

Sources: Stanbury, W.T. (1992).

Updated by Regulatory Affairs Directorate, Treasury Board Secretariat.

Appendix B

IMPACTS OF RIA: FOUR CASE STUDIES

DRUG EVALUATION FEES REGULATION

Sponsoring Department: Health Canada

Purpose: To recover program costs by establishing fees for reviewing applications for approval of new drugs

Estimated Cost: $65 million per year to industry, plus administrative cost to government

Estimated Benefit: None quantified

Impact of the Regulatory Impact Analysis:

The RIA identified industry's major concerns regarding the proposal's disincentives to introduce new products into a relatively small market like Canada (Health Canada, 1975). Application of the *Business Impact Test* played an important role in the impact analysis.

Three major changes to the proposed fee structure resulted from the analysis:

- fees were lowered to avoid discouraging introduction of new products and domestic R&D;
- additional fee reductions were implemented for products with very low sales; and
- companies were allowed to stagger payment of the fees instead of bearing the entire cost prior to product approval.

On the basis of the impact analysis, the proposal was revised and accepted by both industry and government.

New Substance Notification Regulation

Sponsoring Department: Environment Canada

Purpose: To establish an evaluation and approval system for all substances new to Canada

Estimated Cost: $10 million per year to industry and government

Estimated Benefit: None quantified. Assessed ''offsetting benefits,'' *i.e.*, reductions in cancer-related health care costs and number of lives saved to offset costs.

Impact of the Regulatory Impact Analysis:

Consultation and development of the regulation occurred over an eight-year period. Given the relatively small size of the Canadian market for many new substances, chemical suppliers were very concerned about the impact of the regulation on innovation.

A study to assess regulatory impacts was commissioned jointly by Industry Canada and Environment Canada. The Canadian Chemical Producers' Association seconded a staff member to Industry Canada for the duration of the study.

The study conducted case studies of over 1 000 chemicals and polymers introduced during the period 1987-1992 by chemical companies participating in the study. Using an analytical framework agreed upon with industry representatives, it was found that nearly all substances would have been introduced had the notification regulation been in place during that period.

The study reduced industry opposition and the regulation was promulgated shortly after its completion.

Minimum Energy Efficiency Regulations

Sponsoring Department: Natural Resources Canada

Purpose: To reduce energy consumption

Estimated Cost: See below

Estimated Benefit: See below

Impact of the Regulatory Impact Analysis:

Under the *Energy Efficiency Act*, Natural Resources Canada is promulgating a series of standards for numerous types of energy-using equipment. Successive rounds of regulatory development processes will look at a group of similar energy-using equipment. To date, requirements for about 25 products have been prescribed.

An initial regulation harmonized with existing provincial requirements. Three representative products affected by those requirements were selected for benefit-cost analysis. For each subsequent requirement, a separate benefit-cost analysis is being conducted to take into account industry's costs of compliance and the economic benefits from reduced energy consumption. Cost of compliance here is the cost incurred by firms in installing the technology necessary to bring the product up to standard; costs to administer the program are not included. Where

applicable, estimates in tonnes of greenhouse gas emissions are included, though no monetary value is being placed on reducing these emissions.

In the most recent requirements for fluorescent and incandescent reflector lamps, in the preponderance of product applications the benefit-cost ratios exceeded one and the standards were promulgated. The cost-benefit analyses have identified several instances in which more stringent standards would lead to higher net benefits; these are under review and a decision will be made on whether or not to proceed.

As well, the analyses identified five standards for which costs exceeded benefits. These five standards are not being promulgated in this round of regulations. Instead, further analysis will be conducted.

OZONE-DEPLETING SUBSTANCES REGULATION – METHYL BROMIDE

Sponsoring Department: Environment Canada

Purpose: To reduce methyl bromide consumption to meet national commitments under the Montreal Protocol

Estimated Cost: $10 million per year to industry and government

Estimated Benefit: None quantified. Assessed ''offsetting benefits,'' *i.e.*, reductions in cancer-related health care costs and number of lives saved to offset costs.

Impact of the Regulatory Impact Analysis:

The analysis identified a design change, eventually incorporated into the final regulation, that reduced the potential to significantly alter the market structure of the pest-control industry.

The regulation establishes a system of tradable allowances for the consumption of methyl bromide. The allowances are capped, thereby controlling total consumption.

The design issue in question was who should receive the tradable allowances: methyl bromide producers/importers, or methyl bromide consumers. The analysis identified that production/import allowances would have provided a significant advantage for one company.

To avoid risking major changes in the structure of the markets for methyl bromide, the decision was made to implement consumption allowances.

NOTES

1. Apogee Research is a private consulting firm which was engaged by the Treasury Board of Canada Secretariat to prepare a summary of Canadian experience with regulatory reform through the use of Regulatory Impact Analysis.

2. ''Regulation'' means a statutory instrument *a)* made in the exercise of a legislative power conferred by or under an Act of Parliament, or *b)* for the contravention of which a penalty, fine or imprisonment is prescribed by or under an Act of Parliament, and includes a rule, order or regulation governing the practice or procedure in any proceedings before a judicial or quasi-judicial body established by or under an Act of Parliament, and any instrument described as a regulation in any other Act of Parliament.

3. Treasury Board Secretariat responsibilities include managing the government's financial, human and material resources. Regulatory Affairs Directorate is responsible for ensuring that departments follow the federal government's regulatory policy.

4. The role of the Privy Council Office can be described as one of providing services, information and advice to the Prime Minister and Cabinet for the operation and support of the central decision-making mechanism of the Canadian Federal Government.

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REGULATORY COMPLIANCE COST ASSESSMENT: UK EXPERIENCE

by

The Better Regulation Unit*

INTRODUCTION

This paper describes the system of Compliance Cost Assessment (CCA) currently used in the United Kingdom. It provides a brief history; describes the methodology used; outlines how the system has developed over time; considers how effective it has been; and draws out key messages.

BACKGROUND

Quantitative analysis by UK Government departments on the impact on business of new or amended regulations plays an increasingly important part in the regulatory process.

During the 1980s some assessment of the costs to business of complying with regulation was being carried out, though not always in a consistent or comprehensive way. So in 1992, as part of its re-enforced commitment to regulatory reform, the UK Government took measures both to improve the quality of CCAs and to publish them. As a result, departments now have to carry out a CCA for each regulatory proposal affecting business. This covers primary and secondary government legislation as well as Private Members bills; embraces new and amended regulations; and includes both UK and European Community-initiated legislation. The aim, therefore, is systematic and comprehensive coverage.

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PURPOSE

A CCA is a **structured** and **quantified** appraisal of the costs to business, charities or voluntary organisations of complying with legislative proposals. Its purpose is to inform Ministers, Members of Parliament, business and other interested parties of likely costs so that they can be assessed and unnecessary burdens identified well in advance of a decision on whether to go ahead with the proposal. It may be noted that a CCA is not intended to provide a rigid or automatic decision rule for policy makers about whether or not to implement a regulatory proposal. Rather it is used, with judgement, as a key element in the total information necessary for an efficient decision making process.

METHODOLOGY

A CCA is a mixture of both quantitative and qualitative analysis. The most important single piece of information in it is a monetised assessment of the compliance costs to business.

The full structure and scope of a CCA is as follows:

- **Title**: name of the proposed measure; indication of whether CCA is draft or final.
- **Purpose**: describe the purpose of the proposed measure and its intended effects.
- **Options**: describe the alternative approaches to achieving the objectives and say why these were not favoured.
- **Sectors**: identify the business sectors or types of business likely to be affected; estimate the total number of businesses involved; comment on the numbers of small firms or self-employed in the sector.

  ''Example: The complete chill-chain would be covered by the proposed measures, with the exception of primary production. This will involve food manufacturers, wholesalers and retailers, caterers and the transport and distribution sectors.''
- **Consultation**: show what sources were used and describe any consultations with business, including the length of time allowed for responses.

  ''... subject to statutory consultation with the Building Regulations Advisory Committee, which includes representatives of small businesses.''

  ''... also subject to a preliminary consultation. Approximately 100 organisations, representing the construction industry and organisations of and for disabled people were asked to comment.''
- **Business costs**: estimate the compliance costs for a ''typical'' business in each of the specific sectors identified. Costs are split into ''recurring'' or ongoing costs and ''non-recurring'' or one-off costs. Recurring costs include

staff costs, consumable materials, inspection and periodic licence fees, and enforcement. Non-recurring costs include investment in plant and machinery, buildings and infrastructure, legal and consultancy fees, training, redundancy and IT.

''Start-up costs ... Airlines will incur some human resource costs on research work, meetings, liaison with Customs, changes to existing computer systems. Airlines will have to train some reservation sta and check-in sta in the rules ... adopt a special accounting scheme.''

''Recurrent costs ... general administration ... completion of returns, receiving visits from Customs ocers ... lost opportunity time ... systems audit ... additional service charges payable to handling agents, travel agents, tour operators and fiscal representatives ... exchange rate costs ....''

''The large UK scheduled airlines estimate non-recurrent costs in the range of £175 000-£380 000 per airline in the first year. Recurrent costs are expected to be in the range of £130 000-£280 000.''

- **SMEs**: carry out a specific assessment of the impact on small firms (the Small Business Litmus Test).
- **Sector costs**: summarise the total estimated compliance costs for all specific sectors or types of business likely to be affected.

Sector	Cost
Retail/wholesale	*£38.4 m*
Manufacturing	*£11.6 m*
Catering	*£5.4 m*
Hotels/public houses	*£8.9 m*
Total	***£64.3 m***

- **Competitiveness**: Describe any effects on the competitive position of UK based businesses in domestic, EU or other markets.
- **Monitoring**: state how and when compliance costs will be monitored.
- **Enquiries**: provide a contact point for comments.

PREPARATION, QUALITY CONTROL AND TIMING

CCAs are prepared and published by the department responsible for the regulatory proposal. Each department has its own specialist Deregulation Unit, which provides advice and resources and is responsible for monitoring the quality and accuracy of CCAs, in consultation with the Central Deregulation Unit.

Official heads of departments have been personally responsible for the quality of CCAs prepared since 1993. From January 1996, Ministers are also required to consider personally all CCAs, and now sign a **Regulatory Quality Certificate** confirming that the balance between costs and policy benefits has been appropriately struck. In addition, an independent Deregulation Task Force of business men and women sees copies of CCAs to monitor their quality and to ensure they have been properly taken into account in policy decisions.

A CCA can only be at its most effective in shaping decisions if it is undertaken early enough in the policy development process. It is almost certainly preferable to carry out an early assessment even if this has to be provisional and still cover a range of possible outcomes. In the UK, formal guidance on CCA timing provides that:

- A CCA is completed **before** going out for public consultation. The Cabinet Minister responsible for the UK's regulatory reform policy has been given specific powers to restrain the legislative process until the CCA is ready. Public consultation, at this and later stages, is itself a source of quality control.
- Final regulatory proposals must include a full CCA before they can go forward for collective Ministerial approval and then on to Parliament.
- At that point, the final version of the CCA is made available publicly with copies placed in the Parliamentary libraries.

HOW THE SYSTEM HAS DEVELOPED

With experience gained over time and across departments, the UK system has been developed and refined. The official guide to CCAs was revised and updated in January of this year (Deregulation Unit, 1996*a*).

In particular, the following issues and developments may be noted:

- **Quantification**: The extent of quantification has improved steadily over time as departments have become more experienced, but they have still found it difficult to quantify all costs. In some cases it has to be recognised that quantification **is** inherently difficult, depending often on assumptions about future changes in behaviour. Gaps in costings should be clearly identified. Even in these cases the CCA process offers value for policy makers and others in terms of systematic and transparent analysis of the issues.
- **Consultation**: Consultation with business, representative organisations and other interested parties has been found to be the key to preparing an accurate cost assessment. Guidance contains extensive information on how to consult effectively.

- **Estimation**: Experience has shown that business is much more likely to supply good information on costs if departments themselves provide initial cost estimates, no matter how rough and ready. We strongly recommend that departments provide such estimates in early CCA drafts and that these be circulated for critical comment as part of the consultation process.
- **Guidance**: CCAs are carried out by a wide range of civil servants from a variety of backgrounds and specialisms. As a result, the approach has been consciously simplified over time. For example more readily understood terms such as ''recurring'' and ''non-recurring'' are now used in guidance in preference to more technical or specialist terms such as ''capital'' or ''revenue''. The guide suggests that departmental economists be involved where necessary.
- **Small Firms**: UK regulatory reform policy has increasingly reflected the needs of small businesses. The Government is particularly concerned that the costs of complying with new or amended regulation often fall hardest on small firms who are less able to cope but have the potential to be a major source of employment growth. The current methodology provides for a **Small Business Litmus Test**, which involves dialogue on the impact of the proposal with a selection of small firms. In addition, departments are encouraged to include as many small businesses as possible in the general consultation process.
- **Options**: When first introduced, CCAs appear to have been carried out rather too late in the decision making process and as a result have become focused on one solution rather than consider in a thoroughgoing way the possible alternatives to regulation. To tackle the issue the current guide makes clear that a CCA needs to be carried out as soon as possible so that policy options can be genuinely informed by the assessment of costs from an early stage. It recommends that a preliminary CCA accompany draft proposals circulated for informal discussion at official level. This may be incomplete and speculative to begin with, but can be refined as proposals are developed and the views of business incorporated. We are putting new effort into this part of the system.
- **Europe**: The burdens on business of EC legislation are often more complex and difficult to manage than those of domestic legislation. Guidance again emphasises the importance of carrying out CCAs as early as possible so that they can inform the development and negotiation process of developing EC legislation. As proposals are often amended it is important to build in some flexibility to the options which are costed, and maintain good open channels of communication with business.

- **Non-profit organisations**: The scope of CCA system has been extended to cover measures which impact on charities and voluntary organisations.

EFFECTIVENESS

Whilst there is continuing scope for development, it is abundantly clear that the introduction of CCAs has been a critical engine of regulatory reform within the UK, and in several different ways. First, involvement of senior Ministers in the process has ensured that regulatory impact is now invariably factored into the heart of the policy development process. Second, by providing a specific regulatory reform technique, officials in departments are able to put regulatory reform policy aims into practical effect, in a consistent way. Tools and aids to the regulatory reform process are an essential counterweight to the system's regulatory pressures. Third, the process generates increased transparency through an external consultation process which actively engages business and others by publishing cost impacts. Fourthly and fundamentally, it does produce better solutions to regulatory problems, by revealing unexpected areas of cost or saving, and prompting consequential changes to policy proposals.

Some specific examples of where the CCA process has led to adoption of different regulatory solutions, improving lower costs to business without undermining the policy objective, are:

- A CCA on the requirement that certain foods be stored at a maximum temperature of 5C showed that increasing this to 8C would reduce business costs by £41m without diminishing food safety.
- Implementation in the UK of the Chemical Weapons Convention requires certain businesses to complete forms and provide information. As a result of a CCA on the original proposals, the forms are being reworked to make them more user-friendly resulting in a cost saving to business of £1 million a year.
- A proposal for ticket agencies to be licensed was rejected in favour of regulations to ensure customers are aware of the price and quality of tickets for entertainment events. The CCA indicated that a licensing regime would have been more costly to business and could have restricted competition.

KEY MESSAGES

- **Political support** at the top is essential for the system's acceptance and effectiveness.
- CCAs need to be carried out **as early as possible** in the policy development process.

- CCAs raise general **awareness** of the impact of regulation on business and highlight the need to search for least cost effective solutions.
- **Consultation** with business, representative organisations and other interested parties is the key to obtaining accurate assessments. Business is more likely to provide information on compliance costs if sent initial draft cost **estimates** which they can bite on.
- CCAs are carried out by a wide range of officials. It is essential to provide readily applicable and **non-technical guidance**. Specialist inputs, from economists and others, may also be used where necessary.
- Guidance needs updating on a frequent basis to reflect new **experience** and any changes in policy, such as increased focus on small business effects.

POSTSCRIPT – REGULATORY APPRAISAL

To further enhance the systematic assessment of the impact of regulatory proposals, the UK introduced a Regulatory Appraisal in May 1996 (Deregulation Unit, 1996*b*). This provides a structured and where possible quantified assessment of the **costs and benefits** of regulatory proposals likely to affect business. It uses risk assessment techniques to identify the benefits of regulatory and other options, and aims to quantify and value these benefits so that they may be compared with the costs to business, consumers and government.

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AN ASSESSMENT OF THE US REGULATORY IMPACT ANALYSIS PROGRAMME

by

John F. Morrall III[1]

THE US REGULATORY IMPACT ANALYSIS PROGRAMME

This paper assesses the United States' regulatory impact analysis programme for the purpose of finding lessons that other OECD countries may use in their own regulatory reform programmes. The term "regulatory impact analysis programme" is used here to refer to any programme that uses systematic analyses of the economic effects, often including benefits and costs, that are expected to result from proposed regulations for the purpose of informing policy makers.[2] The term economists use for such analyses in their more developed form and that is also used for project and programme evaluation is "Benefit-Cost Analysis".

The paper begins with a brief review of how the US regulatory impact analysis programme developed over time to its present form, which emphasizes the key role that regulatory impact analysis plays in assuring that regulations are needed, are cost-effective, produce benefits to society that justify the cost imposed on society, and are fair and equitable. The paper assesses the strengths and weaknesses of the various review programmes that the US has implemented through Presidential executive orders over the past 25 years. A major theme of the paper is that over time the US has progressed unevenly toward an open and analytically based regulatory review system that does a remarkably good job of assuring that both the intended and unintended consequences of major proposed regulations are carefully analyzed and publicly debated before they are implemented. The proof of the Regulatory Impact Analysis (RIA) programme's acceptance is that the debate in the US is no longer over whether to have a programme or not (as was debated as little as three years ago) but whether it should be made more permanent through legislation.

The US has had considerable experience with regulatory impact analysis requirements. The US has had a series of formal programmes to review the costs and benefits of major regulatory proposals and their alternatives in place longer

than any other country. The first systematic programme requiring what has come to be called "Regulatory Impact Analyses" was established in 1974. Five Presidents have had RIA programmes overseen by the Office of Management and Budget (OMB), part of the Executive Office of the President, each designed as an improvement on their predecessor's. With the largest economy in the world, the potential benefits of devoting a fixed amount of resources to analyzing regulatory alternatives is probably greater than for smaller economies. This may be one reason why the US had such programmes in place earlier than other countries. A conservative estimate is that over 1 000 RIAs of major regulations have been completed by the departments and agencies and reviewed by OMB over the last 20 years.

Since the existence of an RIA programme does not by itself assure that the actual regulations issued are in society's best interest, the paper will also examine the evidence on the quality of the RIAs that have been done. And since high quality RIAs by themselves are also not sufficient to assure socially beneficial regulations – the information from the RIAs must also be used by the policy makers – the paper will also review the evidence on the merits of the regulations issued.

The paper concludes with a summary of the lessons learned.

DEVELOPMENT OF THE US REGULATORY IMPACT ANALYSIS PROGRAMME

The late 1960s and early 1970s marked a period in US history of major expansion of health, safety and environmental regulation. Numerous new government agencies were set up to protect the American workplace, the environment, highway travellers, and consumers. In turn this increase in perceived government interference with everyday business decisions led to a political counter-reaction.

The Nixon Administration responded to the complaints from the business community by setting up a secret review group in 1971 in the White House called the "Quality of Life Review" programme. The programme focused solely on environmental regulation and reviewed regulations from a business perspective without the benefit cost analysis required by an RIA programme. This group tended to be hostile to environmental regulations, became a conduit for business complaints mainly through the Department of Commerce and was more interested in thwarting regulations than improving them (see Eads and Fix, 1984). The controversy it sparked has haunted to this day the cause of using economic analysis to improve regulatory decision making. The clear lesson to be learned is that regulatory review without economic analysis of the benefits and costs to society of the proposed alternatives quickly degenerates into interest group politics.

The Ford review programme

Soon after Gerald Ford became President in 1974 he held an economic summit that invited the top industry leaders and economists to seek solutions to the stagflation and slow growth that the nation was facing. Out of that summit came proposals to establish a new government agency in the Executive Office of the President to monitor the inflationary actions of both the government and private sectors of the economy. It also led President Ford to issue an Executive Order that required government agencies to prepare inflation impact statements (the precursors to RIAs) before they issued costly new regulations.[3] The innovation was a call for the central government agency to review the inflationary actions, mainly regulations, of other government agencies. The new agency that was set up to review the inflation impact statements was called the Council on Wage and Price Stability (CWPS). The CWPS was staffed mainly by economists drawn from academia and had little authority other than the influence of public criticism.

The economists at CWPS quickly realized that a regulation would not truly be inflationary unless its costs to society exceeded the benefits it produced. Thus the economists turned the inflation impact statement into a cost benefit analysis. This requirement, that regulators analyse the costs and benefits of their ''major'' proposed regulations (generally defined as having an annual impact on the economy of over $100 million) was adopted in modified form by each of the four successive Presidents.

In the US, the Administrative Procedure Act requires regulators to give the public and interested parties a chance to comment on proposed regulations before they become law. The agency wishing to issue the regulation must respond to the comments and show that permitted by law and is not ''arbitrary'' or ''capricious''. The CWPS used this formal comment period to file its economic analysis of the costs and benefits of the proposed regulation. It also issued a press release summarizing its analysis in non-technical terms. Because of the active national and trade press in Washington and because controversy between a White House Office and another executive agency is always newsworthy, the CWPS analyses attracted publicity. This system was effective in preventing nonsensical regulations from becoming law but had little effect in preventing uneconomic regulations that had strong interest group support or that were too complicated from becoming final.

However, one of the strengths of this approach was that it slowly built an economic case against poorly conceived regulations, especially among academics and students who began to use the publicly available analyses in their textbooks and courses. When cost benefit analysis was first introduced, it was not welcomed by the political establishment, especially the lawyers who dominated many agen-

cies and congressional staffs. But over time as these analyses became standard fare in many textbooks, cost benefit analysis gained slow acceptance among voters and elected representatives.

The Carter review programme

After President Carter came to office in 1977, the regulated agencies led by the Environmental Protection Agency argued that the Executive Office of the President should not have a role in reviewing their regulations. The memory of the Nixon Quality of Life Review programme was still vivid. The President's chief economic advisers argued that a central review programme based on careful economic analysis was necessary to assure that regulatory burdens on the economy were properly considered and that the regulations that were issued were cost effective.[4] Rapidly escalating inflation in 1978 convinced President Carter to strengthen the RIA programme. In March of 1978, he issued his own Executive Order requiring economic impact analyses and he set up a new group, called the Regulatory Analysis Review Group (RARG), with instructions to review the ten most important regulations per year.[5]

The RARG was chaired by the Council of Economic Advisors (CEA) and was composed of the OMB and representatives of the economic and regulatory agencies. It relied on the staff of CWPS and the CEA to do benefit analyses of regulations. The analyses were peer-reviewed documents that took into account the views of the member agencies, including the agency that proposed to regulate. Thus the Carter regulatory review effort was designed to be more co-operative than the Ford effort, using education and persuasion rather than criticism.

However, the Carter Administration soon realized that the regulators were not likely to be persuaded solely by economic logic. Enforcement was also needed. Thus it was decided that after the cost benefit analyses were filed in the public records, the President's top political advisers would use the filings in private discussions with the agency heads to recommend improvements in the cost effectiveness of the rules before they were issued in final form.

Unfortunately the first rule that the RARG challenged did not result in the outcome that the advocates of regulatory reform wanted. When the Department of Labour balked at a recommendation by the President's economic advisers on an occupational health rule, they raised the dispute to the President for resolution. The President after first siding with his economists, reversed himself and sided with the Department of Labour. The regulation proposed to protect textile workers from cotton dust exposure by the use of costly engineering controls. The RARG report recommended that employees be given the more cost effective

option of using dust masks or respirators. After that defeat, the RARG was damaged and no further disputes were brought to the President.[6]

However the RARG continued to file cost benefit reports and the President's economic advisers continued to lobby agency heads, with some incremental success.[7] The Carter Administration did much to institutionalize regulatory review by the Executive Office of the President. Moreover in an important legal ruling, the court found that a part of the President's administrative oversight responsibilities was to review regulations issued by his subordinates.[8]

The Reagan/Bush reform effort

During the Presidential campaign of 1980, the issue was not whether to continue a central regulatory review oversight programme, but whether to strengthen it. President Reagan had made regulatory relief one of his four pillars for economic growth. He specifically used the term "regulatory relief" rather than "regulatory reform" to describe his programme and to emphasize his desire to cut back regulations, not just to make them more cost effective. This terminology turned out to be a tactical blunder. It was too easy for the supporters of regulations such as environmentalists and labour unions to portray the programme as being extremist. It also resulted in some loss of support from academic economists who believed that social regulations needed to be made more cost effective but were also necessary to correct market failures.[9]

The Reagan regulatory programme differed and went beyond the Carter Programme in a number of important respects. First it required that agencies not only do cost benefit analyses for major rules but that they issue only regulations that maximize net benefits (social benefits minus social costs). That is, it improved the first benefit-cost test. Second, it required the agencies to send their proposed regulations and cost benefit analyses to OMB for approval before the regulations could go into effect. Third, it required agencies to review their existing regulations to see which ones could be withdrawn or scaled back. Finally, the President created The Task Force on Regulatory Relief, chaired by then Vice President Bush to oversee the process and serve as an appeal mechanism if the agencies disagreed with OMB's recommendations. Together these reforms established an unprecedented centralization of regulatory oversight authority.

In addition to this new regulatory review process, President Reagan also undertook two other steps to bring about regulatory relief. He appointed strong deregulators to his regulatory agencies – some would say too strong – and he used the budget process to cut the budgets and staffing of the regulatory agencies. There is no question that these changes to the regulatory reform process provided immediate regulatory relief – although it did not prove to be long lasting. The pace of new regulations issued fell dramatically in the early Reagan

years compared to the Carter years. The number of inspectors enforcing regulations declined sharply. Moreover certain existing regulations were rolled back or modified, which reduced costs by about 10 billion dollars per year according to the Task Force on Regulatory Relief. However this sharp brake on new regulations and the sometimes harsh rhetoric of the Administration produced a backlash against the regulatory relief effort.[10] In August of 1983, the Task Force on Regulatory Relief was disbanded and direct control of the regulatory reform programme was handed over to OMB.

In 1985 President Reagan issued a second Executive Order that strengthened OMB's oversight role further by extending it further back into the regulatory development process. The Order required that agencies annually send OMB detailed information on all the significant rules that they had under development. OMB co-ordinated the proposed rules with other interested agencies and could recommend modifications to the proposals. It also edited and published all the rules submitted – usually about 500 – in one large volume. The publication was called the *Regulatory Program of the US Government*. This publication also served another useful purpose. It was OMB's main vehicle to explain in relatively sophisticated terms what the regulatory review programme was attempting to accomplish and how it was going about doing it. Chapters were written by OMB economists on various aspects of regulatory reform including benefit cost analysis, cost effectiveness analysis, risk analysis, the use of market incentives to improve social regulations and the regulatory budget. These chapters played an important educational role for the agencies and the public and served to bring some academic respectability to the regulatory reform effort.

In part because of the over zealous beginning of the Reagan regulatory relief programme, regulatory oversight became a political issue during the rest of the Reagan Administration and throughout the Bush Administration. The regulatory agencies, the Democratically controlled Congressional committees and the unions and environmental interest groups waged a continuing battle against the reform process. Legal challenges were mounted and attempts were made to cut funding for the office within OMB known as the Office of Information and Regulatory Affairs (OIRA) that administered the regulatory review programme. Laws were passed that gave the Administration less discretion to design regulations that were cost-effective. During the Bush Administration, the Senate refused to confirm a head for OIRA.

The result was that the pace of issuing new health, safety, and environmental regulations began to increase at the end of the Reagan Administration lasting through the Bush Administration. Much of the regulation was driven by new legislation that left little discretion to the Executive branch either in substance or timing. But the late Reagan and early Bush Administrations also eased away from their fight for regulatory reform partly because of other pressing issues such as

control of the fiscal deficit but also because of criticism of the programme by interest groups, Congress, and the media.

During its last year, the Bush Administration responded to new complaints from the business community about the rising costs of the new wave of regulation. It returned to the approach used by the Reagan Task Force on Regulatory Relief: the Vice President was put in charge of a task force – now called the Competitiveness Council – whose mission was to provide regulatory relief. As before, anti-regulation rhetoric was turned up and a moratorium on new regulations was announced. The political result was predictably the same as eleven years before: increased polarization and harsh attacks from the opposition party and interest groups. This time, however, the incumbent President was not re-elected.

Despite these controversies, the sheer length and continuity of the regulatory programme – the Reagan Executive Order establishing the oversight process lasted 12 years and seven months including eight months into the Clinton Administration – institutionalized the regulatory efficiency programme throughout the agencies and the Washington establishment.[11] Longevity also solidified the acceptance of the basic right and need for a President to have a strong central oversight mechanism to control and reform regulations. Over time the use and acceptability of cost benefit analysis, risk analysis and market incentives was growing.

The Clinton review programme

On September 30, 1993, President Clinton announced his Executive Order on Regulatory Planning and Review.[12] The Order basically continued the framework of regulatory reform established in 1981, but made several important improvements in response to the criticism that had been voiced against the programme's perceived bias in favour of business and back door pleaders. These changes, which were discussed with a wide variety of interest groups, resulted in broader support for regulatory reform among consumers, environmental groups and other beneficiaries of social regulation.

The most important change was the establishment of a strict 90 day review period for OMB to convince agencies of its recommendations. If there is still disagreement at the end of that period, the President, or the Vice president on President's behalf, resolves the dispute. A problem with the previous Executive Order was that OMB effectively blocked a rule it did not like by simply never concluding review. In fact some reviews had dragged on for several years before resolution.

A second improvement was an increase in the openness and accountability of the review process. Records of the changes to regulations that OMB recommends to the agencies or the reasons why OMB returns a regulation to the

agencies are kept and made available to the public at the end of the review period. Records of any meetings with parties outside of the Executive branch are also kept on regulations under review by OMB. These changes make it easier for outside parties to determine what and why changes are made to draft regulations as a result of the review process. Since the changes that are made are supposed to be made on economic efficiency grounds largely as a result of cost benefit analysis, records demonstrating this result should build support for the regulatory reform programme, especially among academics and people concerned with increasing the growth in per capita income.

Third, the new Executive Order emphasizes selectivity in the review of regulations by limiting the number of regulations that OMB reviews to only the rules that have a significant impact on the economy or policy. OMB had been reviewing about 2 200 regulations per year with a staff of less than 40 professionals. This change enable OMB to add greater value in its review by focusing on the most important rules.

Finally, to prevent the polarization of the regulatory reform process that occurred under the previous Administration, the Order limited the role the Vice President's office played in the day-to-day review of regulations and established procedural safe guards to prevent off-the-record contacts between staff and private parties of interest.

On May 1, 1994, OMB published a six-month assessment of the Executive Order that the President had requested when he issued the Order (OMB, 1994*a*, p. 24276). The report concluded that many initial improvements in the regulatory review system had been made but that in some areas it was taking longer to show results than expected. The new time limits for OMB review were for the most part being met. Of 578 review completed in the first six months of the Order, only three had gone beyond 90 days and those delays were requested by the agencies. The average review time had also declined from about 42 days for the previous two years of the old Executive Order to 26 days for the new.

Second, the report concluded that the Order's new requirements for openness and accountability were being met. During the six month period, 36 meetings were held with outsiders about specific rules under review. These meetings were disclosed to the public and agency representatives were always invited. The results of the reviews were also disclosed, making OMB clearly accountable for its actions. The report stated: "These various disclosure procedures are working well and have helped restore the integrity of the regulatory review process (OMB, 1994*a*, p. 24387).

Third, the report found that the new Order was resulting in increased selectivity. The 578 rules reviewed by OMB over the six month period was about one half the rate under the previous Order. Thus the limited staff resources were freed

up from reviewing less important rules to concentrate on the more significant ones.

Finally, the report found that the polarization and hostility that had characterized the two previous Administrations' regulatory reform programmes had been defused by the new procedures of the Order and by the new leadership of the President, Vice President, agency heads and Administrator of OIRA.[13]

OIRA produced a second report entitled, *The First Year of Executive Order No. 12866*, in October 1994 that basically confirmed the findings of the first report (OMB, 1994*b*). The number of economically significant rules that OIRA was reviewing fell to a rate of about 900 per year, 60 per cent lower than the 2200 per year average for E. O. 12291. OIRA was taking about 30 days to complete review, about 15 per cent of the rules were ''economically significant''– meaning in general that the regulation was expected to have an effect on the economy of more that $100 million per year, and about 70 meetings under the new openness procedures were being held per year with members of the public. The report pointed out that the new openness and transparency policy had served to eliminate almost all criticism of OIRA's regulatory impact analysis and review programme (OMB, 1994*b*, pp. 25-28).

ASSESSMENT OF THE RIA PROGRAMME

The existence of a well regarded and widely supported government programme is not sufficient evidence that the programme is benefiting society more than it is costing it. What is needed is a careful and objective benefit-cost analysis of the programme. The benefits of a regulatory impact analysis programme are the improved regulations that result. The costs are the opportunity costs – that is, the value of the best alternative use – of the resources used in administering the programme. Such an analysis is inherently difficult since to estimate the benefits of the programme one needs to compare the net benefits of regulations subject to the programme to the net benefits of those same regulations assuming that they had not been subject to the programme. Furthermore the only systematic evidence we have of the net benefits of the regulations covered by the programme are the from the benefit-costs analyses of regulations done as part of the programme. The costs of the programme are much more easily estimable. But even here, I know of no systematic study of the costs of the US regulatory impact programme.

However, there is some evidence on the operation of the programme with which one can make qualitative inferences about the probable impact of the programme in promoting good public policy. Presumably the programme could not be successful if the quality of the regulatory impact analyses used to inform

policy makers about regulatory decisions was so poor as to be uninformative or misleading. Several studies have systematically examined the quality of RIAs.

The quality of RIAs

A study published in 1981 by four economists who worked at the council of Wage and Price Stability examined the 31 public reports that CWPS filed in 1978 with the agencies who performed the RIAs and issued the regulations (see Hopkins *et al.*, 1981). The study examined in detail the RIAs done by the agencies and the critiques filed by CWPS and concluded that although the agencies did a good job estimating costs, they failed miserably in estimating benefits. Only one RIA actually compared costs and benefits, an RIA done by the Department of Transportation on truck fuel economy standards. However, in about six additional cases, the CWPS filings were able to estimate benefits and perform cost benefit analyses that were available to policy makers.

One study published in 1987 by OMB examined how eight RIAs from five agencies treated five methodological issues that were thought to be key to a "good" RIA as determined by the OIRA staff that reviewed them (see *Regulatory Program*, 1987, pp. xv-xxii). The key aspects of a "good" RIA were the discussion of whether there was a market failure, whether suitable alternatives were evaluated, the treatment of uncertainty, the identification of the baseline, and whether costs and benefits were properly discounted. The study found a wide variance in the quality of the RIAs. Problems identified included using upper bound estimates of benefits in the face of uncertainty, discounting costs but not benefits, and not evaluating all suitable alternatives. On the other hand, two RIAs were singled out as exemplary: the Department of Transportation's bumper standard RIA and the Environmental Protection Agency's *Cost and Benefits of Reducing Lead in Gasoline.* In addition to the variation in the quality of RIAs, the study drew two conclusions: that the analyses done under the Reagan programme represented a "substantial improvement" over those done under earlier programmes because of a better job in estimating benefits and that the improved analyses will result in "potentially large net benefits to society as a whole" (*Regulatory Program*, 1987, p. xxii).

A recent study by Bob Hahn of the American Enterprise Institute examined 92 RIAs completed between 1990 and 1995 (Hahn, 1996). Hahn found that benefits were quantified for 80 of the regulations and costs for 91. In 23 of the 80 cases benefits were monetized and in 17 of those cases the benefits exceeded the costs. Since Hahn was not able to examine the methodology and assumptions of the RIAs, he had to take the numerical estimates in the RIAs at face value.

Hahn was skeptical, however, about the quality of the agency RIAs based on theoretical and limited empirical considerations. On theoretical grounds (appealing to the public choice literature that argues that agencies have incentives to

overstate benefits in an attempt to grow their programmes), Hahn suggests that agency RIAs may overstate benefits. He then cites reviews of the three agency RIAs by OIRA economists that were submitted to the agencies' public records for evidence of methodological errors that led the agencies to overstate benefits in these cases. The errors were a failure to discount benefits properly, use of worst case analysis, and failure to define the baseline properly. He concludes that "the quality of the cost-benefit analyses exhibits a wide variation from very poor to very good. Agencies could dramatically improve average quality by following a few simple guidelines" (Hahn, 1996, p. 30).

On January 11th, 1996, OMB issued a 37 page guidance document to the agencies explaining how to do the RIAs required by E.O. 12866 (OMB, 1996). The document was the result of two year effort by a task force of OMB and agency economists, chaired by the Chairman of the Council of Economic Advisors, to come up with a consensus of best practices for performing cost benefit analysis. The purpose of this effort was to reduce the variability in the quality of the analyses and improve the information presented to the policy makers who make regulatory decisions.

Despite the variability in quality of RIAs, it is clear that the trend in quality over time has been upward and with the adoption of the new guidelines there is reason to expect that the upward trend will continue.

The quality of regulations

High quality of analysis however does not necessarily lead to better regulations. Policy makers must also be able and willing to consider the implications of the analysis. Furthermore determining the "quality" of regulations is more complicated than determining whether a regulation passes a cost benefit test because not all costs and benefits are quantifiable and policy makers accountable to the people should make the ultimate determination in a democracy. That said, when high quality analysis leads to strikingly different conclusions than that taken by policy makers one may wonder whether policy makers are producing regulations in society's best interest.

The studies that have systematically examined whether RIAs improve the quality of regulations in a cost benefit sense generally have concluded that they probably do but admit that their impressions are based on qualitative analysis. As cost benefit analysts, these authors are clearly sensitive to the fact that they are unable to do a proper cost benefit analyses of cost benefit programmes.

The study by four CWPS economists found that in 17 out of the 23 completed regulatory proceedings in 1978 in which CWPS provided analysis, improvement in the direction the analysis suggested did occur while only two went in the opposite direction (Hopkins *et al.*, 1981, page 41). However they were hesitant to

attribute these results to the influence of the analyses. The 1987 OMB study asserted that the improved agency analyses it found were likely to lead to "potentially large net benefits to society" but without any supporting evidence. The 1994 OMB study also modestly suggested that the RIA programme was "…moving [us] in the right direction" (OMB, 1994b, p. 9).

Although Hahn did not comment on whether he thought the RIAs that agencies performed improved regulatory outcomes, he did calculate that a present value of $280 billion in net benefits had been produced through regulations issued since 1990 (Hahn, 1996, pp. 29-30). However as mentioned above he thought these net benefit estimates were over stated because they were based on agency numbers. He also pointed out that issuing only these regulations where benefits exceeded costs would have produced another $140 billion in net benefits. Hahn also suggested other ways in which the cost-effectiveness of regulations could have been improved such as through better targeting of regulations and the use of strategic planning based on a net benefits criterion. Supporting the evidence that RIAs do improve regulations, Hahn found that cost-effectiveness was a determinant in whether agencies went forward with proposed rules.

A problem with the Hahn study as Hahn himself admits is that his data are taken from agency documents, and there may be differences in methodology and other biases including a tendency to overstate benefits, that distort the results. In addition to the biases mentioned by Hahn, because agencies must defend most of their major rules in court after they are issued, agencies have strong incentives to make sure that RIAs support the issuance of regulations they intend to issue.

There is one study that attempted to correct agency estimates for these distortions and biases by recalculating the RIAs using a consistent methodology and more realistic assumptions. In a 1986 study by Morrall of 44 regulations issued or rejected between 1967 and 1986, a wide variation of cost per life saved estimates was found that indicated that there was considerable room for improvement.[14] Many more lives could have been saved with the same regulatory expenditures if resources had been allocated differently. The study did find however that analysis appears to make a difference. Rejected rules had higher cost per life estimates than rules that were issued and the variation in cost-effectiveness appeared to be declining over time. This work suggests that an RIA based programme can lead to more cost-effective regulation.

A benefit-cost analysis of the RIA programme

Before one adopts an RIA programme that "appears" to lead to more cost-effective regulation, one should have an idea of the costs of such a programme relative to its potential benefits. Using agency estimates, Hahn calculated that the present value of the gross benefits and costs of 92 regulations issued between

1990 and 1995 was about $990 billion and $450 billion, respectively (see Hahn, 1996, Table 10-4). Thus if as a result of an RIA programme, benefits are increased and costs reduced by just one per cent, an RIA programme that costs less than $14.4 billion over five years would be cost-beneficial [($990 + $450) x .01 = $14.4]. Put another way, spending less than $156 million per RIA would be cost-beneficial ($14.4/92 = .156). Using $100 000 per person-year for salary and overhead, 1 560 person-years per RIA would still be cost-beneficial. Based on personal experience, most RIAs can be completed in less than a year by from one to, at most, ten professionals.

Finally if these rough calculations of the utility of the US's RIA programme are not convincing, we can appeal to an expert panel for a consensus on the question. Fortunately such a panel of outside experts has just issued a report entitled "Is There a Role for Benefit-Cost Analysis in Environmental, Health, and Safety Regulation?" that was published in the prestigious journal *Science* (Arrow *et al.*, 1996). The panel was composed of eleven well-known economists, about half of whom had served in the high level jobs for the US Government in either Democratic or Republican Administrations. After citing several of the studies discussed above, including Hahn (1996), Morrall (1986) and OMB's Regulatory Program (1993) to show the need for and the benefits of better analysis the panel concluded:

> *Benefit-cost analysis can play an important role in legislative and regulatory policy debates on protecting and improving health, safety, and the natural environment. Although formal benefit-cost analysis should not be viewed as either necessary or sucient for designing sensible public policy, it can provide an exceptionally useful framework for consistently organizing disparate information, and in this way, it can greatly improve the process and, hence, the outcomes of policy analysis.*
>
> (Arrow *et al.*, 1996, p. 221)

Lessons learned

Clearly the successful implementation of a regulatory reform programme depends upon strong and committed political leadership. In the US, the support of the President has been critical to its success. When President Carter reversed his initial decision on the cotton dust regulation, his regulatory oversight programme was significantly weakened. The record of the Reagan and Bush Administrations showed that, at least in the US, a President cannot accomplish significant and lasting change without the support of the public and the Congress. Regulatory reform is not easily sold to the people. The trade off between the environment and economic growth is a hard concept to explain. Many citizens do not seem to understand that a zero risk society is not affordable. Yet how can one be opposed to a cleaner environment or a safer society? These values or "rights" are easily manipulated by special interests against the broader public interest. The impor-

tant question to answer then is how to maintain popular support for a programme that is both complex and vulnerable to attack from special interest groups.

The key lesson learned from the US experience with regulatory reform is that lasting success depends on two necessary conditions: First, the objectivity, quality and credibility of the RIAs must be unassailable. And second, the regulatory process that implements the reforms must be perceived as fair and open to all affected parties. Only then can a broad based constituency for economic efficiency and growth flourish. Without that constituency, narrow interests will dominate regulatory politics, fighting over the distribution, not the growth, of resources.

The Clinton Administration's regulatory reform programme was carefully designed to correct the problems and counter the criticism that plagued past efforts to reform and control excessive regulation. Where previous programmes had either emphasized analysis and neglected the importance of a fair and transparent process, or had focused on process over analysis, the Clinton programme recognizes that the two must go hand in hand. RIAs must not be viewed by the public as black boxes that spit out answers to questions of life, limb, and the quality of the environment. They must be viewed as tools that can help policy makers find the right answer if used carefully and properly.

To that end, the bipartisan panel of eleven prestigious economists cited above proposed eight principles that should solidify and legitimatize the use of RIAs in regulatory review programmes, as well as maximize their long run effectiveness. These principles can also be viewed as "lessons learned", primarily from the US experience with RIAs. But they should also apply to any OECD country that wants to either implement an RIA programme or improve an existing one. Since I strongly concur with these lessons, I list them here.

1. Benefit-cost analysis is useful for comparing favourable and unfavourable effects of policies.
2. Decision-makers should not be precluded from considering the economic costs and benefits of different policies in the development of regulations. Agencies should be allowed to use economic analysis to help set regulatory priorities.
3. Benefit-cost analysis should be required for all major regulatory decisions.
4. Although agencies should be required to conduct benefit-cost analysis for major decisions and to explain why they have selected actions for which reliable evidence indicates that expected benefits are significantly less than expected costs, those agencies should not be bound by strict benefit-cost tests.

5. Benefits and costs of proposed policies should be quantified where ever possible. Best estimates should be presented along with a description of the uncertainties.
6. The more external review that regulatory analyses receive, the better they are likely to be.
7. A core set of economic assumptions should be used in calculating benefits and costs. Key variables include the social discount rate, the value of reducing premature death and accidents, and the values associated with other improvements in health.
8. Although benefit-cost analysis should focus primarily on the overall relation between benefits and costs, a good analysis will also identify important distributional consequences (Arrow *et al.*, 1996, pp. 221-222).

A regulatory impact analysis programme designed and operated under these principles and overseen by a strong centrally located office such as OMB should produce significant improvement in regulatory policies.

NOTES

1. John F. Morrall III is Chief, Human Resources and Housing Branch in the Office of Information and Regulatory Affairs, United States Office of Management and Budget. The views expressed in this chapter are those of the author and do not necessarily reflect those of the OMB.

2. Over the years the US has used different terms to distinguish different programs that have all used economic analysis to inform policy makers of the merits of proposed regulations. These terms include in order: Inflation Impact Statements, Economic Impact Statements, Regulatory Analyses, and Regulatory Impact Analyses. Currently it is simply called "Economic Analysis".

3. See Executive Order No. 11821, November 1974.

4. For an account of this debate see Eads and Fix, 1984.

5. See Executive Order No. 12044, March 1978.

6. See Christopher DeMuth, 1980, for an account of this episode that argues that it considerably weakened the review program.

7. See Eads and Fix, 1984, and Litan and Nordhaus, 1983, for accounts of the Carter Administration's success in regulatory reform.

8. See Sierra Club v. Costle 657 F.2d 298 (1981), US Court of Appeals for the DC Circuit.

9. Several economists who helped shape the Carter Adminstration regulatory review program wrote critical reviews of the Reagan program. See Eads and Fix, 1984, and Litan and Nordhaus, 1983.

10. See Executive Order No. 12498, The Regulatory Planning Process, January 1985.

11. Eisner (1993) points out that over time as lawyers were being replaced with economists and other scientists expert in analytical techniques who were advocates for the strengthening of RIA requirements, an influential source for the efficiency perspective gained ground.

12. See Executive Order No. 12866, Regulatory Planning and Review, September 1993.

13. The Administrator of OIRA, a Senate confirmed Presidential appointee made significant efforts to meet with agency staff, congressional committees, the press and interest groups of all persuasions to explain the new program and proclaim the new spirit of cooperation and coordination. See OMB, 1994*a*, page 24283.

14. See Morrall, 1986. Also see Morrall, 1992 for an updated table showing the cost per life saved for 37 regulations.

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REVIEWING EXISTING REGULATIONS: AUSTRALIA'S NATIONAL LEGISLATIVE REVIEW

by

Sue Holmes and Steven Argy[1]

1. INTRODUCTION

In April 1995, the heads of Australia's Commonwealth (*i.e.* national), State and Territory governments signed the *Competition Principles Agreement* (CPA).[2] The Agreement was part of a package of National Competition Policy reforms aimed at promoting and maintaining competition. The reforms are expected to enhance community well-being through improvements in efficiency.

One important element of the CPA commits each government to programmes of legislation review – the subject of this paper.[3] Specifically, governments are to develop, by June 1996, a programme of review and, by the year 2000, reform all existing legislation (including Acts, enactments, Ordinances or regulations) that significantly restricts competition, unless it has been demonstrated to be in the public interest. This will be determined by regulation impact analysis, using criteria specified in the Agreement. *Thus, for the first time in Australia, there will be a comprehensive and co-ordinated review of existing legislation at the Commonwealth, State and Territory levels of government.*

Subject to important generally-agreed criteria in the CPA, each government is currently determining its own agenda for the review and reform of legislation. As the development of review programmes is in its early stages, the main focus of this paper is on the principles and guidelines for the organisation and conduct of the reviews. Many of the principles are common across all jurisdictions, but the paper concentrates on the approach being taken by the Commonwealth Government.

The following section looks at the review environment, including the background to the legislative review programme, leading institutions, and linkages with other programmes. In section 3, the Commonwealth's proposed legislative review programme is examined, covering aspects such as organisation, scope, and

conduct of the reviews. The likely effectiveness of this programme of reviews is then assessed in section 4, including a consideration of expected benefits and possible costs and difficulties. The final section of the paper suggests some lessons for other OECD Member countries.

2. REVIEW ENVIRONMENT

Pressures for reform

Pressure for reforms had come from a number of sources:

- Businesses had been exposed to greater international competition as Australia lowered its import barriers, and found that domestic regulations that restricted competition were hindering adjustment. Hence they lobbied for reforms. The Business Council of Australia, for example, in "Liberating Enterprise to Improve Competitiveness", urged governments to place more attention on the impacts on competitiveness of business regulations (BCA, 1992).
- Public inquiries and other research that assessed the impacts of regulation increased awareness of the high costs imposed on the community and led to a growing constituency for reform.
- Competition in regulatory reform started to emerge between the States as they recognised that reducing red tape provided them with a competitive advantage over other States.[4]
- Governments had already agreed on the benefits to be derived from greater economic integration with the passing of Mutual Recognition legislation.[5]

Existing review processes

Since the mid-1980s, regulatory reform has been an important element of micro-economic and structural adjustment policies directed at improving the efficiency of the Australian economy. Initially, reforms had largely been sector specific, but more recently the focus has widened. Some of the States were already well advanced in regulatory reform by the early 1990s, with programmes aimed at reducing regulatory burdens on business.

a) Review of stock of regulations

In relation to existing regulations, regulatory reform has involved, in most jurisdictions, staged repeal or sunset clauses and reviews of particular sets of regulations. Some States have also conducted or commenced systematic reviews

of all legislation/regulations affecting businesses (see Box 1). Under the National Competition Policy reforms, for the first time systematic reviews are to be co-ordinated across all levels of government and the Competition Principles Agreement "... will formalise the process and enshrine the public interest test" (Fels, 1995, p. 7).

The Commonwealth Government has not had any procedures in place for the *systematic* review of its stock of regulations. However, scrutiny of existing regulations with significant economic impact is often undertaken by *ad hoc* public inquiries or independent reviews, for instance by the Industry Commission (in the process of being merged into a new body called the Productivity Commission) – which uses a public inquiry process and takes an economy-wide view of issues. The States also undertake reviews and hold public inquiries, but there are no State equivalents of the Industry Commission. The Commission is, however, increasingly involving the States in its work. The terms of reference for many of its inquiries are now agreed between the Commonwealth and State governments, and many of its more significant reports in recent years have been on sectors dominated by the States.

Box 1. **Existing State review processes**

Legislative reviews undertaken in the States have varied greatly in terms of their independence, analytical rigor and cost-effectiveness. Some reviews have achieved little more than the deletion of outdated and irrelevant regulations that weren't being enforced anyway, resulting in minimal benefits to the community. The trend, however, is toward more rigorous reviews involving public consultation, independent analysis and in some cases quite sophisticated regulatory impact statements.

Some State reviews have been conducted on a sectoral basis, such as the review of regulations affecting butcher shops (Queensland), the motor trades industry (South Australia), the legal profession (Victoria) and regulation of real estate, travel and other agents (Australian Capital Territory). In other cases, reviews have been broader in scope. Examples include business license reviews and simplification programmes in Victoria and Tasmania.

A Systematic Review of all regulation affecting business was launched in Queensland in 1991 and has been a significant success. Some 470 State laws and lower-level regulations were included and substantial cost savings have been achieved (see section 4, below). With the exception of some reviews with broader national issues, the process was essentially completed in 1995. Recently Tasmania and the Australian Capital Territory have also adopted a review of regulations using a comprehensive systematic approach.

Some major sector-specific review programmes have been carried out at the Commonwealth and/or national levels. Some examples include:

- a five-year reform programme to achieve more efficient and cost-effective building regulations being implemented by the Australia Building Codes Board (a joint initiative of all levels of government), in co-operation with the building industry;
- the Commonwealth Tax Law Improvement Project announced in 1994, intended to simplify tax law, reduce the costs of, and improve, compliance; and
- a Corporations Law Simplification Programme begun in 1993 is aiming to improve both the operations and expressions of the law.

Many reviews at Commonwealth and State levels can also be linked to a general public sector reform movement. Regulatory reform is seen partly as a way of rationalising and containing government expenditure and of achieving efficiencies and improvements in service delivery.

The Hilmer report and National Competition Policy

The Competition Principles Agreement (CPA) is part of a new National Competition Policy. The Commonwealth and the States and Territories first agreed to examine a national approach to competition policy in 1991. Pressure had been building on all governments – as Australian industries became more open to international trade – to expose other sectors of the economy to greater competition so as to improve their performance. There was also growing recognition that more could be achieved in some areas by acting co-operatively.

In 1992, the National Competition Policy Review, chaired by Professor Fred Hilmer, was established by the Prime Minister in consultation with the Premiers and Chief Ministers of the States and Territories. The report on *National Competition Policy* (Hilmer *et al.*, 1993) was completed in August 1993. Extensive consultations and negotiations then took place between all the governments. The Council of Australian Governments (COAG) was the focal point for deliberations on the recommendations of the report.

The Hilmer report saw the imperative for national competition policy resting on three factors:

- the need for more rapid reform of infrastructure and regulatory systems to service the trend toward integrated national markets and national orientation of commercial life;
- the need to address the fact that a number of sectors of the economy was sheltered from competition; and

- the need to establish a policy framework or process to promote broader and nationally consistent approaches to reform. (Hilmer *et al.*, 1993, p. xvii-xviii)

The Hilmer report stressed the potential economic costs of regulation, describing regulation by all levels of government as the greatest impediment to enhanced competition and economic performance in many key sectors of the economy (Hilmer *et al.*, 1993, p. xxix). Hilmer recommended, *inter alia*, the following general principles:

- a central plank of national competition policy should be the reform of regulations that unjustifiably restrict competition; and
- there should be no regulatory restriction on competition unless it can be clearly demonstrated to be in the public interest.

With these two general principles in mind, the Hilmer report recommended that new regulatory proposals be subject to increased scrutiny and that systematic reviews be conducted of all existing regulations restricting competition. The CPA, signed in April 1995 by all the Heads of Government, embodies these recommendations. Although the thrust of Hilmer's recommendations on regulatory reform was accepted by governments, some modifications were agreed to. These are discussed below in relation to the expected benefits from the legislative review programme.

Although the States had much earlier recognised the benefits of regulatory reform and were setting the pace in many areas covered by the CPA, in the negotiations over the Hilmer reforms the States were reluctant to agree to the reforms without financial inducements from the Commonwealth. The States' reluctance stemmed from a belief that the competition policy reforms would cost them revenue, and further increase on imbalance in taxation revenue between the Commonwealth and the States.

For example, it was thought that elements of the CPA that expose Government Business Enterprises (GBEs) to greater competition would reduce the profits of these enterprises and dividend payments received by State governments. There are, however, likely to be offsetting influences on the net revenue of the states. Rail reforms, for instance are likely to result in a substantial reduction in subsidies paid by State Governments to their rail authorities. Indeed, the Industry Commission (1995) estimated that implementing the Hilmer and related reforms could enhance revenues for the States. While estimates are sensitive to a range of assumptions, the report shows that both Commonwealth and State Governments would accrue substantial revenue gains. For example, under one set of assumptions, Commonwealth revenues would rise by nearly A$6 billion in real terms (equivalent to about 6 per cent), while the revenue gains to the State,

Territory and Local governments would be in the order of A$3 billion (approximately 4.5 per cent).

The Commonwealth agreed to make additional general purpose payments (called Competition Payments) to be distributed to the States and Territories on a per capita basis. These payments are to be funded from expected increases in Commonwealth tax revenues from implementation of the reforms and are conditional on each government meeting certain obligations, including meeting the deadlines for regulatory review. The Competition Payments are to be made in three tranches. The first tranche totalling A$400 million (approximately US$300 million) will be paid over two years, commencing in July 1997. The second tranche of A$800 million is also to be paid over two years, commencing in 1999. The third tranche involves annual payments of A$600 million, commencing in 2001 and to be paid each year thereafter.[6] The three tranches are estimated to be equivalent to approximately 1.3 per cent, 2.6 per cent and 3.9 per cent, respectively, of total general revenue assistance to be paid by the Commonwealth to the States in each year of payment of the competition transfers.

Key institutions

A number of regulatory management and/or reform bodies have played, or will play, an important role in the implementation of the legislative review programme. Some of the key institutions are discussed briefly below. These are:

- the Council of Australian Governments (COAG);
- the National Competition Council (NCC);
- the Council on Business Regulation (COBR); and
- specialist regulatory reform agencies.

a) Council of Australian Governments

One of the most significant reforms in the Australian regulatory environment – crucial in achieving the National Competition Policy Reforms – has been the development of an institutional basis for inter-governmental co-ordination. In 1990, the heads of the Commonwealth, States and Territory governments began to meet in Special Premiers' Conferences to pursue a common micro-economic reform agenda involving deregulation, harmonisation, mutual recognition, and regulatory co-ordination between Commonwealth and State governments. The *ad hoc* conferences were replaced in 1994 by the permanent Council of Australian Governments (COAG). COAG comprises the Prime Minister, Premiers of each State, Chief Ministers of each Territory, and the President of the Australian Local Government Association. The Council serves the vital role of initiating, developing and monitoring the implementation of policy reforms which are of national

significance and which require co-operative action. It is the peak body through which political backing is given to national policies.

One of several inter-governmental committees that report to the COAG is the Commonwealth-State Committee on Regulatory Reform (CRR). The CRR, created in 1990, comprises officials from the various governments. The Committee has overseen the development of national programmes of mutual recognition and the activities of national regulatory bodies. It has played a central role in the development and introduction of a framework of principles and guidelines to be used by Ministerial Councils and regulatory bodies when developing proposals for national standards and/or regulations (see Box 2 below). It now also has a role in enhancing compliance with these principles and guidelines.

b) National Competition Council

The National Competition Council (NCC) is another important co-ordinating institution in the context of the legislative review programme. Creation of the NCC was part of the National Competition Policy reforms.[7] Appointments to the NCC must have the approval of the Commonwealth and a majority of the States and Territories. Members of the Council are chosen for their knowledge of, or experience in, industry, commerce, economics, law, consumer protection, or public administration.

The NCC will assess the progress of the Commonwealth, State and Territory governments in implementing the review and reform programmes and will provide advice to governments to assist them in meeting their obligations under the CPA. The Council will advise the Commonwealth on whether the conditions for payments to the States of the three tranches of the Competition Payments in 1997, 1999 and 2001, have been met.

The NCC may conduct, or provide assistance with, legislative reviews under the CPA.[8] While each jurisdiction is to be responsible for reviewing its own regulations, the Council will be in a position to facilitate co-operative nationally-focused action where appropriate. Where particular regulations concern more than one jurisdiction (*e.g.* occupational regulation, rural marketing arrangements and regulation of utilities), the Hilmer Report envisaged the NCC could be given a reference to co-ordinate or undertake economy-wide reviews of the regulations in question. Alternatively, the NCC may be involved in developing and refining appropriate principles governing particular forms of regulatory restrictions or particular sectors of the economy.

c) Council on Business Regulation

The Council on Business Regulation (COBR) was established to help the Commonwealth Government identify priority areas of regulation for review and,

once regulation has been reviewed, provide advice on reform options. Under its terms of reference, the Council is also to identify regulations that have unclear objectives and/or are not achieving their stated objectives; are detrimental to competitiveness and efficiency or impose costs that outweigh the benefits. The Commonwealth ORR services the Council as secretariat.

Originally it was envisaged that the Council would be made up of business representatives only. A number of government departments and community representatives expressed concern that undue weight was being given to industry views over the views of other sectors of the community. Consequently, union, environmental, consumer, and social services representatives were also appointed. The four business appointees represent the broad sectoral interests of: manufacturing, agriculture, small business and services. In sum, a broad cross-section of social and enterprise interests is represented, but notable omissions include mining and taxpayer interests.

The Council is chaired by the Chairman of the Industry Commission. Although each of the Council members represents special interests, the Council considers the community's interests as a whole. Where Council members do not reach consensus, in providing the Council's views to Government, the Chairman will indicate where different perspectives have arisen. The Council's terms of reference require it to make recommendations to the Cabinet of the Commonwealth Government.

d) Specialist regulatory review agencies

Specialist agencies are also likely to play a role in the legislative review programme. The Commonwealth ORR, as highlighted above, will have a direct input through its secretariat role to the Council on Business Regulation. The ORR – operating within the Industry Commission since 1989 – has administrative and advisory functions, specified by Cabinet, relating to the review of regulation. These include functions such as: vetting Regulation Impact Statements; advising Cabinet of the merits of particular regulations; and commenting publicly on certain regulatory matters.

All States and Territories have also established some form of regulatory review unit. Some of these units, such as those in New South Wales and South Australia are established within the central Department of Premier and Cabinet, others are established within the Department of Treasury or industry departments. These units co-ordinate regulation review activities within each jurisdiction and advise, educate and train officials from departments and agencies on regulatory matters and techniques. The regulation review units also act as principal points of contact for business and the general public on regulatory matters. While procedures for legislative reviews are still being determined by each juris-

diction and the role of regulation review units in the review process will vary, it is likely these units will have an advisory and in some instances possibly a co-ordinating role. The advisory role may include providing comments on priorities for review or injecting independent analysis or comment into the reviews themselves.

3. THE COMMONWEALTH'S REVIEW PROGRAM

The timetable for the Commonwealth's Legislative Review Program is being driven by its commitment under the CPA to review all legislation that restricts competition by the year 2000 and to develop a review schedule, identifying regulations for review, by June 1996. All reviews are to be conducted between June 1996 and 2000. Chart 1 below depicts the Commonwealth Government's review processes. For purposes of the review programme, "regulation" includes legislation and legislative instruments.

There are two distinct phases to this programme: *i)* the selection of legislation for review; and *ii)* the conduct of the reviews. The first phase is effectively a filtering process whereby legislation/regulations most deleterious to competition are selected for review.

For the first phase, departments prepared a schedule listing all the regulations they administer and identifying priority regulations for review. These draft schedules were provided to the ORR at the end of November 1995 and considered by the Council on Business Regulation in December 1995. The Council provided comments on the review schedules, including priorities and exclusions.

Departments then reviewed their schedules, in light of the Council's comments. The review schedules at this stage also indicate how departments propose to report on the outcome of particular reviews. These revised schedules are to be submitted along with the Council's recommendations for consideration by Cabinet.

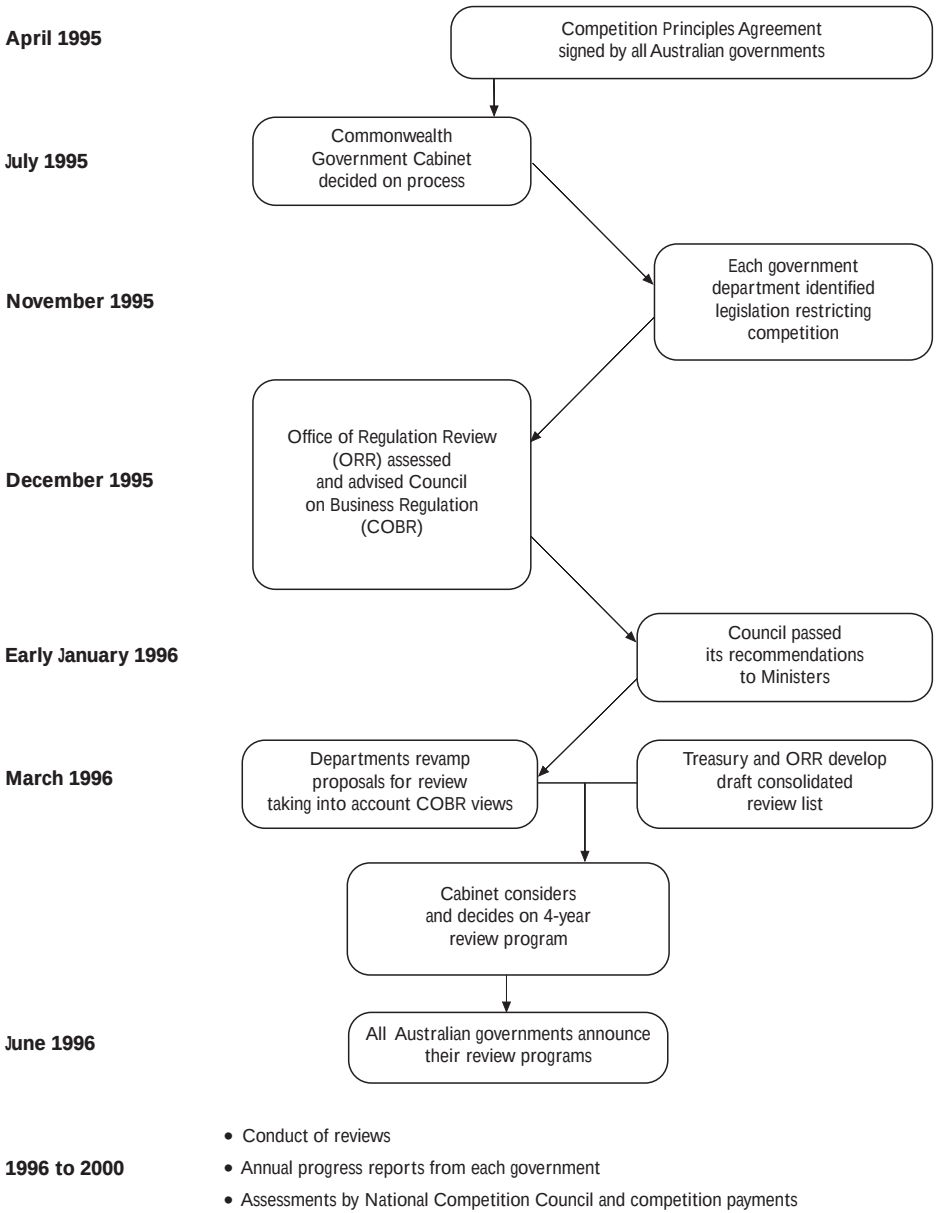
Various principles and guidelines for the review programme have so far been adopted by the Commonwealth and these are discussed below under the headings: criteria for selecting legislation for review; conduct of reviews; and reporting and implementation.

Criteria for selecting legislation for review

a) Legislation restricting competition

There is considerable scope for interpretation of what regulations restrict competition. The National Competition Policy (Hilmer) Review recognised that while almost no regulatory activity is neutral in its implications for competition, two broad categories of regulations affect competition most directly. These cate-

◆ Chart 1. ***Australian Legislation Review Program, Commonwealth Government Processes***



Source: OECD.

gories are *i)* regulations restricting market entry and *ii)* regulations restricting competitive conduct by market participants – such as control of prices or production levels (Hilmer *et al.*, 1993, p. 191).

However, a regulation that restricts competition may manifest itself in a variety of ways that may not necessarily be recognised as falling within these categories, including directly or indirectly restricting:

- the quality, level or location of goods and services available;
- advertising and promotional activities; or
- the price or type of inputs used in the production process.

The State of Queensland established a working group that developed a specific definition of eleven types of measures that could fall within the two Hilmer categories. The working group included representatives of the National Competition Policy Unit, the Business Regulation Review Unit, the Office of Cabinet and other departmental agencies (see Box 2).

Box 2. **Measures Restricting Competition: Definition Adopted by Queensland Review Program**

The measures to be covered should include legislative restrictions that either prevent, or have the potential to prevent, any one, or a number of, market participants from competing on the basis of price, quality, quantity, service delivery or technical innovation with other market participants; or which confer, or have the potential to confer, particular advantages in respect of any of those matters upon any one, or a number of, market participants compared to other participants. In this regard, the types of legislative provisions, in both primary and subordinate legislation, that need to be identified are those that provide for any of the following:

i) an outright prohibition in regard to any particular business activity;

ii) a statutory monopoly, namely where a body specified in the legislation is created or given powers, either State-wide or in a particular locality, as the sole participant allowed to engage in a particular business activity;

iii) licensing or registration requirements for persons or bodies wishing to engage in a particular business activity and which operate on the basis of either limiting the number of participants or limiting participation to those persons or bodies that meet defined standards, qualifications or

(continued on next page)

(continued)

training or to those who hold membership of a particular occupational or professional organisation;

iv) allocation of quantitative entitlements, quotas or franchises among participants engaging in a particular business activity;

v) requirements for prescribed quality or technical standards to be observed, or for specified equipment to be used, in regard to a particular business activity, other than those requirements that apply generally in regard to public/workplace health and safety;

vi) price control provisions, whether by way of setting, or prescribing a process for determining, the maximum/minimum prices or charges for a specified good or service or the maximum/minimum rates of commission, agency or fees for any good or service;

vii) restrictions on the conduct of a business relating to matters such as hours of operation, size of premises, provision of specified facilities, geographical area of operation, advertising or promotion, sector-specific operation (*e.g.*, retail vs wholesale), type of good or service allowed to be offered for sale, etc.;

viii) the nomination of a particular person or body as the sole or preferred customer or supplier in regard to a particular business activity;

ix) measures that have the effect of conferring a benefit on a particular person or body engaged in a particular business activity relative to other parties engaged in the same activity, including prescribing technical specifications or standards that can only be met by a particular operator, prescribing different requirements for public sector vis a vis private sector operators or making financial assistance available (including the waiver of various State or Local government charges or fees as well as direct assistance measures such as a grant or subsidy) if a business is carried on at a particular place or in a particular manner;

x) the allocation of licenses or other authorities which either allow the holder access to natural resources (including water, minerals, forests and fisheries) or which create rights, or permit specified activities, denied to non-holders (for example, licenses to dispose of waste material in a particular manner);

xi) restrictions that have the effect of limiting or preventing participation in a particular business activity by interstate or overseas participants, for example by way of preferential purchasing arrangements for State-based suppliers, statutory restrictions on supply or purchase arrangements outside the Queensland market and product standards that differ significantly from interstate or international standards.

Source: Correspondence from Queensland Business Regulation Review Unit.

b) Other criteria

The Council on Business Regulation applied other criteria to construct a priority list of legislation restricting competition. Regulations which have one or more of the following characteristics are most likely to warrant review:

- have been the subject of complaints;
- have escaped review for some time (say seven years);
- have been identified by past inquiries as requiring attention;
- have objectives which no longer appear relevant; and/or
- have been administratively difficult and costly to ensure compliance.

c) Grounds for exemption

Because of the need to avoid any duplication of review effort, and to ensure that any review is cost-effective, regulation which falls within the scope of the review programme may still be exempted on one of four possible grounds:

1. it was only recently reviewed;
2. it is subject to comprehensive, ongoing and transparent review through industry or other consultative processes;
3. it is already scheduled for comprehensive review; or
4. it would not be cost-effective to review some particular legislation.

If an exemption is sought on any of (1)-(3), it must be demonstrated that the review involves public consultation and satisfies the review requirements of the CPA (see below). Departments must justify any claims for exemption that are based on (4) above. One of the most common reasons for claiming exemption has been that the benefits from the legislation are so large that they are obviously much greater than the costs of the regulation.

Conduct of the reviews

Three factors need to be considered: timing; the review bodies; and assessment criteria.

Higher priority reviews will generally be conducted sooner, depending on resources. The review schedules will rank the legislation in terms of priority such as high/medium/low or major/minor, depending on the scope and extent of the effects of the regulation, and factors noted above such as level of complaints and how recently a review of the regulations has been conducted.

Preferences are for public inquiries with related consultation processes, except for cases where that would be excessively costly or likely to hinder reform.

Ideally, regulatory agencies should not review their own legislation and operations, but may participate in the reviews.

The following is a ranking of alternative review bodies that could conduct the Commonwealth reviews, with those higher on the list offering greater degrees of independence.

1. Independent committee appointed for a specific review.
2. Industry Commission or National Competition Commission (NCC, particularly for reviews where the States have an important stake).
3. Task force of seconded officials (interdepartmental, full-time) with a reference group consisting of independent members.
4. Commonwealth research bureaux.[9]
5. Interdepartmental committee of officials (part-time).
6. Intra-departmental review team (with representation from areas not directly responsible for the regulations).

Reviews of regulations restricting competition must satisfy the requirements of the Competition Principles Agreement which states that reviews are to:

- clarify the objectives of the legislation;
- identify the nature of the restriction on competition;
- analyse the likely effect of the restriction on competition and on the economy generally;
- assess and balance the costs and benefits of the restriction; and
- consider alternative means for achieving the same result, including non-legislative approaches [*Competition Policy Reform Act 1995*, Competition Principles Agreement, clause 5 (9)].

There is substantial overlap between these CPA review guidelines and the Regulatory Impact Statement (RIS) criteria set out in the guidelines prepared by the Commonwealth ORR. The CPA requirements also share the same basic principles for good regulatory decision making that are reflected in the OECD international standard on regulatory quality: *Recommendation on Improving the Quality of Government Regulation.*

a) Public interest

The aim of legislative reviews under the CPA has been the removal of impediments to competition. Competition is not pursued for its own sake, but to achieve improvements in the efficiency of resource allocation, correction of market failure and protection of the "public interest", all aimed at improvements in the "well-being" of the nation.

The guiding principle in the CPA is that legislation/regulations should not restrict competition unless it can be demonstrated that:

a) the benefits of the restriction to the community outweigh the costs; and

b) the objectives of the legislation can be achieved only by restricting competition.

The CPA indicates that the following are matters that shall, where relevant, be taken into account when balancing the benefits and costs of a particular policy or course of action, but any assessment is not to be limited to these matters:

i) government legislation and policies relating to ecologically sustainable development;

ii) social welfare and equity considerations, including community service obligations;

iii) government legislation and policies relating to matters such as occupational health and safety, industrial relations and access and equity;

iv) economic and regional development, including employment and investment growth;

v) the interests of consumers generally or of a class of consumers;

vi) the competitiveness of Australian businesses; and

vii) the efficient allocation of resources.

Thus, while competitive and economic impacts are the prime triggers for review, they are *not* the only determinants of the recommendations for reform. Non-economic and social objectives must be taken into account when assessing whether on balance particular regulatory action is in the public interest.

Reporting and implementation

There are two main outputs from the legislative review process. The ultimate output will be the reports of the reviews themselves, but an important intermediate output is the consolidated review schedule.

Progress in developing review timetables, carrying out reviews, and implementing reforms will be monitored. The Commonwealth, State and Territory governments are each required to publish a report annually on progress toward meeting their legislative review obligations under the CPA, with the first annual report due in 1996-97. The National Competition Council will publish an annual report consolidating the reports of each government.

To maximise transparency review reports will, as a general rule, be publicly available. Individual governments will retain responsibility for reforming their own laws, but by making review reports public (and therefore demonstrating the

costs and benefits of alternatives) it will be difficult for governments to persist with legislation that restricts competition unless its removal would impose clear net costs to the community.

With respect to the Commonwealth's programme, review schedules must indicate how departments propose to report on the recommendations of particular reviews. Where the review is likely to raise substantive issues, the review's findings and recommendations are likely to be considered by Cabinet. Where the matter is thought to be less significant, Ministers or Departments could be responsible for providing an administrative response to the review's outcome.

4. ASSESSMENT OF PROGRAMME

Because the legislative review process is only in its early stages, any assessment must be in terms of effectiveness of processes to date and *expected* reform outcomes. The discussion in this section also looks at some of the considerations likely to be most important in delivering effective review outcomes.

Expected benefits

The likely benefits for Australia include improved productivity, lower consumer prices, greater choice, increased innovation, and higher real incomes/economic growth. The reforms have only been agreed in principle and their specific nature and scope will depend on review programmes carried out in each jurisdiction over several years. Hence, it is difficult to say just how significant the benefits will be.

Nevertheless, some attempts have been made to measure the benefits of likely reforms. While stressing that the results relied heavily on assumptions made, the Industry Commission estimated that implementing all Hilmer (and some related) reforms would result, in the long-term, in the level of real GDP being A$23 billion (in 1993-94 dollars) a year higher – equivalent to 5.5 per cent of GDP – than it otherwise would have been.[10] Consumers would gain by A$9 billion, or A$1 500 per household. A selection of a few specific regulatory reforms would account for about 40 per cent of these gains. (IC, 1995, p. 53).

Other indicative estimates of the magnitude of the benefits come from Queensland and Victoria. Net cost savings for businesses, of regulatory reviews in Queensland, were conservatively estimated at over A$370 million per year, and savings to consumers were substantially higher (Queensland, 1995). In Victoria, a programme of staged repeal was estimated to result in, at a minimum, savings of between A$140 to A$200 million a year.[11] There are many qualifications to such estimates but they do confirm that the potential gains from the systematic review of legislation are likely to be substantial.

The Industry Commission (1995, p. 513) observed that some of the gains from the programme of legislative reviews may be weakened because each government has been allowed to determine its own agenda and priorities for reform (having to agree only on very broad common principles). Also, the CPA has not mandated a review process that is as open and transparent as Hilmer recommended.[12] As noted above, however, the Commonwealth in its review programme is putting substantial emphasis on independence, consultation and transparency. Also, while there is a risk that allowing each jurisdiction substantial discretion to determine which regulations are selected for review and how reviews are to be conducted may see the potential gains diminished, respect for State/Territory sovereignty was an important factor in securing agreement to the competition principles.

Adequacy of information and methods

The CPA requires that reviews of regulations restricting competition must include what is essentially a regulatory impact assessment. Impact analysis provides a sound framework for assessing costs and benefits of regulatory action and non-regulatory alternatives.

However, there are some problems faced by those preparing impact statements including:

- lack of reliable data;
- difficulties associated with attributing dollar values to intangible effects (*e.g.* time, health, comfort, environmental amenity etc.);
- determining appropriate assumptions to make about risk levels;
- choice of appropriate discount rates for incorporating future effects; and
- assessing indirect effects.

While these difficulties may in certain circumstances suggest the need for analysis to be qualified or for sensitivity analysis to be included, they do not significantly detract from the value of such analysis. Perhaps the most important benefit of examining the impact of regulations using such a framework is that it forces regulators to consider alternatives and justify their decisions – it changes the culture of regulatory agencies. As noted by the PUMA secretariat (OECD 1995, p. 11):

> *... experience makes clear that the most important contributor to the quality of decisions is not the precision of calculations, but the action of analysing – questioning, understanding real-world impacts, exploring assumptions.*

Because regulation serves visible and vocal groups, and imposes costs on diffuse and often unsuspecting groups (such as consumers), there is pressure on regulators to maintain regulations that protect specific groups, at the expense of

the community as a whole. Impact assessments increase transparency and accountability, making it easier for regulators and the community at large to resist these pressures.

Nevertheless, any type of cost-benefit analysis can potentially be manipulated. Where a Department or regulatory agency conducts an internal review, there is a risk that the authority's preferred option is justified by its use of assumptions; by defining objectives too narrowly; or by selective consultation or use of data. Hence, the Commonwealth's review programme favours reviews being conducted by external independent bodies, except for minor reviews where that would not be cost-effective. Where the initial review is conducted "in house", there should at a minimum be some opportunity for independent oversight or external scrutiny. Insistence on transparent processes and public release of impact statements for these reviews would at least provide some scope for the analysis by the regulators to be challenged.

Regular performance monitoring – in the form of the annual progress reports mandated by the CPA – will help to ensure pressure for reforms and the discipline on regulatory agencies is maintained.

To guarantee continuing public support for reform efforts, the costs and benefits of regulatory changes must be continually exposed. The public release of review reports, will make transparent the likely effects of implementing recommendations. It is also important to track the actual effects of reforms, for example price changes, productivity, quality or choice of products/services etc. Such a reform "scorecard" will serve to demonstrate to politicians, bureaucrats and to the general public, the merits of the legislative review programmes.

Costs and difficulties

Some of the more important costs and difficulties associated with organising and conducting high quality reviews are discussed under the following headings:

- determining priorities for review;
- appropriate review processes;
- discretion to grant exemptions;
- defining public interest;
- co-ordination of reviews; and
- other costs and difficulties.

a) Determining priorities for review

Potentially a major constraint to achieving high quality outcomes will be the large number of reviews to be conducted within the four-year time limit. Identify-

ing priorities for review has been an essential first stage of the review process. This will enable scarce review resources to be directed to where the potential benefits of reform are likely to be the greatest.

Without an explicit review, the impacts of regulations on competition may be difficult to assess. There is a risk that some regulations will be given a lower priority than warranted and others may be reviewed unnecessarily or be assigned too high a priority.

In the Commonwealth review programme, the Council on Business Regulation, with the advice of its secretariat (Commonwealth ORR), has an important advisory role in the determination of overall review priorities. This approach has the advantage of injecting some independence into the process and ensuring that consistent criteria are applied in the determination of relative priorities. Overall rankings were determined by the Council and the ORR based on a consideration of the scope and impact (direct and indirect) of the legislation. Although there exists the potential for some inappropriate rankings by the Council and the ORR, due to their lack of detailed knowledge, final priorities will be determined by Cabinet on the advice of relevant Ministers.

b) Appropriate review processes

As discussed in section 3, it would clearly not be cost-effective to expect the same standard of review for regulations considered to be having a minor effect as for those where the issues are more substantive. Trade-offs must be made and it is important that correct decisions be made about the appropriate review bodies; extent of public consultation; quantitative versus qualitative assessments; and time allocated for the review.

Reviews conducted in-house by Departments are likely to have certain advantages including:

- departments have the most detailed knowledge of the regulations they administer;
- reviews may be conducted faster and at lower cost; and
- outcomes are more likely to have bureaucratic and Ministerial support.

Conversely, there is a significant risk that internal reviews will not be conducted with the same degree of rigour and impartiality as reviews conducted by independent government agencies. The disadvantages of reviews being conducted by the regulators include:

- the risk of "regulatory capture" is heightened, *i.e.* potential for reviews to be "hijacked" by interest groups;

- too much discretion is given to regulators to decide when to consult, select parties to be consulted, and to respond to comments as they see appropriate;
- they are generally less open and transparent than independent public inquiries and therefore their recommendations are not as likely to gain general public support; and
- the scope of reviews tends to be more narrow and can exclude independent analysis or discussion of broader issues.

For regulations considered to have a minor impact, the costs of a full-scale independent public inquiry are likely to outweigh the potential benefits. In such cases, inter-departmental task forces or even in-house departmental reviews may be appropriate providing there is adequate public consultation and some opportunity for external independent scrutiny, for example by regulatory review units.

c) Discretion to grant exemptions

From experience with some review programmes in Australian States and in other countries, it is apparent that benefits from reforms can be seriously diminished when Ministers or their Departments are given too much discretion to exempt regulations from review. While the knowledge/expertise of the departments has been used in the preparation of the review schedules, the Council on Business Regulation and the secretariat role given to the ORR, has provided independent scrutiny and some quality control. Also, ultimate approval by the Cabinet provides for further scrutiny by other ministers. The effectiveness of these quality control mechanisms will depend on the relative weight given in Cabinet deliberations to Council recommendations and the likelihood that Cabinet Ministers will argue for changes to the schedules proposed by their colleagues.

d) Defining public interest

The CPA states that regulations should not restrict competition unless it can be demonstrated that the benefits of the restriction to the community outweigh the costs (essentially a public interest test) and the objectives of the legislation can only be achieved by restricting competition. The Agreement sets out a number of public benefits (see discussion in section 3) that should be taken into account where relevant. While the public interest test ensures that the government's and the community's non-economic objectives are also considered in the review process, there is a risk that it will be too easy for regulators to justify the maintenance of regulations and that substantial community resources will be wasted on lobbying/rent seeking efforts. Much will depend on the rigour, consis-

tency and transparency with which public interest and impact assessment criteria are applied.

e) Co-ordination of reviews

If regulations affect activities in more than one State or Territory or any restriction has impacts beyond a single State or Territory border, the CPA provides that the NCC may undertake the review. A national review, undertaken by the Council, would ensure economy-wide or national interests are given due weight and could also provide some economies of scale in resources and expertise.

Where particular regulations do not have impacts beyond the border, but are similar in nature to those operating in other jurisdictions, governments may be able to cooperate and make use of review findings from other States/Territories. The NCC might co-ordinate such co-operative efforts where common issues arise.

Within jurisdictional boundaries it is also important that individual regulations/instruments are not considered in isolation. The conduct of overarching reviews of a series of related Acts/regulations (*e.g.* financial regulation, or intellectual property legislation) would ensure simplicity and consistency between regulations. In some cases, a review across the responsibilities of several departments may be necessary, and the Commonwealth may need to give further thought to how best to co-ordinate such reviews.

f) Other costs and difficulties

Departments will have to absorb the resource costs of reviews with no supplementary funding. The costs of disruption, or deferral of, other programmes must be taken into account when considering the cost-effectiveness of the review programme. On the other hand, departments can expect some offsetting savings from more effective regulation and from removing unnecessary regulation.

The costs of any training/education for personnel conducting reviews probably will be limited. Where the Commonwealth's reviews are conducted by independent review bodies that are well-versed in cost-benefit methodologies, no special training arrangements are envisaged. In other cases, for example where reviews are to be conducted within departments, the ORR may be required to provide specific technical advice or conduct training courses.[13]

Acceptance by regulators and the public

While most Commonwealth Departments have fully co-operated in the development of review schedules, some bureaucrats have, not surprisingly, been

protective of their "regulatory patch" and have resisted the external scrutiny of independent public reviews.

The degree of public support for the legislative reviews is likely to depend on the level of public consultation and the extent to which the views of interested parties are taken into account in final recommendations. Hence, the consultation with departments, and with business and community interests (through their membership on the Council on Business Regulation), in determining review priorities, should increase public support.

In the end, the legitimacy and the effectiveness of the review programmes will be judged both by the quality of the review outcomes and by the extent to which review recommendations are adopted. Individual governments retain responsibility for reforming their own laws. Because there is general acceptance by all Australian governments of the need to review legislation which restricts competition against public benefit criteria, the recommendations are likely to be generally supported and the reforms implemented. Nevertheless, the influence of powerful vested interest groups that benefit from the maintenance of current regulations is not to be underestimated. A high degree of transparency, independence and public consultation in the review process is essential for countering these influences.

Other incentives for governments to implement reforms include the recognition by States that failure to implement reforms will put them at a competitive disadvantage relative to other jurisdictions and the financial inducement – competition transfers from the Commonwealth being dependent on the NCC determining that each State has adequately met its legislative reform commitments under the CPA.

5. LESSONS LEARNED

The legislative review programme is still in its early stages, and the focus of this section must be on the factors that were crucial in reaching agreement amongst the Commonwealth and State/Territory Governments to conduct a nationwide review of legislation inhibiting competition, and on the processes involved in selecting legislation for review. Comments on the reviews themselves must be based on judgements and expectations rather than direct experience, as the actual reviews will not commence until after June 1996.

The observations here are also guided by Australia's experience in designing and implementing other regulatory reforms (such as mutual recognition between States) or general micro-economic reforms over a number of years, and lessons learned from systematic review programmes already undertaken (for example, in Queensland).

Economic research and public reports can build support for initiating reform programmes.

In Australia, analyses by various government policy advisory bodies of the costs of regulations and the likely benefits of reforms raised the level of awareness in the community and helped galvanise public support for government reform initiatives.

For many years now, the Industry Commission (now being merged into the new Productivity Commission) and its predecessors have carried out public reports into the impacts of government activities and instruments on industry performance. Also, at the State level, various reports have addressed the question of the costs of regulation. In New South Wales, for example, the Report of the Commission of Inquiry into Red Tape, titled *Thirty different governments* (Sturgess, 1994), reported on the way government regulates, identifying excessive formalism and complexity in the regulatory process.

A detailed study by the Industry Commission (IC, 1995) of the growth and revenue implications of implementing the competition policy reforms was influential in convincing governments of the merits of proceeding with a comprehensive reform programme.

These reports provided information to the public about the impacts of regulations on economic performance and policy effectiveness and demonstrated that there are broad and substantial gains potentially available to society. Such information helps to overcome the opposition of particular sectional interests who may lose from a reform programme.

Reform efforts must have clear and convincing objectives.

In Australia, the principal motivations for the legislative review initiatives at the Commonwealth and State level are enhancing productivity and competitiveness, by improving the efficiency of resource allocation, correcting market failure and protecting the "public interest". There is also an agreed strong commitment to integrating the Australian economy by removing all hidden barriers to trade among States and Territories.

Achievement of these goals will bring about long-term and dynamic gains to the economy and ultimately to the community.

If the reform programme serves broad objectives and the benefits they will bring are clear, then the programme is more likely to be successful. This clarity helps in setting priorities in reform agendas. It also helps give resolve to reformers in dealing with opposition when it arises, such as may come from regulators or sectional interests. As well, the objectives and benefits become the guiding light when or if the programme becomes bogged down in detail. So, for example,

attempts to rewrite laws into plain English must ultimately be perceived to contribute to broader objectives such as increased flexibility and improved economic performance.

It is important to address significant concerns of all parties.

This issue came up with respect to the concerns of the States and Territories about losing control of their revenue base. This was directly addressed with the agreement to make three Competition Payments to the States and Territories (if conditions attached to the review programme are met) and was crucial in achieving State and Territory level support for the CPA.

Allowing the States and Territories some discretion in drawing up their review schedules was also an important element in securing agreement. By mandating compliance only with broad common principles, recognition was given to the sovereignty of individual governments. Adopting this approach may, however, result in some of the potential benefits of the review programmes being forgone, through a lack of transparency. It is important that as much information as possible should be made publicly available and subject to scrutiny by the NCC. Ideally this would include not only the timetables developed by the States and Territories, but also details on how the schedules were drawn up and justification for any exemptions.

Reform efforts require political support to be successful, and are made much easier if they also have bureaucratic and wide spread public support.

General acceptance by governments of the benefits of reforming anti-competitive regulations was very important in securing agreement by all heads of government to the National Competition Policy Reforms – including the legislative review component of the CPA.

The fact that the peak inter-governmental body in the country – the Council of Australian Governments (COAG, whose members are the heads of all Australian governments) – gave full support to the Competition Principles Agreement has given the programme much political muscle.

For the Commonwealth, approval of the review schedule and the nature of the reviews is likely to be subject to Cabinet consideration. This has given the whole legislative review programme considerable authority. Without the backing of COAG and the Commonwealth Cabinet, there is a risk that some bureaucrats would not put in the effort required to adequately assess their legislation. In fact, the process has been taken very seriously by most departments.

Political and bureaucratic support for the reform agenda was partly driven, and certainly facilitated, by the growing appreciation of the economic implications of government interventions by senior government officials.

In a Federal system of government, such as in Australia, national reforms are aided by the development of an institutional basis for co-operation and co-ordination between Federal and State Governments.

COAG and its various supporting committees have provided the primary institutional mechanism for inter-governmental co-ordination in Australia and the basis for securing agreement between the six State and two Territory governments to the competition policy reforms.

While each government is responsible for constructing its own review timetable and implementing the CPA reforms within its jurisdiction, the National Competition Council (NCC) has been established to facilitate co-operative efforts and to assess whether each State and Territory has met its obligations.

An important element of the NCC's role will be to assess the review schedules developed by each jurisdiction to show priorities for reform. The agreement to develop review timetables and publish annual reports on each party's progress toward meeting its obligations should provide an important mechanism for co-ordination. It will help ensure momentum is maintained and that reviews are conducted in a systematic and co-ordinated way.

The reform process must be credible and apply criteria consistently and objectively. It is important that there is independent input in the determination of what regulations are scheduled for review and of relative priorities. Any claims for exemptions by regulators must be subject to independent scrutiny.

An important feature of the Commonwealth's review programme is the combination of (i) departmental expertise on the detail, (ii) the broad view and experience of the ORR on all types of regulations, and (iii) representation of industry and community interests through the Council on Business Regulation (COBR).

However, when many groups (Departments, sectional interests) are being asked to provide information about their own activities and identify areas for review, they must be convinced that everyone is playing the game fairly or that there is an objective arbiter who will ensure consistency and fair play. The role played by the COBR and the ORR in drawing up review schedules has probably increased acceptance of the outcomes because the Council represents a broad

cross section of interests and because of the consistent application of criteria by the ORR across all departments.

The criteria being applied by the COBR provide clear guidance on the basis on which a regulation can be exempted from review. Any exemptions proposed by Departments were submitted to the COBR which can comment on their appropriateness. Comments by COBR must be submitted along with each Department's schedule to the Cabinet with whom the final decision rests.

Reviews should include a public assessment of the costs and benefits of the regulation and should take an economy-wide perspective. Usually, independent review bodies are the most appropriate for achieving this.

As a general rule, review reports should be public and independent. It has been the experience with Industry Commission reports that, if the review body consults widely and disseminates information about the policy choices as well as the costs and benefits of alternatives, then the review process itself increases public understanding and acceptance of the final recommendations. Taking an independent, economy-wide perspective also increases the legitimacy of the reviews and increases the likelihood that regulatory reforms will serve the public interest. Transparency and independence reduce the capacity of sectional interests to manipulate outcomes in their favour.

The CPA does not mandate independence for reviews or open and transparent processes. However, the more important of the reviews at the Commonwealth level will be public. Key features of the guidelines for the Commonwealth legislative reviews are that regulatory agencies should not review their own legislation and there should generally be substantial public consultation through a public inquiry process.

While independence and openness are preferred, it is also appropriate that regulators have extensive input into the reviews. Indeed, in some cases, they may do the major analysis of regulatory impact. The important point is that their contribution is subject to independent and public assessment.

Reformers and reviewers must be clear on what constitutes the "public interest" and communicate this effectively.

In the eyes of the community, the success or failure of this review programme may depend vitally on the extent to which reviewers effectively communicate the concept of public interest. Therefore, the correct application of public interest in the reviews may determine how the reviews are accepted by governments, regulators and the community.

The benefits from improved competition in the Australian economy are often not obvious. And, although this programme has been primarily driven by the conviction that improving regulations will greatly enhance economic performance, it has been balanced by recognition of the role that government can play in improving market outcomes. Consequently, an important element in the CPA is the importance given to "public interest". This assures participants and the community in general that increased competition is not being pursued for its own sake but as a means to improve social well-being.

Without limiting them, the CPA specifies some matters to be taken into account where relevant, including environmental concerns, equity concerns, occupational health and safety, industrial relations, access and equity, and others. From an economic perspective, these concerns relate to definitions of market failure and questions of income distribution. Hence, even where regulations inhibit competition they will not be removed if the benefits outweigh the costs and there are no better alternatives.

Performance indicators will assist reform.

It has been the experience in Australia, for example with the reform of Government Business Enterprises, that the use of performance indicators assists reform. Performance indicators do not have to be quantitative, but it is important to devise effective ways to describe the progress made by the Commonwealth, States and Territories, so that jurisdictions can be compared.

This is particularly important for ultimate outcomes. Otherwise, there is the danger that schedules will be developed and reviews conducted but little action taken to implement the recommendations of the reviews. Some measures of the number and significance of the reviews undertaken in each jurisdiction would be an important preliminary indicator of the success of this review programme. Subsequently, indicators of the types of recommendations made and whether or not they have been implemented would further assist reform. And finally (say two to five years after the reviews are completed), indicators of performance in the reformed areas would help inform later review programmes.

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Australia has already implemented important reforms in some areas of the economy. There is now a groundswell of support to continue and to broaden this process. The Competition Principles Agreement is the next important step. It flags significant changes in attitude and understanding of the importance of improving our regulatory system on a nationwide basis. The next five years will be a particularly important time of review and reform, and will test the adequacy of the institutions, criteria and processes that have been put in place. Of equal signifi-

cance is the commitment to review legislation and regulations with an impact on competition on an ongoing basis well into the future.

6. POSTSCRIPT

Since this paper was written at the end of March 1996, the first phase of the legislative review programme has been successfully completed – legislation has been selected for review and all jurisdictions have announced their legislative review schedules.

At the end of June 1996, the Commonwealth Government's consolidated review schedule was made public. The schedule lists 98 separate reviews, of which thirteen are already in progress and 85 will be conducted over the next four years.

In total, the States and Territories have nominated about 1500 pieces of legislation for review. The State of Victoria identified 441 Acts for review, the largest number for any jurisdiction. There is significant variation amongst the jurisdictions. Areas identified for review are diverse and include business laws, censorship, food standards, building codes, fisheries, primary products, communications, transport, professional standards, residential tenancies, education, health and workplace safety rules.

NOTES

1. Sue Holmes and Steven Argy were, at the time of writing this paper, on the staff of the Office of Regulation Review in the Industry Commission of the Commonwealth of Australia.

2. The Commonwealth of Australia is a federation of six self-governing states and two territories. The Australian Constitution specifies how legislative powers are shared between the federal and state Parliaments.

3. The other key elements of the National Competition Policy Reforms are: *i)* universal application of the competitive conduct rules in the Trade Practices Act to all sectors of the economy; *ii)* competitive neutrality principles which neutralise any net competitive advantage enjoyed by government businesses by reason of their public sector ownership; *iii)* structural reform of public monopolies where a government has decided to introduce competition or undertake privatisation; *iv)* enabling access to services provided by means of significant infrastructure facilities; and *v)* prices oversight of firms (including government businesses) with a high degree of market power.

4. Subsequent references to the "States" include the six States and two Territories.

5. A national scheme for mutual recognition of regulation commenced in March 1993 and is embodied in the Mutual Recognition Act 1992, and the accompanying State and Territory legislation that implements this Commonwealth Act. The scheme ensures that most goods initially produced or imported into one State or Territory under the prevailing laws of that jurisdiction can be sold freely throughout the country. In addition, members of regulated occupations can now enter an equivalent occupation in other States or Territories.

6. All payments are in 1994-95 prices, but will be indexed to maintain their real value over time.

7. The Australian Competition and Consumer Commission (ACCC) was also created as part of the National Competition Policy Reforms by merging the Trade Practices Commission and the Prices Surveillance Authority, but does not, however, have a direct role in legislative reviews under the CPA.

8. Under the CPA, a government may request that the Council undertake a review, in accordance with the Council's work program, where legislation has a national dimension or effect on competition (or both).

9. For example, Australian Bureau of Agricultural and Resource Economics (ABARE); or Bureau of Transport and Communications Economics (BTCE).

10. Reforms by the Commonwealth are projected to contribute A$4 billion, while reforms at the State, Territory and Local government level are estimated to contribute A$19 billion.

11. Personal communication, Victorian Office of Regulation Reform.

12. Hilmer also recommended that where, after a review, a regulation which restricts competition is demonstrated to confer net benefits on the community, it should automatically lapse after five years unless re-enacted after further scrutiny. In the CPA such regulation need not be reviewed again for ten years.

13. The Commonwealth ORR has for some time provided, on request, information and training sessions on the use of the RIS Guidelines to those involved in the making of regulations. The RIS guidelines and RIS handbook have been widely distributed for use as reference documents.

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Part III

COMPARATIVE ANALYSIS OF RIA PROGRAMMES AND METHODOLOGIES

ALTERNATIVE APPROACHES TO REGULATORY ANALYSIS: DESIGNS FROM SEVEN OECD COUNTRIES

by

Thomas D. Hopkins[1]

EXECUTIVE SUMMARY

This report describes and assesses guidance documents for regulatory analysis that are used by twelve governments in seven OECD countries. All twelve guides are quite new – initiated or revised after January 1, 1995 – and they comprise a key part of governments efforts to improve regulatory decisionmaking. The names and features of these designs vary widely, but all are intended to help regulatory officials achieve public policy objectives more effectively and/or in less costly fashion. Chapter 7, part 1, describes the 12 programmes in detail, using seven categories, and Chapter 7, part 2 assesses each of the programme designs against six quality criteria.

Guides to regulatory analysis are most likely to contribute to this goal if they prescribe for every significant new regulation an analysis that highlights *a)* the net present value of benefits and costs of both the preferred and the main alternative options, *b)* notable distributional features of the stream of these benefits and costs, and *c)* key assumptions employed, along with identification of factors that have and have not been quantified. Effects should be shown relative to a baseline representing likely consequences of taking no action.

Hallmarks of high quality against which this report assesses the twelve guides are clarity and coherence, comprehensiveness and specificity, adaptability to alternative decision criteria, practicability, safeguards against misuse, and modification/feedback features. The report identifies best practices from particular guides for each of these dimensions. The focus is exclusively on the guides themselves; the ultimately more important question of how effectively these guides are being adhered to and with what gain in regulatory quality lies beyond the scope of the report.

1. INTRODUCTION

Regulation is a potent tool of governance that all countries use in pursuing a variety of public policy objectives. These objectives range broadly across social and economic concerns as diverse as environmental risk reduction and worker security. By any reckoning, a substantial body of regulation already exists, and regulatory changes are continuous. In recent years, many OECD countries have taken steps to ensure that those making regulatory decisions have fuller access to information about all their consequences, both those that motivate the action and any unavoidable side-effects. The logic of such programmes is straightforward: this information can help the decisionmaker devise and implement regulations that generate intended improvements more effectively and less wastefully than might otherwise occur.

This report examines guidance documents for regulatory analysis programmes now in use by twelve governments in seven OECD countries; all were developed or revised after 1994 (the documents are listed in the annex). The twelve programmes bear a variety of names: Business Effects Test (the Netherlands), Consequence Assessment (Norway), Regulatory Appraisal and Compliance Cost Assessment (United Kingdom), Economic Analysis (United States federal government), Impact Assessment (Sweden), Regulatory Impact Analysis Statement (Canada), Regulatory (or Regulation) Impact Statement (or Assessment) (five Australian governments and New York State). The specific

Some Key Definitions for RIA

Net Present Value: The sum of total benefits minus total costs, with all future effects collapsed into equivalent current sums, using the social discount rate (the opposite process from compounding, which converts a present investment into a larger future value)

Baseline: The situation that is likely to evolve if government takes no action

Social Discount Rate: An interest rate chosen to reflect society's preference for having results now rather than later. For example, societies would generally prefer to avoid a death tomorrow rather than in 40 years. The rate is greater than zero unless society is indifferent about delay.

Sensitivity Analysis: Using alternative scenarios to show how a change in assumptions will affect predicted outcomes.

Best Estimates: Expected results in the *most likely* (rather than worse-case) scenarios. Best estimates are reached by weighting all possibilities by their probability of occurrence.

approaches that have evolved differ in numerous respects, which the report describes and assesses. The reports assessment framework is developed in Section II and then used in Section III to highlight best practices. The appendices contain more detailed information on the twelve programmes.

The documents available for review in this report are quite diverse and in some respects not truly comparable. A few are all-encompassing and self-contained, covering the full range of informational and analytical issues that a decisionmaker faces in adopting or revising regulation. Others either address a more limited array of topics, such as impacts on just the business sector, or are intended as a more general orientation, anticipating that the reader will seek out other resources and more technical guidance before taking action. Thus when the reports government-specific comments note the absence of or lack of detail in one or another feature, it is altogether possible that the "missing" guidance is available in another source.

2. CHARACTERISTICS OF HIGH-QUALITY PROGRAMME DESIGNS

There is no reason to think that the same approach could or should be adopted everywhere, for underlying institutions themselves differ sharply. Yet certain generic principles are broadly applicable, and this report draws on two primary sources of such principles in developing its assessment. One is an appraisal written by Thomas O. McGarity (1991). The second is a set of general propositions, here referred to as the "Arrow principles," co-authored early in 1996 by Nobel-laureate Kenneth J. Arrow and ten other prominent economists (1996). While the Arrow principles focus on a limited area of regulation, it is the single most contentious area, and in any event the principles are readily generalizable to other areas. Because of their significance, the Arrow principles are summarized in the box below.

The two most basic functions of the regulatory analysis process are those that McGarity (1991) emphasizes: "bringing comprehensive analytical rationality to bear upon regulatory problems," and communication of the results to decisionmakers (p. 112). This entails, in McGaritys words, "gathering and analyzing information ... on the beneficial and detrimental aspects of regulatory alternatives," and bringing it "to the attention of the decisionmaker in a coherent and systematic fashion" (p. 114). Correspondingly, the initial challenge of any guidance document is to achieve clarity in helping regulatory analysts, who very well may not be professional economists, understand these tasks. They encompass a number of steps, starting with a creative look at available options (including the option of no action) and continuing with a primary focus, as advocated by the Arrow principles, on estimating net present values of overall benefits and costs. These estimates should be of incremental effects – effects expected relative to a

clearly specified baseline, which is the situation that likely would exist in the absence of the regulation. The effects should be compared to those of practicable, alternative approaches, including more and less extensive requirements.

Such a benefit-cost approach generally can provide reasonably unambiguous information about which alternatives contribute most to, or detract least from, economic efficiency in the sense of a countrys greatest feasible overall material well-being. But since decisionmakers often have other objectives, such as fairness, the guidance should have a secondary and separable focus on distributional consequences. That is, impacts on particular segments of society (such as workers and business owners, and subgroups of each) and issues of equity within and across generations should be highlighted.

Neither efficiency and fairness effects can always be plausibly expressed in monetary terms or even measured in other dimensions. Inability to measure does not equate to lack of importance, and a guidance document should not subordinate qualitative factors to those that are quantitative in situations where the former are recognized as important. An analysis should be sufficiently comprehensive to characterize all effects of importance to policy officials, including identification of potentially irreversible consequences.

The 1996 Arrow principles: ten elements of high quality analysis

1. Each analysis contains a useful comparison of favourable and unfavourable effects of proposed regulation, with
   a) primary focus on estimates of overall benefits and costs, and
   b) secondary focus on distributional consequences, that is, on
      i) impacts on particular segments of society as well as on
      ii) issues of equity within and across generations.
2. The analysis relates these effects to those of practicable, alternative approaches, including more and less extensive requirements.
3. Scale and scope of analysis varies with the stakes involved and with the prospects that analysis can affect the regulatory outcomes.
4. Estimates of the regulatory cost stemming from any job or wage losses are based on whatever transition costs will be incurred from job switching, since regulation generally affects employment distribution across industries rather than total employment. In the rare cases where a partic-

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ular regulation significantly affects total employment, regulatory cost estimates are of the net effect on workers, consumers and producers.

5. Emphasis is on incremental effects – effects expected relative to a clearly specified baseline, the situation likely in the absence of the regulation.
6. Effects are quantified to the extent practicable, using plausible ranges and best estimates reflecting expected values; any "margins of safety" are stated explicitly.
7. Qualitative factors are not subordinated to quantitative factors in situations where the former are recognized as being important, in which case they are fully characterized in the analysis. Potentially irreversible consequences are identified.
8. Analysis is subjected to external review, the extent of which varies with the importance of the decision. Such review may entail peer review conducted within government and/or by respected outside experts. Retrospective assessments of analyses should be undertaken periodically by independent researchers.
9. All analyses use the same common core set of assumptions such as the social discount rate, the value of reducing risks of accidents and premature death (expressed as number of life-years extended), and the value of other improvements in health. Where alternative values appear more suitable, the analyses indicate how outcomes differ from those that emerge using the common core values.
    a) Future benefits and costs are discounted to present values using a range of discount rates chosen to reflect how individuals trade off current for future consumption rather than the rates of return on private investment.
    b) Values used to monetize risk reductions are based on trade-offs that individuals can be observed making in voluntary transactions that yield small risk reductions at the expense of other amenities, goods or services.
10. A standard format is used to summarize each analysis, highlighting:
    a) the net present value of benefits and costs of both the preferred and the main alternative options,
    b) notable features of the stream of these benefits and costs,
    c) key assumptions employed, with a list of factors that have and have not been quantified, and
    d) incremental net benefits of each regulatory alternative.

Meeting the objectives noted above calls for *clarity*, *coherence* and *comprehensiveness* in a guidance document. The guidance also should be specific about important parameters employed across a wide range of regulations. The Arrow principles urge that this specification of a common core set of assumptions for use in all analyses should include, at a minimum, the social discount rate, the value of reducing risks of accidents and premature death, and the value of other improvements in health. Future benefits and costs should be discounted to present values using a range of discount rates chosen, in general, to reflect how individuals trade off current for future consumption (rather than the rates of return on private investment). Monetizing risk reductions often is one of the most contentious aspects of any analysis. The most generally accepted approach is based on trade-offs that individuals can be observed making in voluntary transactions that yield small risk reductions at the expense of other valued resources. Since alternative values sometimes may be more suitable, the guidance should ask for sensitivity analysis, indicating how outcomes differ from those that emerge using the common core values.

A guidance document that incorporates these principles would call for analyses whose results highlight:

a) the net present value of benefits and costs of both the preferred and the main alternative options;

b) notable distributional features of the stream of these benefits and costs; and

c) key assumptions employed, along with identification of factors that have and have not been quantified.

Effects should be shown relative to a baseline representing likely consequences of taking no action.

If the guidance document succeeds in generating this type of analysis, it will have gone far toward meeting the important need of *adaptability*. This need arises because the criteria used in making final regulatory decisions vary widely across programmes and over time. Indeed, at any given point in time, important regulations typically have strong advocates and critics, and both need access to information about the effects they care most about. McGarity points out that supporters of regulatory analysis include two competing and antagonistic groups – those who want "better" regulation and those who want *less* regulation (1991, p. 112). Regulatory analysis can be most useful if results are presented in a form that clarifies all effects that any stakeholder group thinks relevant. Thus benefit-cost analysis needs to be supplemented with other tools that display distributional impacts.

Analytical talent is a scarce resource, and carrying out thorough regulatory analysis can be costly. Hence *practicability* is a further key consideration. The

guidance document should make clear that scale and scope of analysis should be matched both to the stakes involved and to prospects that analysis can affect the regulatory outcomes, as the Arrow principles suggest. A guidance document also can serve a quite useful purpose if it directs analysts to supplementary resources and suggests procedures (such as report formats) that can simplify and expedite the process.

Regulatory analysis can help clarify and improve outcomes only to the extent that it is *objective* and *complete*. A guidance document can help avert problems of misuse and bias through several safeguards. McGarity advocates " 1) consulting, whenever possible, multiple sources of information in preparing regulatory analysis documents; 2) carefully citing all information upon which the analysis draws and making the information available for public scrutiny at convenient times and places; and 3) subjecting critical studies to review by acknowledged experts" (1991, p. 306). Similarly, the Arrow principles urge that analysis be subjected to external review, depending on the importance of the decision; this can include peer review conducted within government and/or by respected outside specialists.

Bias can creep into analysis if qualitative information is slighted in favour of that which can be quantified, a point already mentioned, and also if quantification is not based on best estimates reflecting expected values (as distinct from "worst case" or conservative estimates), along with plausible ranges. As the Arrow principles suggest, any "margins of safety" should be stated explicitly.

Incomplete coverage can be a problem if a guidance document is too casual about the array of alternatives. McGarity cites a common "programme office tendency to adopt a conveyor-belt mind-set, focusing upon a single option early in a rules germination and adhering to that option throughout. If upper-level decisionmakers later insist upon considering more than one option, the technical staff dutifully sandwiches its preferred alternative between two post hoc red herrings" (1991, p. 114). Perhaps the best defence against such practices is for the guidance document to stress the need for several plausibly diverse approaches very early in the process. McGarity suggests that, as the field is narrowed, explanation should be required for deleting particular options from further consideration.

Switching finally from the front-end to the back-end of the process, a guidance document can make one further important contribution, namely in regulatory *modification and feedback*. Situations change and assumptions that seemed eminently sensible at the time a regulation was adopted can become unwarranted rather quickly. A guidance document should insist on provisions for periodic retrospective assessments of analyses by independent researchers, as the Arrow principles advocate. To assist this effort, the document should ask that the origi-

nal regulatory analysis explicitly identify information gaps and assumptions along with research needs, which should help focus the efforts of later study.

To recap, the elements of high quality guidance documents on which this report focuses can be put in the form of a programme design checklist:

A. Clarity and coherence

B. Comprehensiveness (as to effects and types of regulations) and specificity

C. Adaptability to alternative decision criteria

D. Practicability as to data needs and analytical skills

E. Susceptibility to misuse – bias potential, incomplete coverage

F. Modification and feedback mechanisms

This checklist is used in deriving Section 3's identification of best practices.

3. IDENTIFYING BEST PRACTICES

Based on the assessment checklist developed in Section 2 above, certain features of the twelve programme designs stand out as exemplary. This section of the report characterizes such features as "best practices" and discusses their strengths, while Appendices A and B provide more detailed information about all twelve designs. As suggested previously, there are differences in underlying institutional contexts and in the scope of the designs; hence, singling out a feature as a best practice is not a recommendation that it be incorporated in every design. Rather, it should be interpreted as a suggestion that this feature holds considerable promise and warrants consideration in future revisions of particular programmes.

Clarity and coherence. For a lay reader who lacks much experience with economic analysis, the guide from the Commonwealth of Australia and the 1995 guide from Canada are particularly accessible. Both eschew economic jargon while providing notably coherent explanations of objectives and the methods by which those objectives can be attained. The Australian guide adopts a layered approach that enables the reader to locate and move quickly to the precise issues that are most germane to any particular situation. Most topics are given both a short overview and a more detailed treatment, along with suggestions for further reading, which should be a substantial time saver for the reader.

The Australian guide, at 60 pages, and the Canadian, topping 100, are among the lengthiest of all guides (only those of Tasmania, the Netherlands and New York State have comparable girth), but they are among the easiest to read because of the attention paid to crafting digestible subsections and avoiding technical language. The Canadian guide has the added merit of lightness of tone

and even touches of humour, along with many good examples illustrating the basic analytical points that are being explained.

The Australian Commonwealth guide contains an RIA checklist reproduced in the box below that commendably summarizes what the regulatory analyst should consider, and each point is amplified in later specific sections.

Australian RIA Checklist

Objectives

1. What is the problem being addressed?
2. Why is government action needed to correct the problem?
3. 3. are the objectives of government action?
4. Is there a regulation/policy currently in place? Who administers its?

Options

1. Which options for dealing with the problem are being considered?
2. Identify constraints which may make some options not viable.

Impact analysis

1. Who is affected by the problem and who is likely to be affected by its proposed solutions?
2. How will each proposed option affect existing regulations and the roles of existing regulatory authorities?
3. Identify and categorize the expected impacts of the proposed options as likely benefits or likely costs.
4. Determine which groups are likely to experience these benefits and costs and what the extent of their impacts are likely to be. Quantify these where possible.
5. Identify distributional effects and attribute these to the groups affected.
6. Rank proposed options according to the benefits and costs they generate and how these benefits and costs are distributed.
7. Identify the data sources and main assumptions used in making these assessments.
8. Summarize outcomes for each option examined and state why a particular option is preferred.

Implementation and review

1. How will the preferred option be implemented?
2. Is the preferred option clear, consistent, comprehensible and accessible to users?

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3. How will the effectiveness of the preferred option be assessed? How frequently?
4. If the preferred option takes the form of primary legislation, is there a built-in provision to review or revoke the act after it has been in place for a certain length of time?

Summary

1. Provide a brief summary of the assessment of each option
2. State what is the preferred course of action and why.
3. Briefly outline the assumptions that this conclusion rests upon.

A complementary approach with considerable merit is adopted by Canada, the Council of Australian Governments and New York State. It calls for a two-step inquiry. Step one is answering the threshold question of whether any regulatory action can be expected to help, and step two is analysis of the benefits and costs of alternatives. Canadas guide refers to this as "screening alternatives" before any formal economic analysis begins. The United Kingdoms guide also warrants mention in that it provides hypothetical analyses that are quite useful in clarifying requirements.

Comprehensiveness and specificity. The US guide in less than 40 pages manages to encompass virtually every issue that an economist could raise about regulatory consequences, and its guiding principles of full disclosure and transparency are soundly applied. The longer guides, such as those of the Australian Commonwealth, are in some respects actually less comprehensive; for example, the choice of a discount rate is more fully resolved in the US guide. The US is one of only four guides (the other three being Canada, Tasmania and the UK) that specify the social discount rate analysts should use (7 per cent), and its logic is persuasive. (Canada puts the rate at 10 per cent, asking for sensitivity analyses at 5 and 15; Tasmania specifies 8 per cent.)

The admirable depth and breadth of the US guides coverage is conveyed in language that economists have no trouble understanding, but a "users guide" would make this document more operational for a broader set of readers. Indeed, such has been the practice for previous versions of this guidance. Several US agencies with important regulatory responsibilities (such as transportation and environment) in past years developed their own manuals keyed to that provided by OMB; it is not clear whether such steps are being taken with the new 1996 guidance. Such an approach – a succinct and rather abstract central guide coupled

with agency-specific detailed guidance – has the virtue of fitting the examples to the regulatory situation and matching the density of the economics with the skill levels of the agencys regulatory staff.

There are two areas in which the US guide is less than fully comprehensive. One concerns differential effects of regulation across types and sizes of business. Guides such as that of the United Kingdom provide considerably more extensive help on tracking and reporting these effects. The second has to do with placing a value on the benefits of risk reduction regulation. Here the US is certainly not alone; indeed, no countrys guidance document provides parameters that analysts can rely upon in evaluating and comparing mortality or morbidity risk reductions. Nonetheless, the US document acknowledges that allowing regulators to use inconsistent values ''across regulations and agencies for comparable risks...prevents achievement of the most risk reduction from a given level of resources spent on risk reduction.''

All of the guidance documents acknowledge that some regulatory effects cannot be monetized (*i.e.*, valued in monetary terms) in any realistic fashion. In some cases, these effects can be quantified using other metrics, such as recovery rates for endangered species, or improved visibility at public parks. In other cases, such as greater cultural diversity, effects are less tangible although no less highly-prized. Applying more analytical resources to the study of such effects can shift more of them into the monetized category, but such efforts are not always worthwhile. The Canadian guide's comment is apt and typical of other guides: ''Just because you can't get a number doesn't mean the information is not useful.'' More generally, and again mirroring most guides, the US document states: ''Presentation of monetized benefits and costs is preferred where acceptable estimates are possible ...Effects that cannot be fully monetized or otherwise quantified should be described.''

Adaptability. There is considerable variation across the documents in the relative importance attached to the several possible uses of the analysis. ''Better regulation,'' in other words, means rather different things to different guidance writers. Adaptability is not an advantage if one is committed to a particular objective, such as lessening business burdens or achieving greater economic efficiency. Similarly, if the guidance document under review is intended merely to generate information about one dimension of regulatory effects – effects on business, notably – it cannot be faulted for failure to deal with effects on other parts of society. Thus the United Kingdoms ''compliance cost assessment'' guide and the Netherlands ''Business Effects Test'' are excellent vehicles for exploring these limited regulatory effects. The thrust of this discussion, however, is to seek out those designs that are both comprehensive and adaptable. Politicians and policy choices come and go, but there is much to be said for fostering development of a data base that provides objective information clarifying whatever

effects are of greatest concern to the current authority while not masking effects of concern to those not now in authority. In brief, this amounts to an endorsement of those designs that clearly articulate the net benefits of alternatives measured solely in terms of efficiency effects, and that separately address distributional consequences in their various forms – across families, generations, regions, and businesses, among other groupings.

Among those documents that do purport to be comprehensive in scope, the Australian Commonwealth design is admirably adaptable. Net benefits and distributional effects are contrasted clearly, subordinating neither to the other. Both are to be separately portrayed, with choices left to the responsible political authorities. Canada, New York State and the United States also provide useful guidance in this connection, although less forthrightly. Canada and New York State start with an emphasis on allocative effects (net benefits), while requiring provision of information on distributional effects to supplement the allocative findings. The US has a somewhat curious mix, specifying in its basic objectives that net benefits are to be maximized after incorporating distributional effects, which stretches credulity, since this mixes noncommensurables. Yet the US in later passages does ask for the requisite information separately.

Practicability. Since regulations differ enormously in the size and complexity of their effects, all of the guides make clear that it makes little sense to examine each regulation with similar thoroughness. Analytical capability is a scarce resource that needs to be allocated using some rule of reason. The Canadian guide offers an especially ambitious and promising plan in this connection. Its 1995 guide is aimed primarily at the very large subset of all regulations that cannot be termed ''major'' as to either costs or controversy. The regulatory official who must carry out the analysis is guided carefully through the process of categorizing and reviewing the regulation. The basic elements of alternatives and trade-offs are emphasized with the help of simple examples, and only in the case of major regulations does the analyst have to turn to the more jargon-laden 1994 ''Technical Guide.'' In essence, the analyst can take advantage of a portfolio of aids as the importance of the regulation may warrant, without having to plow through more detail than is relevant to the case at hand. In addition to the two Canadian versions of basic guidance (one for non-major and the other for major regulations), the analyst has access to two promising cost-estimating aids, an interactive, software-based ''Business Impact Test'' and a ''Regulatory Cost Accounting Protocol.''

The Swedish guide shares some of these strengths, making it easy for the analyst to determine how thoroughly a particular regulation should be examined, using a four-part matrix. Then it clearly guides the analyst through the basic issues. One other useful feature of some of the guides, such as that of New York

State, is a set of extensive citations to studies that analysts can consult for further assistance.

The Australian Commonwealth guide also has much to commend it as to practicability, partly in light of its layering feature already discussed. In addition, the analyst works from a usefully structured two page checklist of issues that should be addressed (provided above), complemented by chapter 7 containing actual examples of regulatory analyses. Similarly, the Queensland guide contains a four page "RIS Pro Forma" that walks the analyst through the requisite information.

A different and less comprehensive (but equally practicable) strategy is used in the United Kingdom, placing primary emphasis on costs. Its guide to "Compliance Cost Assessment" provides an exceptionally well-designed set of tasks through which the analyst draws a vivid picture of cost magnitudes and their distribution across firms. Total cost estimates must be accompanied by analyses showing the effects on a "typical" business and on small businesses. The guide offers helpful examples and understandable definitions at each step of the way. These assessments are supplemented by a discussion of the costs to consumers and other groups and by a Risk Assessment that quantifies the risks being addressed and the expected impact of the regulation. These steps are collectively known as a Regulatory Appraisal.

On another front, analysts must make assumptions about whether, once implemented, 100 per cent compliance with a regulation will be achieved, which is the United States approach, or whether a lower compliance percentage is more realistic, the approach taken in Victorias guide. What is most important here is for the same assumption to be employed in estimating both benefits and costs; beyond this, it is not obvious *a priori* what compliance percentage should be used.

Susceptibility to bias. All of the programme designs incorporate consultation with affected parties in the course of preparation of the regulatory analyses, and this removes what otherwise could be a substantial source of bias. Queensland has an especially constructive plan: stakeholders must be consulted both during and after the analysis stage, and notification through both local papers and the governments own publication (the *Gazette*) alerts the public to availability of the analysis and invites comment. Victoria and New York State also mandate expert independent assessment or peer review, which adds a useful quality control mechanism. Several of the documents emphasize the importance of making assumptions explicit (*e.g.* Australian Commonwealth, New York State and the United States); this greatly increases the potency of all outside review.

A governments internal review system on the adequacy of regulatory analyses across agencies can foster desirable consistency across the whole spectrum of regulation, and the United Kingdoms guide articulates an especially thorough

review process. Each department maintains its own review unit (Departmental Deregulation Units) empowered to clear proposals after they are responsive to its comments, and two separate government-wide monitors subsequently get involved (the Central Deregulation Unit, and the Deregulation Task Force). The United States also has a clearly-structured internal review process; most significant regulatory actions receive two reviews (one at proposal stage and the second at final announcement stage) by the Office of Management and Budget. The scope of the US oversight process is limited, however, by the fact that much US regulation emanates from agencies that are independent of OMB's regulatory authority.

One other feature of the US document warrants mention in connection with minimizing bias. Its treatment of risk and uncertainty stands out as worthy of consideration in all guidance documents. Ranges portraying maximum and minimum possibilities (as called for in Norways guidance, for example) are certainly instructive, but the US stress on the importance of measures of central tendencies and probability distributions provides better guidance. When an analyst neglects to focus on best estimates of some aspect of a hazard, so as to avoid the possibility of understating it, the end result often is an imbalanced portrayal of a situation. It is preferable to let the policy official at the end of the line base his or her judgement on best available estimates, and at that stage to adopt a more cautious regulatory stance than the analytics suggest if such appears prudent. Otherwise, outcomes will have a peculiar mix, with certain risks being inadvertently far more tightly controlled than others.

Feedback mechanisms. Implementation of a regulation should not be viewed as the end of the need for analysis, since outcomes often vary from what was anticipated. Some of the guidance documents have impressive follow-up requirements, and these improve the odds that disappointing results will bring about changes ranging from minor midcourse corrections to "sunsets." The ideal situation is to build into the regulatory design provisions for monitoring actual effects and triggers for reconsideration of the regulation itself. The Government of Victoria specifies that each analysis must address the tracking of compliance and set up post-promulgation review by an external committee, a quite promising approach. Both Norway and Sweden place particular emphasis on building into the initial assessment some provisions for follow-up and evaluation of actual results.

Both modification of particular regulations and the course of new regulation likely could be strengthened by one seemingly simple action – creating an accessible and cumulative repository of the regulatory analyses themselves. The first step is ensuring that the analyses become part of the public record, which generally now is the case. In Canada, for example, the analysis itself is published in the governments *Canada Gazette*. The United Kingdom goes beyond this by publishing twice yearly summary information about every analysis (their "Cost Compliance

Assessments") issued during the preceding six months, along with how to access each. The latter is a desirable feature, since it enables those interested to track the patterns of effects that are emerging. Similarly, Sweden plans to build a comprehensive information system using the impact assessments, although only for internal purposes, which would limit its value.

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The most impressively engineered design for regulatory analysis adds little value to public policy outcomes unless its applications are taken seriously and the quality of regulatory decisions correspondingly improves. Having the worlds best cookbook does not guarantee better cakes, although a basically flawed cookbook surely reduces their likelihood as well. Twenty years ago the first evaluation of a regulatory analysis programme design observed that "Below some minimum quality level, an [analysis] can have little or no beneficial impact on legislative or regulatory decisions. Above that minimum level, analyses may vary greatly in quality without that variation having much bearing on how significantly the analysis affects decisionmaking." For a constructive effect on outcomes, it concluded there must be *a)* an absence of severe statutory constraints on the use of economic analysis, *b)* agency support for the effort, *c)* an outside monitor and analytical critic, and *d)* a high level administrative directive (or stronger directive such as legislation) (Hopkins, 1976). That remains the case today.

This report has looked solely at design issues, offering no comments on how successfully the designs are being used. Most of the designs are still so new that only quite limited track records now exist; indeed all were issued or revised after January 1, 1995. As time passes, however, such an inquiry across countries will become both possible and of considerable value, particularly if it is able to distinguish questions of quality of the analysis from questions of incremental effects that the analysis has on specific regulatory outcomes. Ultimately, the legitimacy and public acceptance of any design seem likely to depend on whether, at reasonable cost, it contributes:

- little delay and complication in the development of sound regulations, and
- successes in both avoiding objectionable regulation and generating improved regulatory outcomes.

The designs reviewed in this report have many impressive features and great promise. But until fuller information is available on their application, the extent of their contribution to public policy remains unclear.

NOTE

1. Thomas D. Hopkins is Gosnell Professor of Economics at Rochester Institute of Technology in New York State and has written extensively on regulatory reform issues.

Annex

LIST OF GUIDANCE DOCUMENTS COVERED BY THIS REPORT

AUSTRALIA

"A Guide to Regulation Impact Statements," Office of Regulation Review, Industry Commission, Commonwealth of Australia, 60 pages plus Chapter 7 containing examples of RISs, September 1995.

"Better Regulation: A Regulatory Impact Statement Handbook," Office of Regulation Reform, Department of Business and Employment, State Government of Victoria, 33 pages, July 1995.

"Principles and Guidelines for National Standard Setting and Regulatory Action by Ministerial Councils and Standards Setting Bodies," Council of Australian Governments, 43 pages, undated (1995?).

"Regulatory Impact Assessment Model–User Manual," Subordinate Legislation Act of 1992, Regulation Review Unit, Department of Treasury and Finance, State Government of Tasmania, multipart document together with disk template, April 1995.

"RIS Guidelines–Guidelines for Regulatory Impact Statements required under the Statutory Instruments Act and Established Government Policy," Department of Business, Industry and Regional Development, Queensland Government, 25 pages, December 1995.

CANADA

"Benefit-Cost Analysis Guide for Regulatory Programs," Regulatory Affairs Series Number 3, Treasury Board Secretariat, 108 pages, prepared by Consulting and Audit Canada, May 1995.

"The Regulatory Cost Accounting Protocol: A Functional-Based Approach to Regulatory Costing," 87 pages, developed by Industry Canada and Treasury Board of Canada Secretariat, May 1995, consisting of an introductory guide and a two-part protocol.

"Technical Guide to Regulatory Impact Analysis," 50 pages plus appendices, Treasury Board of Canada Secretariat, March 1994.

"Using the Business Impact Test Effectively," 11 pages, and "Questions in the Business Impact Test," 6 pages, Treasury Board of Canada Secretariat, not dated.

THE NETHERLANDS

"Business Effects Test Checklist and Notes–Effects of Draft Legislation," Ministry of Economic Affairs, 58 pages, September 1995.

NORWAY

"Instructions for Official Studies and Reports," Prescribed by Royal Decree of 16 December 1994 and amended by Royal Decree of 8 December 1995, Ministry of Government Administration, Oslo, 17 pages, 1995.

SWEDEN

"Section 14-Impact Assessment: Second Draft Translation, RRV 1995:18" (subsequently renumbered to Section 27), The Swedish National Audit Bureau (Riksrevisionsverket-RRV), 30 pages, May 1995.

UNITED KINGDOM

"Checking the Cost to Business: A Guide to Compliance Cost Assessment," The Deregulation Initiative, Cabinet Office, London, 32 pages, 1996.

"Regulation in the Balance: A Guide to Risk Assessment," The Deregulation Initiative, Department of Trade and Industry, London, 21 pages, November 1993.

UNITED STATES

"Cost-Benefit Handbook: A Guide for New York States Regulatory Agencies," Governors Office of Regulatory Reform, 60 pages, January 1996.

"Economic Analysis of Federal Regulations Under Executive Order 12866," Office of Management and Budget, 37 pages, January 1996.

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HOPKINS, T. (1976), *An Evaluation of the Inflation Impact Statement Program*, White House Economic Policy Board, Washington, DC.

McGARITY, Thomas O. (1991), Reinventing Rationalité: The Role of Regulatory Analysis in the Federal Bureaucracy, Cambridge University Press.

7

ALTERNATIVE APPROACHES TO REGULATORY ANALYSIS: DESCRIPTION AND ASSESSMENT

by

Thomas D. Hopkins

PART 1. DESCRIPTION OF PROGRAMME DESIGNS

Each of the twelve regulatory impact analysis programmes is described using the following categories of information:

A. Name, purpose, and decision criteria
B. Scope, authority and time frame
C. Type of analysis and methodology – quantitative and qualitative dimensions
D. Data requirements – collection and presentation
E. Who does the analysis, and what quality controls exist?
F. Who uses the analysis, and in what ways?
G. Public access/disclosure

AUSTRALIA

Five guidance documents from Australia are included in this review from the Commonwealth, the Council of Australian Governments, and the Governments of Queensland, Tasmania and Victoria.

AUSTRALIA – COMMONWEALTH

"A Guide to Regulation Impact Statements," Office of Regulation Review, Industry Commission, Commonwealth of Australia, 60 pages, September 1995.

A. Name, purpose and decision criteria

Name: Commonwealth Regulation Impact Statement (RIS).

Purpose and decision criteria:

- "improve regulation-making and ensure that regulations are cost-effective and justified [also stated as necessary, effective and cost-efficient]";
- "systematically, and in a transparent manner, examine the impact of alternative ways of overcoming specified social or economic problems";
- "an aid to decision making as well as a quality assurance mechanism for regulation..... to ensure that proposals are necessary, cost effective and in the best interests of the community";
- "improve decision making by ensuring that regulatory solutions adopted are only those that are the most effective response to a policy problem. To help achieve this, the RIS involves an analysis of the likely benefits and costs of each option identified to ensure that the option adopted is one which results in the largest net benefit to the community.... Cost-benefit analysis is only a guide in decision making as it focuses only on the allocative effects of proposals. It alone cannot provide a definitive answer to which is the best proposal to adopt as society has a wide range of goals to pursue in addition to allocating resources efficiently. Thus the CBA is not the sole input to decision making. Issues of equity, cultural and social significance as well as political considerations all have an influence on decisions".

B. Scope, authority and time frame

Required by Cabinet policy (since 1985) for each proposal of new or amended regulations that both affect business (conferring costs or benefits) and need Cabinet approval. Similarly required (since August 1995) when agencies review existing regulation that affects business. Part of the Commonwealth Governments regulation review procedures administered by the Office of Regulation Review (ORR) in the Industry Commission. RIS or a waiver from ORR must accompany proposals sent to Cabinet. "The RIS process should commence at the beginning of the process of regulatory formation."

C. Type of analysis and methodology – quantitative and qualitative dimensions

Broad cost-benefit analysis with considerable attention to distributional effects, intangible consequences (see D11,12), and implementation and *ex post* review plans.

Provides general guidance on market failure issues, alternatives, C-B techniques with examples and references, including several government sources on cost-benefit analysis, environmental valuation techniques, discounting. For

specific guidance on choice of discount rate and other valuation parameters, reader is referred to other sources.

D. Data requirements – collection and presentation

A two page checklist identifies 21 informational items that generally are needed as to objectives, options, impact analysis, implementation and review, and summary. (pp C1-2) Each is amplified in later specific sections.

E. Who does the analysis, and what quality controls exist?

Agencies that write the regulations are responsible for the RIS, with ORR available for assistance in resolving issues. Broad consultation with affected parties is expected in developing the RIS.

F. Who uses the analysis, and in what ways?

Considered in final approval of regulation by the Cabinet.

G. Public access/disclosure

Not specified.

AUSTRALIA – COUNCIL OF AUSTRALIAN GOVERNMENTS

"Principles and Guidelines for National Standard Setting and Regulatory Action by Ministerial Councils and Standards Setting Bodies," Council of Australian Governments, 43 pages, undated (1995?).

A. Name, purpose, and decision criteria

Name: Regulatory Impact Assessment, presented in the form of a Regulatory Impact Statement (RIS).

Objective is "to draw conclusions on whether regulation is necessary, and if so, on what the most efficient regulatory approach might be" and to focus on "necessity, efficiency and net impact on community welfare".

An adequate RIS must demonstrate "the need for regulation" and "that the benefits of introducing regulation outweigh the costs." Decision-makers should be made aware of distributional implications.

Since 1994, any regulatory proposal that has "the potential to restrict competition should include evidence that the competitive effects of the regulation have

been considered; that the benefits outweigh the likely costs; and that the restriction is no more restrictive than necessary in the public interest''.

B. Scope, authority and time frame

All regulatory proposals require RISs, but the thoroughness of the analyses should be commensurate with the proposals impacts.

Any Ministerial Council or standard-setting body proposing to agree to regulatory action or adopt a standard ''must first certify that the regulatory impact assessment process has been adequately completed.'' An independent review arrangement is specified should two or more Heads of Government be dissatisfied with an RIS. In any event, aim is ''to develop a national consensus'' since most Ministerial Councils ''do not have formal and binding voting arrangements.''

C. Type of analysis and methodology – quantitative and qualitative dimensions

A two-step process is envisioned: first ''determining if a market failure exists that warrants government intervention and considering which form of action could potentially redress the market failure'' and then analyzing ''the costs and benefits of alternative proposals to determine if any result in net benefits and/or which generates the greatest benefits for the least cost''.

''A RIS should attempt to assess all costs and benefits to the greatest extent possible. Where relevant, economic, social, environmental, public health and consumer safety effects should be considered.'' No particular technique is prescribed, but normally some mix of risk analysis, cost-benefit analysis and cost-effectiveness analysis is recommended. Each is explained. Detailed quantitative assessments are required for regulations with significant net costs or benefits.

D. Data requirements – collection and presentation

Most RISs should cover:

- statement of the problem;
- objective of the regulation;
- statement of the proposed regulation and alternatives;
- identification of affected parties;
- consultation plan;
- costs and benefits of proposal and alternatives (including ''do nothing'');
- evaluation;
- review plan for *ex post* monitoring.

E. Who does the analysis, and what quality controls exist?

The regulatory agency prepares the analysis, relying on substantial consultation with consumer and business organizations and other affected parties "when the course of regulatory action is being considered and a draft impact assessment statement is being produced".

F. Who uses the analysis, and in what ways?

The Ministerial Councils and standard-setting bodies whose agreement is needed for national (inter-governmental) standards have access to RISs before their deliberations. Also, an information copy of the RIS goes to the Commonwealths Office of Regulation Review.

G. Public access/disclosure

Advertisements must appear in all jurisdictions giving notice of intent to regulate, of the availability of the RIS, and of submissions being invited.

AUSTRALIA – QUEENSLAND

"RIS Guidelines – Guidelines for Regulatory Impact Statements required under the Statutory Instruments Act and Established Government Policy", Department of Business, Industry and Regional Development, Queensland Government, 25 pages, December 1995.

A. Name, purpose, and decision criteria

Regulatory Impact Statement (RIS).

Purpose is to reduce regulatory burden and "counter potential over-reliance on Government regulations to solve problems".

RIS is "to explain to the community the need for the subordinate legislation and to set out the benefits and costs which would flow from its adoption. It must also explain what alternative measures have been considered and why they have been rejected. ...only those regulations which represent the most effective response to a policy problem are adopted".

B. Scope, authority and time frame

An RIS is required by law starting July 1995 (Statutory Instruments Act) for all new "subordinate legislation likely to impose appreciable costs on the community...." Guidance on "appreciable" is offered, stressing case by case approach, but also mentioning a $500 000+ annual cost as one reasonable indicator. The

Departments decide whether an RIS is needed, with the option of seeking advice from the Office of Parliamentary Counsel (OPC) and the Business Regulation Review Unit in the Department of Business, Industry and Regional Development (BRRU prepared the RIS guidelines). Parliament intends that RIA be available before the subordinate legislation is made, but noncompliance does not affect validity of the legislation.

C. Type of analysis and methodology – quantitative and qualitative dimensions

RISs are to be brief and intelligible to the non-expert reader, and extent of analysis should match complexity of the issues. By statute, the RIS "quantifies benefits and costs where practicable and appropriate, and...includes a comparison of the benefits and costs associated with any reasonable alternative." The cost-benefit assessment is to encompass economic, social and environmental impacts, and both direct and indirect effects. The Queensland RIS guidelines incorporate by reference the Council of Australian Governments design discussed above (Attachment B), and refers reader to several BRRU documents on details of cost-benefit analysis.

D. Data requirements – collection and presentation

The guidelines contain an attachment (A) with an "RIS Pro Forma", which emphasizes consideration of alternatives and cost-benefit assessments. A one page check list (Attachment. D) summarizes both the RIS content and procedural steps.

E. Who does the analysis, and what quality controls exist?

Stakeholders must be consulted during development of RIS and again when it is completed. The OPC review noted above takes place before final release of RISs.

F. Who uses the analysis, and in what ways?

The RIS is reviewed by OPC with advice from BRRU, certified by OPC as complying with statutory requirements, and submitted to Cabinet. After "noted" by Cabinet, the final RIS is used in public consultations.

G. Public access/disclosure

The RIS is notified in the *Gazette* and local newspapers with information on how to obtain access and a request for comments.

AUSTRALIA – GOVERNMENT OF TASMANIA

"Regulatory Impact Assessment Model – User Manual", Subordinate Legislation Act of 1992, Regulation Review Unit, Department of Treasury and Finance, State Government of Tasmania, multipart document with disk template, April 1995.

A. Name, purpose, and decision criteria

Name: Regulatory Impact Assessment (RIA), forms basis of Regulatory Impact Statement (RIS).

RIA shows "net impacts of the regulatory regime and its alternatives...and provides transparency in the rationale involved in the policy making process". Examines "all tangible and intangible impacts so that a value judgement can be made as to whether proposed legislation is both efficient and effective".

B. Scope, authority and time frame

No information available. This guidance document is unique in that it is a computerized and highly formalized processing of information about impacts. The circumstances in which it is used are not specified, except to note that the RIA would form the basis of an RIS when the latter is required by law.

C. Type of analysis and methodology – quantitative and qualitative dimensions

Costs and benefits are derived in two broad classes for each of three stakeholder groups. The classes are qualitative and quantitative impacts, and the groups are government, businesses and consumers. In the case of quantitative impacts, a net impact on all stakeholders also is derived. Sub-groups within each of these three are to be set up when the impacts are uneven. A ten-year horizon normally is used, with discounting at an 8 per cent rate. The qualitative impacts are assigned numerical ratings, along with a weighting scheme that for each stakeholder group results in one number for "financial factors" and one for "socio-economic factors". The weights are set centrally by the Regulatory Review Unit, while the particular impacts are scored by the analyst, using a five-part scale (from "major positive impact" to "major negative impact"). In the quantitative assessment, net present values are computed separately for financial and socio-economic factors. All terms are carefully defined.

D. Data requirements – collection and presentation

The process is designed to allow the analyst to start with a preliminary impact assessment that simply scopes out the extent of the issues. Then spreadsheet analysis is used to derive detailed estimates of qualitative and quantitative impacts. The process is fully defined, and the output organized in tables and charts.

E. Who does the analysis, and what quality controls exist?

A public consultation process is expected in preparing the RIA. The analyst works within numerous parameters specified in advance by RRU.

F. Who uses the analysis, and in what ways?

Used by unspecified decisionmakers and also by the public in their comments on regulatory proposals.

G. Public access/disclosure

Stakeholders have access to the final RIA and also are consulted in the process.

AUSTRALIA – GOVERNMENT OF VICTORIA

"Better Regulation: A Regulatory Impact Statement Handbook", Office of Regulation Reform, Department of Business and Employment, State Government of Victoria, 33 pages, July 1995.

A. Name, purpose, and decision criteria

Regulatory Impact Statement (RIS).

Purpose: "ensure that only the most efficient regulations are adopted and that there is adequate public involvement" to deliver that result in fact and in public opinion. Regulation must be shown "likely to yield benefits greater than the costs it imposes but also to yield greater net benefits (*i.e.*, benefits less costs) than any of the feasible alternative approaches". Nonetheless, "a regulation may proceed due to its desirable distributive impacts notwithstanding that there are real net costs associated with their achievement".

B. Scope, authority and time frame

RIS is required by law, the Subordinate Legislation Act 1994, for every proposed statutory rule imposing an "appreciable economic or social burden on a sector of the public". Normally it takes at least a month to write an RIS and get it assessed (see E below), and another two months for public consultation process.

C. Type of analysis and methodology – quantitative and qualitative dimensions

RIS must show, at the outset, that there is "a sufficient case to justify any regulatory (or other public policy) action", taking into account regulatory failure concerns and "limits to the total regulatory burden which can realistically be imposed". Cost-benefit analysis is required of the proposal and alternatives. "Individual groups within society who will be affected by the regulations must be identified and a broad indication of how they will be affected given." Such distributional effects are to be presented separately from the cost-benefit analysis, along with significant qualitative effects. Social and environmental as well as economic effects must be considered. For major regulations, the c-b analysis should show net present values, with all benefits and costs discounted using a rate selected after consultation with the Treasury. Sensitivity analysis is recommended. In assessing benefits and costs, "it is rarely appropriate to assume that 100 per cent compliance will be achieved".

D. Data requirements – collection and presentation

Usual length is 10-30 pages; length and detail of the RIS should be related to complexity of the problem RIS is to be "understandable to the intelligent layperson". An RIS checklist is provided, which also can serve as a format.

E. Who does the analysis, and what quality controls exist?

Agency does the analysis, with three checkpoints: independent expert assessment required (Office of Regulation Reform can be consulted "on a fee for service basis"), the responsible Minister must certify RIS adequacy, and post-promulgation review conducted by the Scrutiny of Acts and Regulations Committee (which may pursue regulatory changes).

F. Who uses the analysis, and in what ways?

The responsible Minister uses the RIS before deciding to proceed with the regulation, and it is also a part of the public consultation process.

G. Public access/disclosure

Used in public consultations. Details of access not specified.

CANADA

"Benefit-Cost Analysis Guide for Regulatory Programs", Regulatory Affairs Series Number 3, Treasury Board Secretariat, 108 pages, prepared by Consulting and Audit Canada, May 1995, supplemented by:

"The Regulatory Cost Accounting Protocol: A Functional-Based Approach to Regulatory Costing", 87 pages, developed by Industry Canada and Treasury Board of Canada Secretariat, May 1995, consisting of an introductory guide and a two-part protocol.

"Technical Guide to Regulatory Impact Analysis", 50 pages plus appendices, Treasury Board of Canada Secretariat, March 1994.

"Using the Business Impact Test Effectively", 11 pages, and "Questions in the Business Impact Test," 6 pages, Treasury Board of Canada Secretariat, undated.

A. Name, purpose, and decision criteria

Name: Regulatory Impact Analysis Statement (RIAS).

Purpose: To show whether regulation is the best alternative and whether a proposal maximizes net benefits, helping Ministers decide whether to adopt it. "The department or agency must select the action (be it regulatory or non-regulatory) that maximizes benefits in relation to costs, and must make the case that all of the benefits associated with the preferred action justify all of the costs." However, "demonstrating a gain in economic efficiency (*i.e.*, that total benefits exceed total costs) is not the same thing as demonstrating that the alternative should be implemented, because the winners rarely compensate the losers. The fairness of measures that include significant transfers of wealth between individuals, groups, regions or firms should be examined explicitly".

B. Scope, authority and time frame

Federal Regulatory Policy requires RIASs for all regulatory proposals. RIAS is written before a proposal is submitted to Ministers for action.

C. Type of analysis and methodology – quantitative and qualitative dimensions

After initial screening of alternative responses (including "no action") to a perceived problem, each initiative is classified as major, intermediate-cost or

low-cost, based on "degree of acceptance" and cost of the most costly alternative being considered.

Present value of cost	Degree of acceptance	
	High	*Low*
< $100 000	Low-cost	Low-cost
< $50 million	Intermediate	Major
> $50 million	Major	Major

The 1995 Benefit-Cost document primarily applies to low- and intermediate-cost initiatives, while the 1994 Technical Guide document focuses on major initiatives. In all cases, the "primary task for analysts is to determine what would happen if each of the alternative actions were implemented and to compare these results with what would happen if the government did not act". The extent of the analytical effort should match the size of total costs. Both quantifiable and other effects are to be examined, and general suggestions are given for evaluating environmental and fatality-risk reduction regulations. Costs are to be shown separately for business, consumers and the government. Both costs and benefits are to be discounted, using a real social discount rate of ten per cent, with sensitivity analysis using rates of five and fifteen per cent. Two companion resources are available to the regulatory analyst when costs on business are likely to be significant. One is the Business Impact Test (BIT), an interactive, software-based consulting tool that helps identify the nature and extent of costs imposed on business. The other is a Regulatory Cost Account Protocol, devised to provide more detailed estimates, at the level of the individual business, of the compliance efforts required by particular regulatory changes.

D. Data requirements – collection and presentation

For low- and intermediate-cost initiatives, the user is guided through what to collect, but no one format is prescribed. Data should be presented in a way that shows distributional patterns over time and across entities.

E. Who does the analysis, and what quality controls exist?

The agency does the analysis, and extensive consultations at every stage of the process are prescribed.

F. Who uses the analysis, and in what ways?

The RIAS is available to decisionmakers before actions must be taken.

G. Public access/disclosure

An RIAS is a public document, published in the *Canada Gazette*.

THE NETHERLANDS

"Business Effects Test Checklist and Notes – Effects of Draft Legislation", Ministry of Economic Affairs, 58 pages, September 1995.

A. Name, purpose, and decision criteria

Name: Business Effects Test (BET), which forms one part of Notes to draft legislation.

BET is "one aid for clearly describing the consequences of draft legislation for the business community, market operations and social and economic development". All benefits and disadvantages must be considered to improve quality of legislation and yield balanced decision-making. BET also is an aid in meeting 1994 Cabinet commitment "to reduce the burden of administrative costs [mainly personnel costs for procedural and administrative actions businesses take to implement legislation] for businesses to the minimum necessary". The BET need not cause delays, and indeed can avoid delays, for such information can help "eliminate any resistance among the businesses concerned, or in political circles".

B. Scope, authority and time frame

BET is mandatory (since 1992, reconfirmed 1995) for "legislation that carries potential consequences for businesses, market operations and socio-economic development". Applies to "new Acts, General Administrative Orders or Ministerial Decrees" and their amendments. EU directives where no national discretion exists are not covered. BET to be done "at the earliest possible stage" since it will be most valuable where "a choice between instruments and between alternative forms of regulation is still possible".

C. Type of analysis and methodology – quantitative and qualitative dimensions

The BET includes a seven-question checklist of points to be considered in Notes to draft legislation, which outline "the nature and extent of the intended and unintended effects" of a proposal. An interdepartmental Draft Legislation

working group identifies which of these questions apply to which pieces of draft legislation:

1. What categories of business could be affected?
2. How many of each type of business affected, shown by number of employees (three size classes)?
3. What is the most likely nature and scale of costs and benefits for business?
4. "The key issue here...: to what extent do the benefits offset the costs?... However, this is explicitly not simply a matter of an amount in Dutch guilders." Maximum, minimum, and most probable (best guess) estimates should be shown.
5. How do costs and benefits compare to the affected businesses resources?
6. "Foreign test" – how similarly do other countries treat businesses that compete with Dutch businesses?
7. What consequences for market operations (access to markets, business flexibility, concentration patterns)?
8. What social and economic consequences in terms of employment, production, and investment?
   - Issues of environmental effects, implementation and enforceability are not addressed in the BET (but they separately are addressed in the Notes).
   - Quantification is only necessary if "substantial" consequences expected. Usually a brief BET suffices, simply indicating the scale of expected business effects. Quantification and detailed analysis are warranted "the more extensive the expected effects".

D. Data requirements – collection and presentation

Short (1-2 years), medium (3-7) and long (7+) terms to be distinguished.

E. Who does the analysis, and what quality controls exist?

The agency normally conducts the analysis, but when detailed BET needed, the government department responsible for the BET may need to employ outside agency to collect the data. To help the departments, a central "Joint Support Centre for Proposed Legislation" has secretariats for BET and environmental impact tests. Generally desirable to quantify effects as far as possible – how far to go settled on case by case basis by department in consultation with Joint Support Centre.

F. Who uses the analysis, and in what ways?

"The Ministries of Economic Affairs and of Justice decide whether the Notes to an Act or regulation provide enough insight into the (side) effects for the business community to allow balanced decision-making." In addition to reviews of the Notes by Ministries of Justice, Economic Affairs and perhaps others (where environmental issues arise), "each department also has its own responsibility to assess the cost-benefit ratio" of draft legislation. "Ultimately, of course, the Cabinet and Parliament will decide whether or not the Bill in question is passed."

G. Public access/disclosure

Not specified.

NORWAY

"Instructions for Official Studies and Reports", Prescribed by Royal Decree of 16 December 1994 and amended by Royal Decree of 8 December 1995, Ministry of Government Administration, Oslo, 17 pages, 1995.

A. Name, purpose, and decision criteria

Name: Consequence Assessment.

Mandatory, with aim being to clarify financial and administrative consequences of regulations and other measures initiated by ministries and subunits.

B. Scope, authority and time frame

To be done before decisions are made.

C. Type of analysis and methodology – quantitative and qualitative dimensions

Covers consequences for central and local government, counties, municipalities, private bodies, the general public, and also particular impacts on the environment, gender equality, and any other important policy areas. Consequences to be quantified as far as possible, identifying all elements of significance. Impacts on income and spending of affected parties to be assessed. "Thorough and realistic cost-benefit analyses shall, as far as is necessary, form part of this assessment." As to the c-b analysis, "both maximum and minimum cost alternatives" are to be estimated, with attention to how uncertainty affects the estimates. Alternatives should be assessed, including at least one entailing unchanged or reduced

resource use. Scope and content to be "adjusted according to the importance" of the matter.

D. Data requirements – collection and presentation

After preliminary assessment, the need for further assessment is resolved through review procedures with the Ministry of Finance or other affected ministries, and disagreements go to the Government; this process of determining the need for further assessment is to proceed quickly, with two weeks for responses.

E. Who does the analysis, and what quality controls exist?

The initiator of the action (called a "matter") is to prepare the assessment. Each Ministry is responsible for adherence to these "instructions." Once a study is completed, it is reviewed by affected ministries as to adequacy of the study, with disagreements referred to the Government. General review by both public and private organizations then follows, with at least six weeks and normally three months for consideration.

F. Who uses the analysis, and in what ways?

The consequences assessment is available to decisionmakers before final actions are adopted. It also forms a basis for public comment. Where there are "substantial financial or administrative consequences, important matters or principle and political issues, of if there is disagreement between ministries regarding the proposals, then it shall be submitted to the Government for special consideration".

G. Public access/disclosure

The assessment is available for public review.

SWEDEN

"Section 14-Impact Assessment: Second Draft Translation, RRV 1995:18" (subsequently renumbered to Section 27), The Swedish National Audit Bureau (Riksrevisionsverket-RRV), 30 pages, May 1995.

A. Name, purpose, and decision criteria

Name: Impact Assessment.

Required for regulations and technically-nonbinding "General advice".

Purpose: "more thoroughly considered inquiry into whether a rule is the appropriate solution to the underlying problem and to ensure that public authorities investigate and analyze the costs and other consequences of regulation more extensively ... a quality assurance system.... A rule should reflect a conscious balancing of, on the one hand, the need for socio-economically desired rules and, on the other hand, any possibly negative implications."

B. Scope, authority and time frame

Impact assessment should be done before authority decides on a regulation or General advice; if not feasible (immediate hazard, *e.g.*), notify the Swedish National Audit Bureau (RRV) and be sure it is done afterwards. Having no financial consequences for those affected does not exempt a regulation from impact assessment requirements.

C. Type of analysis and methodology – quantitative and qualitative dimensions

Impact assessments will normally be much less than full cost-benefit analysis. A four part matrix is used to classify each rule and determine its analysis needs:

		Nature of Problem	
		Simple	Complicated
Negative incidental effects	Insignificant	Summary analysis	Simple analysis
	Significant	Comprehensive	Complex

Benefits must be assessed for the bottom row only, and not in the top row where the negative incidental effects are insignificant. Analysis is required generally, even when no alternative is available under the law. Each should address six points:

1. describe the regulation or General advice
2. analysis of problem – what will be resolved? what if nothing is done?
3. the effect chain – how will the measure work to produce effects?
4. who affected?
5. costs for those affected, including effects on number of workers and on environment
6. contact persons.

D. Data requirements – collection and presentation

Assessments should be simple to review and read.

E. Who does the analysis, and what quality controls exist?

All "public authorities" that issue regulations and "General advice" must conduct these assessments. Those affected are to be given chance to comment on the assessment.

F. Who uses the analysis, and in what ways?

All should go to the RRV, which has responsibility for developing methods and monitoring results; RRV will comment on big issue regulations, but the authority need not await such comments. Authority should ask cabinet approval to decide on regulations with significant costs. RVV plans to make use of the impact assessments in building a comprehensive information system for internal purposes.

G. Public access/disclosure

Public consultation is called for.

UNITED KINGDOM

"Checking the Cost to Business: A Guide to Compliance Cost Assessment", The Deregulation Initiative, Cabinet Office, London, 32 pages, 1996 and "Regulation in the Balance: A Guide to Risk Assessment", The Deregulation Initiative, Department of Trade and Industry, London, 21 pages, November 1993.

A. Name, purpose, and decision criteria

Name: Compliance Cost Assessment (CCA) along with a Risk Assessment (prepared in parallel).

Aim of CCA: show likely cost implications before decisions made, to ensure that new or amended regulations do not impose unnecessary costs on business, and to ensure that burdens of surveys are minimized.

Aim of Risk Assessment: "...help ensure that the costs of regulation have been balanced against the benefits of dealing with the risk and whether it is appropriate to regulate at all."

B. Scope, authority and time frame

Required for all proposed regulations that have a business impact, including EC legislative proposals. The ECs own impact assessment system *(fiche dimpact*) is no substitute for a CCA on UK compliance costs.

C. Type of analysis and methodology – quantitative and qualitative dimensions

A full cost-benefit analysis sometimes is preferred to CCA and risk assessment. ''The most important information that must be included in a CCA is a numerical estimate of the impact of the proposed regulation on business in cost terms.'' CCA should identify types and numbers of businesses affected, including small vs. large. Must have a ''litmus test'' of effects on small business providing paragraph sketches of effects on 2-3 small firms; CCA shows compliance costs for a ''typical business'' as well as total compliance costs. Must discuss effects on international competitiveness. Must discuss alternatives; if less costly alternative rejected, explains why.

The companion Risk Assessment guidance is less specific, providing brief and general explanation of basic concepts – hazard vs. risk; contrasts risk analysis vs. management; uncertainty, risk perceptions, pricing risk.

D. Data requirements – collection and presentation

CCA should describe briefly the regulations purpose and intended effect. The presentation focuses on direct costs (recurring distinguished from non-recurring) to business. It must state how compliance costs will be monitored. Hypothetical four-page CCA provided to indicate format and illustrate key points.

E. Who does the analysis, and what quality controls exist?

Done by the department proposing the regulation, and it must describe extent of consultation. For those actions to be considered collectively by Ministers, the initiating departments Minister must sign certificate ''...that he has read both the risk assessment and CCA, and that he believes that the balance between cost and benefit has been appropriately struck''. Each department has a ''Departmental Deregulation Unit'' (DDU) that clears CCA, after its comments are ''taken into account''; task of DDU is to ensure that proposal originators do prepare the CCA, and to monitor quality of CCAs in consultation with the Central Deregulation Unit. The Central Deregulation Unit, at arms length from DDUs, monitors final CCAs to ensure consistent approach across government, and copies also go to the Deregulation Task Force.

F. Who uses the analysis, and in what ways?

As indicated above, several tiers of decisionmakers consider the analysis before taking actions.

G. Public access/disclosure

CCAs are open to the public, and business is invited to comment on draft CCAs; both preliminary and published CCAs give contact points. "Details of CCAs prepared by departments are included in a White Paper published every six months.... A Command Paper will be published at six monthly intervals listing CCAs published in the preceding six month period and where they can be obtained."

UNITED STATES

Two guidance documents from the United States are included; one from New York State and one from the federal Office of Management and Budget in the Office of the President.

UNITED STATES – NEW YORK STATE

"Cost-Benefit Handbook: A Guide for New York States Regulatory Agencies", Governors Office of Regulatory Reform, 60 pages, January 1996

A. Name, purpose, and decision criteria

Name: Regulatory Impact Statement.

Focus is on two sets of "threshold questions": whether any regulation should be under consideration, and if so whether the particular regulation is sensibly crafted, maximizing net benefits to the extent possible under the law.

B. Scope, authority and time frame

Driven by more vigorously enforced cost-benefit requirements of the State Administrative Procedure Act which since 1983 has required RISs for new or revised regulations.

C. Type of analysis and methodology – quantitative and qualitative dimensions

Essentially calls for cost-benefit analysis. Urges a match between size of impact of the regulation and sophistication of the analysis, with agencies using

their own judgement. Asks for considerable disaggregation, identifying impacts on particular groups, and details on types of costs/benefits. Augments efficiency concerns with those of impact statements, such as firms ability to finance costs, employment effects, small business effects. Yet basic focus is on net benefits, with both quantifiable and nonquantifiable effects being highlighted. Incremental opportunity costs relative to the status quo are to be shown annually, with ranges as well as expected levels, in constant dollars. Benefits estimates should rely on formal risk assessment unless impractical (due to small regulatory change), and incremental benefits (both quantitative and non-quantifiable) relative to status quo.

D. Data requirements – collection and presentation

Provides suggested formats.

E. Who does the analysis, and what quality controls exist?

Each regulatory agency does its own analysis, with outside peer review generally expected along with informal review by Governors office.

F. Who uses the analysis, and in what ways?

Used by the agency and by outside reviewing entities in reaching final decisions.

G. Public access/disclosure

Not addressed.

UNITED STATES – FEDERAL GOVERNMENT

"Economic Analysis of Federal Regulations Under Executive Order 12866", Office of Management and Budget, 37 pages, January 1996.

A. Name, purpose, and decision criteria

Name: Economic Analysis (EA), formerly Regulatory Impact Analysis.

Purpose is to "inform decisionmakers of the consequences of alternative actions" so they can determine that:

- adequate information exists on need for and effects of a proposal;
- benefits justify the costs, statute permitting (s.p.);

- the action maximizes net benefits, including "economic, environmental, public health and safety, and other advantages; distributional impacts; and equity," s.p.;
- the action is the most cost-effective (and performance-oriented) allowable;
- decisions are based on best reasonably obtainable information.

B. Scope, authority and time frame

Required by a Presidential Executive Order (No. 12866, Regulatory Planning and Review, issued September 30, 1993, which was followed by OMB "Guidance" on October 12, 1993, and then in early 1966 by the EA document) for economically significant new or revised regulations (generally those with at least $100 million annual effects). A preliminary EA is made available to the public, after undergoing OMB review, when a proposed regulation is issued for public comment. A final EA becomes public when the regulation is promulgated.

C. Type of analysis and methodology – quantitative and qualitative dimensions

The document describes "best practices" for a wide range of analytical issues but does not attempt to be "a mechanistic blueprint." Guided by principles of full disclosure and transparency, EA must discuss need for the action (market failure or distributional concern), alternatives, and the benefits as well as costs of the proposal and its principal alternatives. Less detailed analysis of alternatives is needed if regulatory options are limited by statute; where discretion exists to adopt more stringent standards than the statute establishes, such options should be analyzed.

Benefits and costs are to be calculated in discounted constant dollars and relative to a clear baseline (or multiple baselines as part of a sensitivity analysis). A seven per cent discount rate in real terms is suggested (other rates could be used in sensitivity analysis). Effects that cannot be fully monetized or otherwise quantified should be described (and similarly discounted). "Any allowance for uncertainty should be made by adjusting the monetary values of changes in benefits or costs...so that they are expressed in terms of their certainty equivalents [rather than adjusting the discount rate]." Risk assessments when needed should show estimates of central tendency as well as ranges and other characteristics of probability distributions. In the case of fatality risk reduction regulations, the document describes alternative approaches to valuing the benefits. On the topic of equity, "Where distributive effects are thought to be important, the effects of various regulatory alternatives should be described quantitatively to the extent possible including their magnitude, likelihood, and incidence

of effects on particular groups.... Analysis of a rules benefits and costs should generally assume that compliance with the rule is complete.''

D. Data requirements – collection and presentation

''Thoroughness of analysis'' should be balanced against ''practical limits to the agencys capacity to carry out analysis.'' No particular format required, but presentation should show net present values and descriptions of nonquantified effects. Should include schedules of incremental costs (by type and year of occurrence) in constant, undiscounted dollars.

E. Who does the analysis, and what quality controls exist?

Agency does the analysis, with review by OMB and public comment.

F. Who uses the analysis, and in what ways?

The agency head considers the EA before proposing or implementing regulations. Interested private entities use the EA in arguing the merits of the regulation but the EA itself is not subject to litigation or court review.

G. Public access/disclosure

Notice of public availability of EA is provided through the governments *Federal Register* publication.

PART 2. ASSESSMENT OF PROGRAMME DESIGNS

This part supplements Part 1 by providing more detailed design-specific assessments by country. The assessment categories are those that were developed in Chapter 6, namely:

A. Clarity and coherence;

B. Comprehensiveness (as to effects and types of regulations) and specificity;

C. Adaptability to alternative decision criteria;

D. Practicability as to data needs and analytical skills;

E. Susceptibility to misuse – bias potential, incomplete coverage;

F. Modification and feedback mechanisms.

AUSTRALIA – COMMONWEALTH REGULATORY IMPACT STATEMENTS

A. Clarity and coherence: Outstanding, using a layered approach so that reader can go directly to sections raising points of concern, and both short and longer treatments offered of most topics, with suggestions for further reading.

B. Comprehensiveness (as to effects and types of regulations) and specificity: Broad coverage, but not complete, so that on key analytical questions such as discount rate selection and valuation of health/accident benefits, reader must go elsewhere.

C. Adaptability to alternative decision criteria: Careful distinctions drawn between allocative and distributional criteria, and not tilted toward either. "A proposal may result in a significant net benefit to the community but when its distributional effects are examined may be deemed undesirable as significant benefits may go to a small number of people while the costs may be borne by a large number or may be disproportionately borne by those who do not benefit at all." Such a choice needs to be made by "governments."

D. Practicability as to data needs, analytical skills and time frames: Reasonable approach, with clear two page checklist of issues each RIS should address. Excellent examples to clarify types of costs and benefits. No detail on timing for review of draft RISs. Sample summary table D15 not especially helpful, but usefully includes appendices of actual RISs.

E. Susceptibility to misuse – bias potential, incomplete coverage: Stress on consultation and making all assumptions explicit quite constructive; review powers of central agency not clear.

F. Modification and feedback mechanisms: Excellent emphasis on implementation and sunset type issues up front, but unclear on type of ex post review.

AUSTRALIA – COUNCIL OF AUSTRALIAN GOVERNMENTS REGULATORY IMPACT STATEMENTS

A. Clarity and coherence: Reasonably clear language, with excellent use of flow chart diagrams to summarize explanations.

B. Comprehensiveness (as to effects and types of regulations) and specificity: Broad coverage, but not complete, so that on key analytical questions such as discount rate selection and valuation of health/accident benefits, reader must go elsewhere. Useful discussions of relative advantages of different analytical approaches but limited guidance in exactly how to use them, and where to go for such guidance is not made clear.

C. Adaptability to alternative decision criteria: The emphasis is on costs and benefits but the RIS authors are given much leeway in fashioning the analysis. When formal cost-benefit analysis is selected, note the following cautious guidance: "Subject to a consideration of budget constraints, intangibles and distributional issues, a CBA will support a proposal if the net present value is equal to or greater than zero. Similarly, if there are a number of ways of achieving the desired outcome, a CBA will support the alternative with the highest net present value, where that is equal to or greater than zero."

D. Practicability as to data needs, analytical skills and time frames: Provides considerable discretion to the regulatory agency.

E. Susceptibility to misuse – bias potential, incomplete coverage: The emphasis on active consultation with all affected parties is a strength of this guidance. It also usefully stresses importance of making all assumptions explicit in connection with use of cost-effectiveness analysis; it is to be hoped that a similar practice is sought in other instances as well.

F. Modification and feedback mechanisms: Excellent emphasis on implementation and sunset type issues up front, but unclear on nature of *ex post* review.

AUSTRALIA – QUEENSLAND REGULATORY IMPACT STATEMENTS

A. Clarity and coherence: Clear language, with emphasis on making RISs understandable and useful for consultations with the public. Quite brief.

B. Comprehensiveness (as to effects and types of regulations) and specificity: No discussion of distributional issues. The guidelines report that existing BRRU cost-benefit methodology "is better suited to the evaluation of commercial regulation than it is to social or environmental regulation" and notes plans to make revisions to "more fully recognize social and environmental issues". The brevity of the guidelines means that readers must go to other sources, which are listed, for technical guidance.

C. Adaptability to alternative decision criteria: The emphasis on costs and benefits suggests dominance of efficiency criterion, although the more adaptable approach of the Council of Australian Governments implicitly is endorsed.

D. Practicability as to data needs, analytical skills and time frames: Imposes clear and workable conditions on the regulatory agency.

E. Susceptibility to misuse – bias potential, incomplete coverage: The emphasis on transparency and active consultation with all affected parties is a strong asset.

F. Modification and feedback mechanisms: None specified after RIS is issued in final form, and the RIS itself need not highlight sunset type issues; however, guidance on "post-Cabinet processes" is forthcoming.

AUSTRALIA – GOVERNMENT OF TASMANIA REGULATORY IMPACT ASSESSMENTS

A. Clarity and coherence: Clear language, presented as a users manual for the analyst about to start a computerized assessment of a proposal.

B. Comprehensiveness (as to effects and types of regulations) and specificity: Structured as an exceptionally comprehensive framework, requiring quite specific assumptions about weights and parameters.

C. Adaptability to alternative decision criteria: Distributional issues are treated as one aspect of "socio-economic impacts" and not clear how sharply they are distinguished from efficiency effects. Has the virtue of according qualitative impacts considerable attention, although in a rigidly numerical setting.

D. Practicability as to data needs, analytical skills and time frames: An intricately structured system requiring enormous array of numerical estimates.

E. Susceptibility to misuse – bias potential, incomplete coverage: Not obvious that unambiguous subgroupings of affected stakeholders can be set up, or that weightings can be specified in noncontroversial ways. It is a complex structure that both resists misuse by its transparency and invites it by the huge array of parameters that must be specified.

F. Modification and feedback mechanisms: None specified.

AUSTRALIA – GOVERNMENT OF VICTORIA REGULATORY IMPACT STATEMENTS

A. Clarity and coherence: Short and easy to follow, except for discussion of decision criteria. Points such as the following are not well-explained: when compliance costs are large in absolute terms, "a proposal with a higher benefit/cost ratio is likely to be preferred to one with a higher Net Present Value".

B. Comprehensiveness (as to both effects and types of regulations) and specificity: Covers all forms of regulation. In line with its brevity, the reader is referred elsewhere for specific guidance on parameters such as discount rates and valuation techniques for environmental effects.

C. Adaptability to alternative decision criteria: Well-suited to application of efficiency criterion, and calls for distributional data so that decisionmaker has basis for making equity judgements. Little emphasis on differential effects across business sectors and size groups.

D. Practicability as to data needs, analytical skills and time frames: Reasonably framed and structured.

E. Susceptibility to misuse – bias potential, incomplete coverage: Consultation process and independent review requirements appear likely to minimize any such problems.

F. Modification and feedback mechanisms: RIS must address compliance methods, and post-promulgation review by external committee offers promising adjustment mechanism.

CANADA – REGULATORY IMPACT ANALYSIS STATEMENTS

A. Clarity and coherence: While the 1995 B-C document is long (over 100 pages), it is extremely easy to read and requires no prior training in economics. The reader is guided through the analytical process in readily digestible and separable steps and given many good examples of the points being made. The 1994 Technical Guide is indeed more technical, and less easy to read.

B. Comprehensiveness (as to both effects and types of regulations) and specificity: Broad coverage is provided through a set of documents from which the analyst can choose those most germane to the issue at hand. The 1994 Technical document has good explanations of a variety of concepts (such as consumer surplus). It is specific on the discount rate parameter; on the other hand, after noting ''that there is a strong case for assigning an arbitrary value to statistical lives saved by regulation for the purpose of achieving efficient use of resources across the many departments or agencies involved in risk regulations,'' it declines to offer one.

C. Adaptability to alternative decision criteria: The detailed information collected for RIASs could be used with various criteria. Economic efficiency appears to be the criterion stressed at the outset in the documents, but later discussion embraces concern for equity objectives.

D. Practicability as to data needs, analytical skills and time frames: Clearly distinguishes the analytical tasks involved for different classes of regulations and offers adequate direction. Impressive supporting resources offered in the BIT and Accounting Protocol.

E. Susceptibility to misuse – bias potential, incomplete coverage: Not likely to be a problem, particularly with the extensive public consultations called for.

F. Modification and feedback mechanisms: Little mention.

THE NETHERLANDS – BUSINESS EFFECTS TESTS

A. Clarity and coherence: Clearly written in a way that eases the task of assembling answers to BET questions.

B. Comprehensiveness (as to both effects and types of regulations) and specificity: The BET is not designed to provide comprehensive assessment of regulation. For example, its discussion of benefits is mainly oriented to those benefits received by business. BET is quite thorough as to how business itself is affected, but effects on consumers and the environment must be addressed through other mechanisms.

C. Adaptability to alternative decision criteria: The data from BET can be used with any number of alternative decision criteria, but they are not summarized in a fashion readily adaptable to the "net present value of benefits" criterion of cost-benefit analysis. Neither broader concerns of efficiency nor equity can be assessed with BET data alone.

D. Practicability as to data needs, analytical skills and time frames: Provides useful ideas on where departments can go for assistance in ferreting out information on costs and benefits. Appendices offer good examples and guidance.

E. Susceptibility to misuse – bias potential, incomplete coverage: Given its business impact focus, this tool generates only a portion of the information that a decisionmaker usually needs. The "cost-benefit ratios" that each department is to assess for draft legislation are not likely to emerge from the BET alone, and the document does not explain how such net effects can be derived. The extent of public consultation and access to BET is not made clear.

F. Modification and feedback mechanisms: Re-testing is called for if a proposal changes.

NORWAY – CONSEQUENCE ASSESSMENTS

A. Clarity and coherence: The assessment process is explained more clearly than are either its objectives or details on the content of the assessment.

B. Comprehensiveness (as to both effects and types of regulations) and specificity: Written broadly enough to encompass all regulation, but at a high level of generality. Little guidance on specific analytical issues.

C. Adaptability to alternative decision criteria: Cost-benefit analysis is called for, but its content is unspecified and alternative criteria are not defined operationally.

D. Practicability as to data needs, analytical skills and time frames: Effects as diverse as gender equality, environment and income are to be assessed, but no particular structure or definitional norms are offered.

E. Susceptibility to misuse – bias potential, incomplete coverage: Review process both within and outside government can be a potent way to handle such concerns. While it is useful to call for "maximum and minimum cost alternatives", this may not provide enough information on mid-range or most likely scenarios.

F. Modification and feedback mechanisms: A promising and extensive review network is built in to the process.

SWEDEN – IMPACT ASSESSMENTS

A. Clarity and coherence: Clearly written for non-specialist reader.

B. Comprehensiveness (as to both effects and types of regulations) and specificity: Applicable quite broadly, but stated quite generally; little specific guidance offered, but reader is directed to other technical resources.

C. Adaptability to alternative decision criteria: No one approach or set of criteria endorsed.

D. Practicability as to data needs, analytical skills and time frames: Stresses need to match extent of analysis with complexity of the regulation, but for most technical details other documents/resources need to be consulted – and suggestions are provided.

E. Susceptibility to misuse – bias potential, incomplete coverage: Public consultation and RVV review should be quite useful in this connection. Much depends on analytical details not specified in this document.

F. Modification and feedback mechanisms: Good stress on building into the assessment some provision for follow-up and evaluation of regulatory results.

UNITED KINGDOM – COMPLIANCE COST ASSESSMENTS AND RISK ASSESSMENTS

A. Clarity and coherence: Two distinguishing features of the guidance are jargon-free language and the dominant aim of reducing burdens. It is not clear how the CCA and Risk Assessment information are to be combined and balanced, and the nature of the cost information is strikingly more fully articulated.

B. Comprehensiveness (as to both effects and types of regulations) and specificity: Direct effects on business fully covered, although some details of techniques such as discounting are left to other sources. Risk assessment guidance merely suggests that each DDU can identify experts in risk assessment.

C. Adaptability to alternative decision criteria: The business cost component of total regulatory consequences is clearly charted, but other effects not addressed.

D. Practicability as to data needs, analytical skills and time frames: The CCA document accomplishes its objective of guiding the staffer through the requisite cost analysis, with helpful examples and clear definitions.

E. Susceptibility to misuse – bias potential, incomplete coverage: The coverage by design is incomplete, and it is not clear how other relevant considerations will be merged with the cost analysis. Benefit-cost is suggested but not developed.

F. Modification and feedback mechanisms – Not specified, although the tracking of CCAs should be constructive.

UNITED STATES – STATE OF NEW YORK REGULATORY IMPACT STATEMENTS

A. Clarity and coherence: Clearly written for non-experts, with emphasis on lessening regulatory burdens and net benefits (economic efficiency).

B. Comprehensiveness (as to both effects and types of regulations) and specificity: Covers all regulations and all types of effects, although not offering specific guidance on parameters such as choice of discount rate or value of life.

C. Adaptability to alternative decision criteria: Fully adaptable in that requested information can be used for varied purposes.

D. Practicability as to data needs, analytical skills and time frames: Rather ambitious demands, although tempered by advice to match complexity/scale of the issues with extent of the analysis.

E. Susceptibility to misuse – bias potential, incomplete coverage: If acted upon, the recommendation for peer review and for thoroughly documented analysis should create credible results.

F. Modification and feedback mechanisms: Not specified.

UNITED STATES – FEDERAL GOVERNMENT ECONOMIC ANALYSES

A. Clarity and coherence: A sophisticated and succinct document that would be difficult for a reader unschooled in economics to understand fully, because complex concepts are covered tersely and because much jargon appears (*e.g.*, producer and consumer surplus).

B. Comprehensiveness (as to both effects and types of regulations) and specificity: Excellent coverage, in that virtually every issue relevant to allocative efficiency is addressed. On specific parameters such as the discount rate, the document both provides a number and refers users to other guidance. On more controversial questions such as valuing mortality risk reduction, the issues are discussed with care but no particular values are offered. However, at least one important regulatory agency, the US Department of Transportation, recognizing the public policy gains

from avoiding inconsistent valuations, has selected a specific value of $2.7 million per fatality averted (a figure that is updated annually) for use across all its programmes (which encompass aviation, auto, and rail safety regulations, among others).

C. Adaptability to alternative decision criteria: Ideally suited to use of efficiency criteria, with sufficient detail on distributional effects to allow decisionmakers to apply their judgements about fairness concerns. Relatively little information required on differential effects across types and sizes of business.

D. Practicability as to data needs, analytical skills and time frames: Builds on twenty years experimentation with such requirements, although there remain questions about how successfully these requirements are translated in practice into EAs (previously called Regulatory Impact Analyses). See Robert Hahn, *Risks, Costs and Lives* (Oxford University Press, 1996).

E. Susceptibility to misuse – bias potential, incomplete coverage: Not a problem.

F. Modification and feedback mechanisms: The two stages of EA preparation are an advantage, but once the regulation is adopted little follow-up occurs, and the EA itself need not do much with the question of subsequent changes in circumstances.

8

IMPROVING THE ANALYTICAL BASIS FOR REGULATORY DECISION-MAKING

by

W. Kip Viscusi[1]

1. INTRODUCTION

Government regulation takes many forms. Regulations that govern economic behaviour affect pollution decisions, transportation rates, prices of different commodities, and virtually every aspect of our lives.

Although the regulatory decision is generally based on an assumption that there is some inadequacy in market operation, economics nevertheless plays a constructive role in indicating how we should approach the choice of a regulatory policy. What is the rationale for different kinds of intervention in regulatory contexts? What are the merits of different kinds of regulation? How stringent should these regulations be? How should we choose among the different regulatory alternatives before us in a manner that is in society's best interests?

The purpose of this paper is to delineate the role of economics in answering these questions. The alternative to avoiding systematic analysis is a more casual approach to policymaking that is frequently followed in the initial periods of regulation. As society becomes increasingly aware of the costs that must be borne as a result of regulatory policies, however, governments have made efforts to ensure that these programmes are designed to use society's resources as effectively as possible. This paper will discuss the essential methodologies used to approach regulatory issues in an analytical manner.

The primary focus will be on topics pertaining to social regulation, particularly policies that affect human health and safety and the environment. Because the ultimate objective of these efforts is to influence outcomes not generally traded in explicit markets, some policymakers may be more reluctant to use economic principles to assess these regulations. Establishing appropriate prices for electricity generated by a publicly owned electric power plant has familiar market analogs. In contrast, determining how stringent to make highway safety

Table 1. **Alternative approaches for regulatory analysis**

Concept	Description	Advantages	Disadvantages
Benefit-cost analysis	Regulation is desirable if estimated benefits exceed the costs.	Reflects both favourable and adverse effects of a regulation and the need to ensure that, on balance, policies are in society's best interests.	Some important benefit components may not be quantified and consequently given less weight. Criterion is less compelling if those adversely affected by a policy are not compensated.
Cost-effectiveness analysis	Calculation of cost per unit benefit achieved. Policies that can generate the same or greater benefits at no greater cost are preferred.	Eliminates the clearly inefficient policies from consideration and provides an index of the relative efficacy of policies in generating benefits.	Does not resolve the choice of the optimal level of benefits. Criterion is inconclusive when different benefit levels are generated and one policy does not produce greater benefits at less cost.
Risk analysis	Quantitative assessment of the magnitudes of the risk affected by the policy and their associated health consequences.	Provides decision makers with a sense of whether the policy will be effective in reducing risks in a significant manner.	Risk impacts may be diverse and not commensurate. Does not address the costs of achieving risk reduction or assess policy impacts other than risks.
Risk-risk analysis	Comprehensive assessment of all risk effects of a policy, including those in response to costs, to ensure that, on balance, policy reduces risk.	Serves as a more complete form of risk analysis and provides a limited recognition of other regulatory effects insofar as they influence costs.	Does not recognize other effects of regulation that ultimately do not affect risk: risk impacts may be diverse and not commensurate.
Cost assessment	Assessment of the costs of regulation on businesses, consumers, and workers. May include attempt to ensure that cost levels are not too high.	Attempts to comprehensively determine the total price society is paying for the regulation and provides insight into its economic feasibility.	Does not address the benefits of the regulation or ascertain the extent to which particular levels of costs are warranted by the favourable effects of the regulation.

standards or the degree of genetic risk that we should allow workers to incur involves trade-offs of a quite different sort.

The use of systematic regulatory analysis will enable policymakers to understand the consequences of regulation and the optimal allocation of society's resources. Regulatory analysis need not lead to either more or less regulation than would result with an unstructured approach to decision-making, but it should lead to more efficient and effective policies. Moreover, regulatory policies should ideally foster, or reduce as little as possible, economic growth and competition. When there is conflict between economic and other regulatory objectives, there should be some mechanism for ensuring that the balance struck is in society's best interest. Regulatory analysis is intended to support such trade-offs.

Table 1 provides a summary table for several of the analytical techniques considered in this paper. These techniques, ranging from comprehensive attempts to assess the benefits and costs of regulation to more limited techniques, include:

- benefit-cost analysis;
- cost-effectiveness analysis;
- cost assessment;
- benefit assessment;
- discounting;
- risk assessment;
- risk-risk analysis.

Although none of these approaches is without limitations, examining each of these techniques will illustrate the different dimensions of policy effects that must be considered and how they relate to criteria for sound regulatory policy.

2. THE ROLE OF MARKET FAILURE

A fundamental tenet of economics is that markets serve an essential function. By ensuring that goods and services are allocated to individuals based on value and by providing the appropriate incentives to lead participants in the economy to take the necessary actions to ensure production of these goods and services, markets function as a resource allocation mechanism. If markets function fully effectively, then economists would pronounce the outcome efficient, and there would be little rationale for government regulation.

However, the idealized assumption of a fully competitive economy is seldom fully satisfied. Historically, two types of regulation have developed in response to inadequacies in the market: economic regulation and social regulation. Economic regulations of various kinds have a long history, as countries have sought to deal

with more traditional types of market failure such as that associated with monopoly power.

Increasingly over the last two decades, the emphasis of regulatory efforts has shifted from economic regulation to social regulation. Regulatory concerns dominating the policy agenda today involve issues such as greenhouse warming, nuclear safety, consumer protection, equal opportunity/equal access for the handicapped, job safety, the effect of pollution on health, and more generally environmental quality. In the United States, the largest contributor to new regulatory costs is environmental regulation.

Social regulation is likely to increase in relative prominence. Economic regulations are already well established and, in many cases, are becoming unnecessary as increased global competition and development of national economies has created a more competitive environment that is less in need of government restraints. In contrast, social regulation concerns have emerged more recently and are likely to become increasingly important as societies' affluence and demand for social protections increases. The development of a global economy also creates new classes of regulatory problems, as policies to address climate change and the preservation of scarce natural resources assume a larger dimension.

Many of these newer social problems require different approaches to analysis. For example, the rationale for regulation in the areas of risk and environmental quality is different than for economic regulation. Here the issue is not excessive market concentration, but rather that adverse risks are not priced adequately in markets, for two reasons. First, there is often no explicit market transaction whereby the party bearing the risk is compensated by the party inflicting risk for the harm that has been done. Victims of air pollution, for example, are engaged in no market relationship with the polluter. Second, *in situ*ations in which there is such a relationship, such as for workers on hazardous jobs, there may be no adequate market compensation for other reasons. For example, if workers are ignorant of the risks they face in their jobs, there will be no risk compensation.

The fact that there is a market failure does not in and of itself mean that all forms of regulation will be beneficial. Market failure simply creates a potential role for government action. For the government action to be worthwhile, one must show that overall these regulatory policies enhance social welfare. How one should make judgements with respect to social welfare and the impact of regulation is the main subject of the remainder of this paper.

3. FORMULATION OF REGULATORY POLICY OBJECTIVES

In any policy context, whether it involves regulation or not, the government must specify the objectives it wishes to promote. At the most basic level, these objectives are simply a list of concerns relevant to evaluating the desirability of a

policy. Specification of the objective of government policy is in many respects similar to specifying the preferences for an individual within the context of individual decisions. In particular, we need to know what criterion is being maximized through government policy.[2]

Stating that it is important to formulate policy objectives may appear to be an obviously rudimentary step in any policy assessment. Yet, often there is no clear articulation of prominent policy concerns. The advantage of developing a detailed specification of objectives is that one will be more confident that all pertinent concerns have been recognized and incorporated into the analytical and policy assessment process.

Articulation of objectives is also essential to highlighting what trade-offs must be made in pursuit of these policy objectives. All policies involve competing concerns, not the least of which is that there are costs. A systematic process for addressing these competing concerns is essential. Formulation of objectives and evaluation of a policy with respect to these objectives is useful even if one has adopted an analytical approach, such as risk analysis or cost assessment, that addresses only one component of the problem. Awareness that one is ignoring other important concerns at stake may lead to a broader approach to policy.

Policy objectives should satisfy certain well-defined properties.[3] The set of objectives should be complete in the sense that all of the impacts of concern with respect to the policy are captured. The objectives also should be operational so that it is possible to obtain values of the policy with respect to each of the objectives. These values need not always be in monetary terms. One can, for example, note that a policy eliminates 1 000 cases of cancer even though one may not wish to attach a price tag to this outcome. The set of objectives should be reasonably limited, but should nevertheless be comprehensive enough to reflect the main matters of interest.

Perhaps the most important practical problem in specifying a well defined set of objectives is that of overlap. Policymakers may, for example, espouse the need for examining the implications of the policy for business costs, competitiveness, productivity, employment, income, and economic growth. These are not independent concerns, and one should avoid multiple counting of such effects so that the net attractiveness of the policy is not distorted.

These properties are often violated in the regulatory guidelines and policy missions specified in regulatory agencies' formal mandates. In the case of risk regulation policies, for example, the mission of the policy is often defined in absolute terms.[4] Potentially carcinogenic residues must be eliminated to the lowest detectable amounts. Risk levels are mandated to not exceed specific amounts, such as one chance in a million over one's lifetime. Pollution policies must ensure a margin of safety below a zero risk level.

Rigid regulatory missions such as these are more appropriately viewed as regulatory goals rather than as policy objectives. They are well-defined, specific targets for regulation. Ensuring that a particular chemical exposure be at a level of one part per million is a goal, whereas reducing illnesses and deaths from hazardous chemical exposures is a policy objective.

The main difficulty with such regulatory goals is that they often give rise to single-minded concerns. Policymakers focus only on reaching the specified goal rather than on all the diverse effects that a regulation may have, such as impacts on cost or economic growth. Defining a policy in such absolute terms will necessarily prohibit the kinds of trade-offs that one would want within the context of a rational choice reflecting society's competing interests. Danger signals that one is resorting to the use of an unbalanced approach to policy are apparent when policymakers begin to refer to priority lists and similar kinds of mandates that imply an exclusive concern with one aspect of a policy irrespective of the performance of that policy with respect to other potentially legitimate objectives.

4. BENEFIT-COST ANALYSIS

The most comprehensive form of regulatory analysis is benefit-cost analysis. Under this approach, one calculates the total benefits associated with the regulatory decision, compares these benefits with the total costs, and if the balance is favourable the decision is judged potentially attractive.[5]

This capsule description of benefit-cost analysis embodies its formal components. However, the rationale for this approach is broader in scope. Essentially, the test is simply that policymakers should select those options that are in society's interests. Regulatory policies have many effects, both favourable (benefits) and adverse (costs). To undertake a benefit-cost test involves no more than a willingness to ensure that one is achieving a net benefit to society.

The general spirit of the benefit-cost test is that resources are limited, and ideally we should allocate these limited resources in a manner that will maximize the net well-being of society. Economic limits for regulation clearly are consequential. In the United States, for example, there are 94,500 accidental deaths per year. Even if the entire GNP of the United States were devoted to eliminating accidental deaths, the most that could be spent is $35 million per death. Clearly, there must be some stopping point. Identifying decisions that cross that point is the purpose of benefit-cost analysis.

Benefit-cost analysis by itself, however, may not be sufficient for decision-making. For example, when economic resources are limited, one cannot impose all regulations for which benefits are greater than the costs. In such instances, one would impose a more stringent test to ensure that only the most beneficial regulations are adopted.[6]

Although opposition is sometimes voiced to the use of benefit-cost analysis to identify trade-offs in government decisions, we commonly make such trade-offs in our daily lives. The typical US worker in a hazardous job receives hazard pay of about $500 per year in return for bearing the risk. Elephant handlers at the Philadelphia Zoo, for example, accept $1 000 extra per year to face the job risk of being trampled by elephants. Similar trade-offs are present in other contexts. Consumers have switched to smaller and more fuel efficient cars as the price of gasoline has risen. They have done this despite the fact that the US Department of Transportation estimates that there are 1,300 extra deaths per year because people drive smaller cars to decrease their fuel costs.

Although benefit-cost analysis has many attractions, one should be aware of the assumptions embodied in it. Perhaps the most fundamental attribute of the approach is that it should be comprehensive. All policy effects must be considered so that one cannot selectively examine only the desired benefits or partial costs. Impacts on broad societal concerns, such as competitiveness, must be weighed, as should impacts on other government policies. As a general criterion for assessing policy, this aspect of benefit-cost analysis has substantial appeal. Clearly, societies count all important policy effects, both favourable and adverse, as worthy of attention by decision-makers.

Distributional concerns. A key assumption frequently included in such analyses is that benefits to one group should be treated symmetrically with losses to others. Thus, if a policy results in one group of citizens incurring costs of $10 million and another group experiencing health benefits worth $20 million, there is a $10 million net gain. This policy will be judged attractive even though different groups bear the costs and reap the benefits. The gainers can potentially compensate the losers, and from that standpoint the policy is efficient.[7] However, unless compensation is actually paid, this justification is not necessarily politically or morally compelling.

The absence of actual compensation does not, however, undermine the potential attractiveness of the benefit-cost approach. Since the bearers of the cost are not compensated, one might choose to place a weight greater than 1.0 on the dollar losses experienced. Moreover, this weight could vary with the particular income group affected. The ability to incorporate such differences indicates that benefit-cost analysis can be carried out so as to account for social preferences concerning distribution of costs and benefits among different groups.

In practice, distinctions between social groups are seldom made. Reliance on the symmetric approach arises in part because of its analytical simplicity. More profoundly, however, distributional concerns usually disappear when one examines the entire portfolio of government policies rather than individual decisions. That some groups may be disadvantaged by a single regulation is not a pressing concern since these groups may benefit disproportionately from other govern-

ment programmes. With a large number of government policies, ideally some mechanism can be found to target benefits to all groups in society so that none will suffer disproportionately overall. For example, income transfer programmes can address concerns of income equity, so that it is not necessary to target all other policy efforts in this manner.

Must everything be quantified? One frequently cited problem with benefit-cost analysis is that not all concerns are readily quantifiable. What, for example, is the value of extending the life of an AIDS victim by five years? Substantial progress has been made in answering such questions for purposes of analysis, but considerable gaps in our knowledge remain.

This does not mean that benefit-cost analysis is unusable in these cases. Even if benefit and cost components cannot be quantified in monetary terms or in any quantitative terms, the benefit-cost approach provides a constructive means for decision-making. Qualitative assessment of benefits and costs – in which policymakers develop a comprehensive tally of policy effects – can be quite useful in helping policymakers to make a judgement that, on balance, the effects on society of the preferred policy are positive. The monetization of policy effects may facilitate the comparison process by establishing a well-ordered metric, but it is not an essential element of the benefit-cost approach.

In situations where monetization is not feasible, it will generally assist the benefit and cost comparison process if one can establish in as quantitative a manner as possible what is at stake. For example, regulatory analysts could note that the policy will prevent 40 severe cases of genetic damage at a cost of $2 million. The question policymakers then ask is whether it is worth $50 000 per case of severe genetic damage to prevent such adverse impacts. Thus, in effect, the analysis monetizes the economic aspects of the policy and permits the judgement of whether the non-monetized benefits are worth the amount expended.

In this example, as well as in other contexts, it is useful to convert unknown values into a single metric. Thus, one can calculate the cost per life saved, the cost per case of cancer prevented, or the cost per case of genetic damage. It will then be possible to have some comparative measure – across regulations and policy areas – of the price being paid in return for what is being achieved.

Other non-monetary metrics are possible. For cases in which there are multiple health effects, it may be possible to establish risk equivalents. For example, we may not be willing to put a dollar value on a case of cancer, but we may be willing to say that a case of cancer should have a value roughly equal to an automobile fatality.[8] The nonquantified health effects could then be converted into a common metric of automobile fatality equivalents. Once we have obtained such measures, we may be able to make a judgement as to whether the policy is attractive.

These kinds of common metrics have the advantage of allowing policymakers to determine, by comparison with other government decisions and opportunities, whether the costs of a specific regulation are wholly disproportionate to its benefits. Thus, even though we may not be willing to put a price tag on cancer, if we know the cost of prevention is only $50 000 per case, then we may clearly have a sense that the benefit value exceeds this price tag. In contrast, if the cost of prevention is $100 million per case, then in all likelihood one would reject the policy because there would be other regulatory efforts that offer greater gains in return for such expenditures.

Considering opportunity costs. This discussion of benefit-cost analysis has stressed such other opportunities because it is the opportunity cost of regulatory policies that drives the rationale for benefit-cost analysis: What is society giving up to achieve these regulatory objectives?

Opportunity costs may be direct in terms of costs imposed on businesses and consumers – resources that could be allocated to other uses. Opportunity costs may also take the form of policies that have been displaced or must be foregone because a particular policy has been adopted. In some cases, these costs come directly out of government revenues so that the budgetary costs are explicit. In other instances, the costs are borne by businesses and one must estimate the costs associated with regulatory compliance. Workers may also bear the costs, as they may lose jobs in response to more costly government regulations, and consumers may pay higher prices for the products affected by regulations as well. The fact that some regulatory costs are internal to the government gives them no special status, even though they may loom large to policymakers.[9]

In all these instances, the objective should be to evaluate costs to all parties and to ensure that the total benefits are in excess of the total costs that are imposed. Benefit-cost analysis simply provides a mechanism for ensuring that this overall balance has been struck.

5. COST-EFFECTIVENESS ANALYSIS

A more limited policy tool than benefit-cost analysis is the cost-effectiveness test. Cost-effectiveness measures provide an index of the *relative* cost to society of various options for promoting a particular objective (usually expressed as cost per unit of benefit). Within the context of risk regulation, for example, the task of this approach is to ascertain which policies minimize the cost of eliminating a given risk.

Cost-effectiveness measures are generally less controversial than benefit-cost tests, because they do not question the wisdom of underlying regulatory objectives. The only regulations eliminated from consideration are those that are clearly less desirable in reaching the desired result – less benefit for more cost –

and hence there will be a broad consensus that the implementation of this test accomplishes a worthwhile objective.

Although cost-effectiveness measures have certain limitations (discussed below) that frequently make them inconclusive with respect to determining the optimal policy, the measures of cost per unit of benefit achieved reflect both beneficial and adverse effects of regulatory policy and provide a useful guide to the relative performance of different policies. Policymakers can use these measures in conjunction with their sense of the value of the objective being promoted to select the regulatory policy. In effect, the implicit benefit-cost test of selecting the policy that best advances social welfare will be made by policymakers, using the cost-effectiveness results as the underpinnings for these judgements.

A critical difference between cost-effectiveness and benefit-cost tests is that, for the former, benefits need not be valued explicitly. The cost-effectiveness measure calculates the cost per unit benefit but does not assign dollar values to outcomes such as equal opportunity, decreased morbidity, or improved nutrition. The data needs for cost-effectiveness tests will consequently be less. The use of this approach often eliminates the difficult task of attempting to value benefit categories explicitly.

Strengths. Cost-effectiveness tests are particularly useful in weeding out policy alternatives that are clearly inferior. Suppose that policy A will save 6 lives for $12 million and policy B will save 5 lives for $15 million and that only one of these policies can be pursued. The cost per life saved is $2 million per life for policy A and $3 million for policy B, and the total amount of lives saved under policy A is greater. Policy A consequently has a lower price tag per unit risk and, if such actions are worth pursuing, it offers more risk reduction as well. Policy options that are dominated by superior alternatives can in this way be identified using a cost-effectiveness approach.

Limitations. The cost-effectiveness methodology takes as given the desirability of achieving a particular benefit. This is the greatest limitation of the technique. For example, cost-effectiveness analysis was first developed to assess defense expenditures. Generals and other military officials would proudly declare that a particular tank design was the most cost-effective, which simply means the cheapest way to build a tank with these capabilities. Even if such claims are true, it does not mean that society should build the tank, only that we have identified the cheapest way to do so. Given the assumption that the benefits of the policy should be achieved, the task then becomes to find the least costly way to achieve them.

Using a cost-effectiveness ratio. As in the case of benefit-cost analysis for which economists have devised benefit-cost ratios, similarly one can calculate cost-effectiveness ratios. In this case, the ratio is the cost per unit of benefit

achieved (such as cost per death avoided). This cost-effectiveness ratio is a good measure of the efficacy of the policy, but it is not definitive, for two reasons.

First, the fact that one policy has a lower cost per unit of risk reduction than does another policy does not necessarily mean it is superior. For example, a policy that is more costly per unit of risk reduction may in fact pertain to a much greater amount of risk so that the lower cost-effectiveness is offset by the greater scope of the policy impact. For example: Is it better to save one life for $500 000 or 5 lives for $3 million, where the cost per life saved is $600 000?

Second, as noted, the construction of cost-effectiveness ratios enables one to ascertain the relative performance of the policies in terms of the costliness of promoting particular objectives, but does not resolve the issue of where regulators should stop in terms of incurring costs to promote benefits such as risk reduction. Ultimately, the policymaker must make some judgement about how much society is willing to pay in terms of the cost per unit of any given benefit (in other words, an implicit benefit-cost analysis will be done, even if it is not done explicitly).

Suppose, for example, that there is a policy option that will prevent 2 deaths annually from contaminated drinking water at a cost of $1 billion per life. If there is no cheaper way to prevent these two drinking water deaths, the policy will be judged cost-effective. Yet, it might not be a desirable policy to pursue.

Comparing cost-effectiveness ratios. Cost-effectiveness measures are most beneficial when the government objective is defined broadly enough to allow comparison of many different policy alternatives for reaching it. In risk regulation, for example, comparison of cost-effectiveness measures across policies can highlight ways in which societal resources can be reallocated to save more lives for less money. Thus, comparison of cost-effectiveness rates often provides useful guidance regarding the relative efficacy of policies' performance and profitable opportunities for reallocating resources to maximize their net impact.

To see how one can derive substantial insight into the attractiveness of policies simply by calculating the cost-effectiveness ratios, consider Table 2, which presents cost- effectiveness ratios for a series of US risk regulations. To put the policies in perspective, a value of life of $5 million is used as the threshold for ascertaining whether the regulation would also pass a benefit-cost test. As indicated in the table, the cost per life saved amounts range from $100 000 to $72 billion. Even without ascertaining how far one should proceed in terms of the cost per life saved, simply calculating the cost- effectiveness of the policies enables one to get a good sense of their relative efficacy. Although there can be legitimate debates as to whether the appropriate value of life is $1 million, $3 million, $5 million, or even as high as $10 million, when we see policies with costs per life saved well in excess of $100 million then it is fairly clear that such

Table 2. **The cost of various risk-reducing regulation per life saved**

Regulation	Year and status	Agency	Initial annual risk[1]	Annual lives saved	Cost per life saved (millions of 1984 $)
Rules that pass benefit-cost test:					
Unvented space heaters	1980 F[2]	CPSC	2.7 in 10^5	63.000	.10
Oil and gas well service	1983 P	OSHA-S	1.1 in 10^3	50.000	.10
Cabin fire protection	1985 F	FAA	6.5 in 10^8	15.000	.20
Passive restraints/belts	1984 F	NHTSA	9.1 in 10^5	1 850.000	.30
Underground construction	1989 F	OSHA-S	1.6 in 10^3	8.100	.30
Alcohol and drug control	1985 F	FRA	1.8 in 10^6	4.200	.50
Servicing wheel rims	1984 F	OSHA-S	1.4 in 10^5	2.300	.50
Seat cushion flammability	1984 F	FAA	1.6 in 10^7	37.000	.60
Floor emergency lighting	1984 F	FAA	2.2 in 10^8	5.000	.70
Cane suspended personnel platform	1988 F	OSHA-S	1.8 in 10^3	5.000	1.20
Concrete and masonry construction	1988 F	OSHA-S	1.4 in 10^5	6.500	1.40
Hazard communication	1983 F	OSHA-S	4.0 in 10^5	200.000	1.80
Benzene/fugitive emissions	1984 F	EPA	2.1 in 10^5	0.310	2.80
Rules that fail benefit-cost test:					
Grain dust	1987 F	OSHA-S	2.1 in 10^4	4.000	5.30
Radionuclides/uranium mines	1984 F	EPA	1.4 in 10^4	1.100	6.90
Benzene	1987 F	OSHA-H	8.8 in 10^4	3.800	17.10
Arsenic/glass plant	1986 F	EPA	8.0 in 10^4	0.110	19.20
Ethylene oxide	1984 F	OSHA-H	4.4 in 10^5	2.800	25.60
Arsenic/copper smelter	1986 F	EPA	9.0 in 10^4	0.060	26.50
Uranium mill tailings inactive	1983 F	EPA	4.3 in 10^4	2.100	27.60
Uranium mill tailings active	1983 F	EPA	4.3 in 10^4	2.100	53.00
Abestos	1986 F	OSHA-H	6.7 in 10^5	74.700	89.30
Abestos	1989 F	EPA	2.9 in 10^5	10.000	104.20
Arsenic/glass manufacturing	1986 R	EPA	3.8 in 10^5	0.250	142.00
Benzene/storage	1984 R	EPA	6.0 in 10^7	0.043	202.00
Radionuclides/DOE facilities	1984 R	EPA	4.3 in 10^6	0.001	210.00
Radionuclides/elem. phosphorus	1984 R	EPA	1.4 in 10^5	0.046	270.00
Benzene/ethylbenzol styrene	1984 R	EPA	2.0 in 10^6	0.006	483.00
Arsenic/low-arsenic copper	1986 R	EPA	2.6 in 10^4	0.090	746.00
Benzene/maleic anhydride	1984 R	EPA	1.1 in 10^6	0.029	820.00
Land disposal	1988 F	EPA	2.3 in 10^8	2.250	3 500.00
EDB	1989 R	OSHA-H	2.5 in 10^4	0.002	15 600.00
Formaldehyde	1987 F	OSHA-H	6.8 in 10^7	0.010	72 000.00

1. Annual deaths per exposed population. An exposed population of 10^3 is 1 000, 10^4 is 10 000, etc.
2. P, F, or R – Proposed, rejected or final rule.

Source: Morrall, 1986, p. 30. These statistics were updated by John F. Morrall III, via unpublished communication with the author, July 10, 1990.

efforts exceed the bounds of reasonable expenditures to enhance individual health and safety. The listing in Table 2 indicates that greater gains can be achieved in terms of lifesaving for far less cost by pursuing the kinds of policy options with a higher cost-effectiveness.

This approach may appeal to government officials. In some circumstances, one may not wish to undertake a full-blown benefit-cost test because of the controversial nature of attaching dollar values to particular benefits. On the other hand, a simple cost-effectiveness approach may be too limited. An alternative is this mixed policy approach in which one first calculates the cost-effectiveness ratio and then compares this ratio with an appropriate reference point to see whether it is in a reasonable range. In effect, this procedure can be viewed as a loosely specified benefit-cost analysis where the controversial benefit value is not specified with precision. Rather, there is simply an effort to ascertain that the policy is within a reasonable range with respect to such benefit values. More detail on how such a procedure can be undertaken will be illustrated within the context of the benefit assessment discussion in Section 7.

6. COST ASSESSMENT

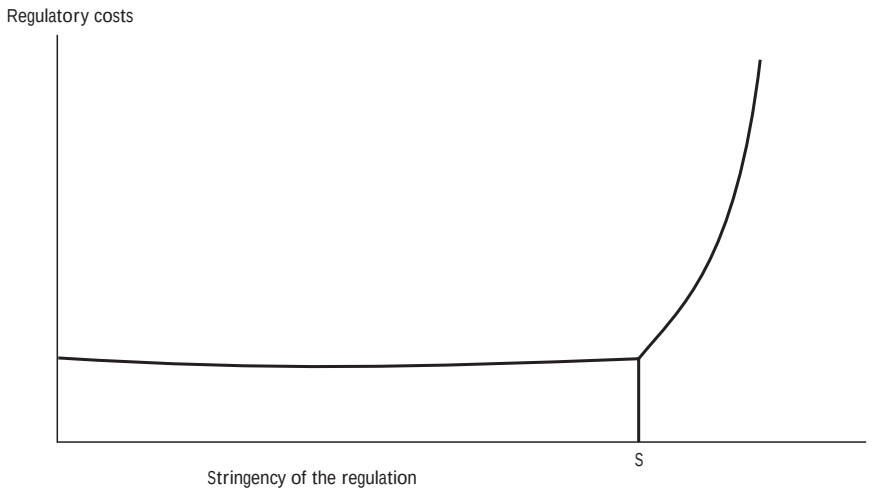
Another approach to policy analysis is to ignore benefits and to focus simply on costs. This is a partial approach that will not provide comprehensive guidance. Yet it does provide some index of the extent to which society is committing resources to a particular regulatory effort. Indeed, it is usually recognition that costs are potentially consequential and must be evaluated that is the first step that leads countries to adopt more highly refined types of regulatory analysis.

Costs of regulation may be borne by multiple parties. Tax rates may be affected if direct government expenditures are involved. Costs may also be imposed on business and their shareholders. Consumers and workers may bear regulatory costs that are incorporated in the prices they pay for products and the wages they receive. In some cases, overall rates of employment may be affected, particularly by regulations or groups of regulations that affect growth and competitiveness.

Although tallying the various cost components represents the first step in cost analysis, in many situations there is an attempt to actually utilize the cost information to set the level of the regulatory standard. In particular, there is an effort to determine the technological feasibility and affordability of a regulation. A regulation is technologically feasible if there are available technologies, however costly, that can be employed to meet the regulatory standard. Affordability criteria are much more difficult to implement. In some cases, affordability may pertain to whether all firms or a certain percentage of firms in the industry can comply with the standard, and this involves judgements regarding not only the level of the regulatory cost but also the viability of an industry.

Figure 1 illustrates how affordability considerations might enter into setting the stringency of a regulation. As is indicated, as the regulatory stringency increases, cost levels rise. Initially, regulatory costs are relatively flat with respect to the level of stringency, but eventually at stringency level "s" costs escalate as technological limits are encountered. In such a situation, regulators should set the regulation at a level that is near the point "s" at which costs begin to escalate steeply.

◆ Figure 1. ***Regulatory costs and the choice of a regulatory standard***



An examination of Figure 1 indicates why this policy approach often will yield appropriate outcomes. In the flat section of the cost curve, the marginal cost of providing risk reduction is relatively constant. If the unit benefits of risk reduction are constant as well it will generally be optimal to either pursue regulation up to point "s" where costs begin to escalate or not undertake such efforts at all. At the point "s" where costs increase quite steeply, it may be that very high benefits of regulation would warrant a level of the standard above that at the point where costs begin to escalate. However, errors in the level of stringency selected by setting the standard at point "s", as opposed to a more stringent level, will be modest.

Unfortunately, Figure 1 illustrates a best case scenario for which examining costs is instructive. In other situations, costs may rise less sharply so that there is a continuum of choices that must be made with respect to how stringent the regulation should be. In such contexts, the errors may be substantial if one only examines costs and not the benefits to society resulting from the regulation.

7. BENEFIT ASSESSMENT

Regulatory analysis that involves more than costs generally entails some kind of benefit assessment. In a fully articulated benefit-cost analysis one would attempt to assign a dollar equivalent to each benefit component. Even approaches that fall short of a benefit-cost test may require some formal benefit assessments.

This is particularly the case when multiple policy effects must be considered in cost-effectiveness analysis, risk analysis, and risk-risk analysis. Ideally, it would be instructive to establish an approach for calculating a single overall index of benefits. For example, if a regulation eliminated 5 deaths and 10 illnesses that were judged to be half as severe as a death, then the policy impact is 10 fatality equivalents. Some form of rudimentary benefit estimation is required to make this bridge.

Valuing benefits. The starting point for any benefit assessment is a review of the general principles guiding benefit values. In all policy contexts, the appropriate benefit value is society's willingness to pay for the outcome. This is not a particularly controversial proposition. Moreover, once benefit assessments are put in this light, the attractiveness of benefit-cost analysis is fairly great.

It is important to correctly value regulatory benefits. Many of the controversies surrounding benefit-cost analysis stem in part from faulty benefit assessments that are not based on society's willingness to pay for the policy outcomes. Rather, highly imperfect surrogates for the benefit values are sometimes used, and these may exclude many important noneconomic benefit components. Such omissions have led critics of benefit-cost analysis to claim that the benefit assessments are incomplete – a criticism that may be appropriate in particular circumstances but does not reflect an inherent limitation of benefit assessments.

Consider the case of valuation of risks to life and health. The first methodology used in this area was that of the human capital approach. In particular, to calculate the value of a human life, analysts assessed the present value of the worker's earnings over his lifetime. This value became the benefit associated with eliminating the risk of a particular death.

This particular valuation approach has one main attribute to recommend it – it is easy to calculate the present value of worker earnings. Moreover, this benefit amount is appropriate in some contexts. For example, in judicial settings where

the issue is the appropriate value of compensation due to the survivors of an accident victim, the present value of worker earnings does serve as a useful measure of the insurance amount. However, while the human capital measure may be a useful measure of compensation, it is *not* an instructive measure of value from the standpoint of prevention. In fact, the measure is below the appropriate deterrence value by roughly a factor of 10.

The underlying reason is simple. People's lives are worth more than their earnings. Moreover, what is being valued is not the loss of a certain life but rather a small risk to life itself. An individual with lifetime earnings of $1 million may be unwilling to part with $500 000 to prevent a 50 per cent chance of death, but may be quite willing to spend $1 to prevent a one chance in a million of death.

These kinds of attitudes are not inconsistent. Indeed, economic theory predicts that willingness to spend per unit risk reduction should decline as the amount of risk reduction increases. Since most government policies have modest effects on risk levels – typically well below 1/10 000 and more usually in the 1/1 000 000 range – it is appropriate to use valuation amounts that pertain to the valuation of small risk reductions rather than the value of a certain death. This kind of concern brings us back to the underlying principle for benefit assessment – society's willingness to pay for the benefit derived from the policy, which in this case is a small reduction in the risk level.

The main source of economic evidence on risk-dollar trade-offs consists of the wage premiums workers accept for the fatality risks they face on the job. A considerable literature has documented the magnitude of these trade-offs. The economic shorthand that has developed is that by dividing the amount of wage compensation by the size of the risk one obtains a premium per unit risk. When the wage premium is divided by the fatality risk, the resulting figure is the implicit value of a statistical life.

Table 3 summarizes the results of a series of studies of the value of life based on labour market evidence.[10] For a wide variety of countries value of life estimates are typically in excess of $1 million. To put the estimates in more comparable terms, the final column of the table converts these estimates to the value of life that would be pertinent for individuals with the same income level.[11]As the evidence in Table 3 indicates, value-of-life estimates have been obtained not only for the United States, but also for Canada, the United Kingdom, Japan, and Australia. Using a similar methodology, one could also obtain estimates for other countries.[12]

The estimates obtained from labour market studies are willingness-to-accept values. In particular, they measure the compensation required by workers to accept an increase in risk on their jobs. In contrast, policy analyses focus on willingness-to-pay amounts – the amount society is willing to pay for a small

Table 3. **Summary of labour market studies of the value of life**

Author (Year)	Sample	Risk variable	Mean risk	Non-fatal risk included?	Workers' comp. included?	Average income level (1990 US$)	Implicit value of life ($ million)	Implicit value of life for air travelers ($ million)
Thaler and Rosen (1976)	Survey of Economic Opportunity	Society of Actuaries	0.001	No	No	27 034	0.8	1.0
Smith (1976)	Current Population Survey (CPS) 1967, 1973	Bureau of Labour Statistics (BLS)	0.0001	Yes, not significant	No	n.a.	4.6	n.a.
Viscusi (1978, 1979)	Survey of Working Conditions, 1969-1970 (SWC)	BLS, subjective risk of job (SWC)	0.0001	Yes, significant	No	24 834	4.1	5.7
Viscusi (1981)	Panel Study of Income Dynamics, 1976	BLS	0.0001	Yes, significant	No	17 640	6.5	12.8
Marin and Psacharopoulos (1982)	UK Office of Population Censuses and Surveys, 1977	Occupational Mortality UK	0.0001	No	No	11 287	2.8	8.1

Table 3. **Summary of labour market studies of the value of life** *(cont.)*

Author (Year)	Sample	Risk variable	Mean risk	Non-fatal risk included?	Workers' comp. included?	Average income level (1990 US$)	Implicit value of life ($ million)	Implicit value of life for air travelers ($ million)
Moore and Viscusi (1988)	Panel Study of Income Dynamics, 1982	BLS, NIOSH National Traumatic Occupational Fatality Survey	0.00005, 0.00008	No	Yes	19 444	2.5 7.3	4.6 13.4
Cousineau, Lacroix and Girard (1988)	Labour Canada Survey, 1979	Quebec Compensa-tion Board	0.00001	No	No	n.a.	3.6	n.a.
Kniesner and Leeth (1991)	Two-digit mfg. data, Japan, 1986	Yearbook of Labor Statistics, Japan	0.00003	Yes	No	34 989	7.6	7.5
Kniesner and Leeth (1991)	Two-digit mfg. data, Australia, by state, 1984-85	Industrial Accident data, Australia	0.0001	Yes	Yes	18 177	3.3	6.3
Kniesner and Leeth (1991)	Current Population Survey, US, 1978	NIOSH (National Traumatic Occupational Fatality Survey)	0.0004	Yes	Yes	26 226	0.6	0.8

Note: All values are in december 1990 dollars.
n.a. = not available.

Table 4. **Summary of value of life estimates based on survey evidence**

Author (year)	Nature of risk	Survey methodology	Average income level	Implicit value of life ($ millions)
Jones-Lee (1989)	Motor vehicle accidents	Willingness to pay for risk reduction, UK survey, 1982	n.a.	3.8
Viscusi, Magat, and Huber (1991)	Automobile accident risks	Interactive computer programme with pairwise auto risk-living cost trade-offs until indifference achieved	43 771	2.7 (median) 9.7 (mean)
Miller and Guria (1991)	Traffic safety	Series of contingent valuation questions, New Zealand Survey, 1989-1990	n.a.	1.2

Note: All values in December 1990 US dollars.

decrease in risk. For sufficiently small changes in risk, the willingness-to-pay and willingness-to-accept amounts per unit risk should be the same so that the labour market studies will be applicable in other situations as well.

Another technique that can be used to elicit value of benefit estimates is a survey approach in which individuals are asked willingness-to-pay or willingness-to-accept questions pertaining to changes in benefits. The most prevalent methodology used in this area is known as "contingent valuation." In particular, respondents are asked to value particular market situations, contingent upon the assumption that such markets exist. For example: How much would you be willing to pay for improved traffic safety that reduced your risk of a traffic fatality by 1/100 000 annually, recognizing that this is only a hypothetical thought experiment?

Contingent valuation studies have been undertaken in a number of countries. Table 4 summarizes the results of studies that have valued automobile fatality deaths in the United Kingdom, the United States, and New Zealand. As is evident from the evidence in Table 4, all of the implied value of life figures are in excess of $1 million.

Although surveys represent a more direct approach to ascertaining the value-of-life, the use of surveys is not without its deficiencies. First, the surveys must be designed and administered with substantial care to ensure that respondents give meaningful and thoughtful answers. A well designed survey will also engage the respondent so that he or she gives an honest answer to the question. If the survey respondent believes that the response will influence the policy outcome, there may be an incentive to misrepresent one's preferences. This strategic problem has not proven to be a major difficulty in practice.[13]

A third concern is how to incorporate the robustness tests so that the results are not sensitive to the survey methodology. How one asks the questions, whether an iterative bidding scheme is used, whether this bidding scheme moves upward or downward from the initial bid, and similar variations may affect the valuation amount. Because of this, it is important to use a methodology that can be corroborated and gives consistent answers using legitimate variations in approach.

Notwithstanding these limitations, properly designed surveys have the advantage that they can be used to address a wide variety of regulatory benefits that are difficult to quantify. How much is it worth to preserve an endangered species or to prevent a heart attack? Since answers to these types of questions are not available using market data, some method of ascertaining the public's willingness to pay for these outcomes is essential if dollar values are to be attached to these classes of benefits.

8. DISCOUNTING

Benefit and cost streams for regulatory policies often extend over long periods of time. Cost effects may have a long-term influence, particularly if substantial capital expenditures are involved. Benefits likewise involve long-term effects. Most cancer reduction policies will have an effect that only begins to become apparent in two or three decades. Policies to address climate change likewise will have effects that will not be manifested until the next century. How much should society sacrifice today to generate these future effects? If we have the option of saving lives now or a somewhat larger number of lives in the distant future, which option is preferable?

All of the policy analysis approaches outlined in Table 1 require that policy effects be put on some comparable temporal basis so that some overall judgement can be made. The manner in which effects over time are weighted is known as discounting. Since the relative weights across time may have a pivotal effect on the policy choice, the selection of the discount rate has long been a topic of economic controversy. The source of the debate stems primarily from the substantial stakes involved, not the absence of well-defined economic criteria.

Since benefits that occur in the future have lower present value than those that occur today, one must discount these impacts to reflect this difference. For example, at a 5 per cent real rate of interest, $1 invested today is worth $1.34 ten years from now. Viewed somewhat differently, $1.34 ten years from now has a present value of $1. To treat $1 at any point in time as having the same value is to ignore the potential for productive uses of our resources.

As a practical matter, one should put all benefit and cost values in inflation-adjusted terms so that these benefits can be discounted by a real rate of return. In the United States, the real rate of return on capital has ranged from 1 to 3 per cent in recent years.

Some regulatory agencies have suggested that there should be no discounting at all since what is at risk is not dollars but other impacts such as health and environmental quality. However, what is being discounted is not health impacts but rather society's willingness to pay for these effects. By converting all outcomes into dollar benefit and dollar cost terms, one establishes a metric whereby one can then use a financial rate of discount appropriately.

The failure to discount at all or to treat the discount rate as being zero will lead to clearly undesirable policy implications. Suppose there is a situation where for a $1 cost forever we can prevent all cases of cancer likely to occur in the world this year. If the discount rate were zero, one would not undertake this policy because any cost of infinite duration is infinite and will outweigh any present payoff, irrespective of how great it may be.

As a general rule, discounting at higher rates will decrease the value of deferred payoffs so that policies with longer term benefits relative to costs will tend to look less attractive.[14] High rates of discount will tend to favour policies that are less capital intensive and which provide more immediate benefits. Use of a lower discount rate will make us more future-oriented and more concerned with issues such as climate change, global warming, and the prevention of cancer – outcomes which occur with a substantial lag.

9. RISK ASSESSMENT

A key element of any policy analysis of a regulation intended to reduce risks to human health or safety or the environment is determination of the magnitude of the risk being addressed. Are the risks of consequence? How much does the policy reduce the risk? Obtaining some assessment of the degree to which policy improves the health and safety of those whom it is trying to protect is clearly of concern irrespective of whatever the policy objective is.[15]

Risk analysis focuses on only one aspect of policy effects – the risks that will be reduced. Unlike benefit-cost or cost-effectiveness analysis, there is no assessment of the costs incurred to achieve the risk reduction. Similarly, there is no requirement that there be a tallying of all benefit and cost components and a balancing of societal interests, as under benefit-cost analysis. Thus, risk analysis is more limited in scope then either of these other policy approaches.

Nevertheless, risk analysis is important both as an essential component for more comprehensive policy evaluation and as a decision-making test in its own right. Almost every health and safety regulatory policy has some laudable objective. However, it is essential to know whether these efforts are having a negligible effect on risks or whether we are truly making substantial progress.

As our scientific understanding increases and our ability to measure infinitesimal levels of risk becomes refined, there will be an increasing number of opportunities for influencing risk, but many of these efforts will generate trivial gains. Society clearly should attempt to select those policies that will do the most good. Since risk analysis does not involve any assessment of costs or risk-money tradeoffs, there should be broad support for this technique as a vital means of promoting policies that truly improve the quality of life.

The need to put risks in perspective also arises because of the multiplicity of risks we face and that will remain even under a vigorous regulatory regime. Table 5 summarizes a variety of risks faced in our daily life that pose an annual death risk of one chance in a million. We could incur risk of this magnitude by travelling ten minutes by bicycle, having a chest X-ray in a good hospital, or eating 100 grilled steaks.

Table 5. **Risks that increase the annual death risk by one in a million**

Activity	Cause of death
Smoking 1.4 cigarettes	Cancer, heart disease
Drinking 0.5 liter of wine	Cirrhosis of the liver
Spending 1 hour in a coal mine	Black lung disease
Spending 3 hours in a coal mine	Accident
Living 2 days in New York or Boston	Air pollution
Travelling 6 minutes by canoe	Accident
Travelling 10 miles by bicycle	Accident
Travelling 150 miles by car	Accident
Fying 1 000 miles by jet	Accident
Flying 6 000 miles by jet	Cancer caused by cosmic radiation
Living 2 months in Denver on vacation	Cancer caused by cosmic radiation
Living 2 months in average stone or brick building	Cancer caused by natural radioactivity
One chest x-ray taken in a good hospital	Cancer caused by radiation
Living 2 months with a cigarette smoker	Cancer, heart disease
Eating 40 tablespoons of peanut butter	Liver cancer caused by aflatoxin B
Drinking Miami drinking water for 1 year	Cancer caused by chloroform
Drinking 30 12-oz. cans of diet soda	Cancer caused by saccharin
Living 5 years at site boundary of a nuclear power plant in the open	Cancer caused by radiation
Drinking 1 000 24-oz. soft drinks from banned plastic bottles	Cancer from acrylonitrile monomer
Living 20 years near PVC plant	Cancer caused by vinyl chloride (1976 standard)
Living 150 years within 20 miles of a nuclear power plant	Cancer caused by radiation
Eating 100 charcoal-broiled steaks	Cancer from benzopyrene
Risk of accident by living within 5 miles of a nuclear reactor for 50 years	Cancer caused by radiation

Source: Richard Wilson (1979), "Analyzing the Daily Risks of Life", *Technology Review,* Vol. 81, No. 4, pp. 40-46.

Clearly, we face risks from all the diverse activities and products in our lives. Ideally, society should target its resources to achieve the greatest risk reduction in return for our efforts. Statistics such as those in Table 5 should not lull us into a false sense of precision, however, concerning the accuracy of the risk assessments. There is typically a range of uncertainty, often quite considerable, around these risk values.

Table 6. **Risks and their uncertainty**

Action	Annual risk	Uncertainty
Motor vehicle accident (total)	2.4×10^{-4}	10%
Motor vehicle accident (pedestrian only)	4.2×10^{-5}	10%
Home accidents	1.1×10^{-4}	5%
Electrocution	5.3×10^{-6}	5%
Ar pollution, eastern United States	2.0×10^{-4}	Factor of 20 downward only
Cigarette smoking, one pack per day	3.6×10^{-3}	Factor of 3
Sea-level background radiation (except radon)	2.0×10^{-5}	Factor of 3
All cancers	2.8×10^{-3}	10%
Four tablespoons peanut butter per day	8.0×10^{-6}	Factor of 3
Drinking water with EPA limit of chloroform	6.0×10^{-7}	Factor of 10
Drinking water with EPA limit of trichloroethylene	2.0×10^{-9}	Factor of 10
Alcohol, light drinker	2.0×10^{-5}	Factor of 10
Police killed in line of duty (total)	2.2×10^{-4}	20%
Police killed in line of duty (by felons)	1.3×10^{-4}	10%
Frequent flying professor	5.0×10^{-5}	50%
Mountaineering (mountaineers)	6.0×10^{-4}	50%

Source : Richard Wilson and E.A.C. Crouch (1987), "Risk Assessment and Comparisons: An Introduction", *Science,* Vol. 236, p. 268.

Table 6 summarizes a variety of different kinds of risks and the degree of uncertainty associated with them. Many risks are known with substantial precision. The annual risk of being killed in a motor vehicle accident or in a home accident is reasonably well known in large part because the events are readily observable, and they occur with substantial frequency. In contrast, other risks are less precisely understood, such as the risks associated with air pollution, cigarette smoking, drinking water, and chemicals such as trichloroethylene. In these instances the degree of uncertainty may be quite broad.

Using expected benefits. Risk assessment offers many alternative methods of estimating risk. If the goal is to save the greatest *expected* number of lives, the focal point of policy analysis should be the "mean" risk level, which indicates the results that are most likely to occur. This approach will save more lives on average than if we become excessively concerned with worst case scenarios that have a low probability of occurrence.

Two examples will clarify the notion. First, suppose that regulators face a regulatory decision between two policies of equal cost. The first policy is expected to save 5 lives, and this figure can be estimated quite precisely based

on past experience with the risk. The second policy is expected to save 6 lives, but the number of lives saved is less well understood – the policy could save as few as zero or as many as 12 lives (probabilities are uniformly distributed). In this case, the uncertain policy is preferable since a greater *expected* number of lives will be saved.

The second example illustrates a mistake commonly made by regulators. If the choice is between saving 5 lives with substantial precision, or an uncertain policy that is expected to save 4 lives, but could save as few as zero or as many as 8 (probabilities are uniformly distributed), then the well-understood policy that is expected to save 5 lives is preferable. The uncertain policy might save as many as 8 lives, but the *expected* lives saved are fewer. Policy-makers should always demand to see the *expected* results, not only the possible range of outcomes.

Dealing with uncertainty. Although the primary matter of concern should be the mean risk, it is useful to understand the precision of our knowledge. Policy-makers may well find it important to know if an outcome is 90 per cent likely, or only 50 per cent. Estimating uncertainty also highlights the areas where it is useful to refine the information base to obtain a better understanding of the risk.

There are a variety of ways in which one can express the uncertainty surrounding these risk assessments. One is to establish a 95 per cent confidence interval that will characterize the distribution of the risk. There will be a 95 per cent chance that the risk level falls within this interval, a 2.5 per cent chance that it falls above it, and a 2.5 per cent chance that it falls below it. Establishing intervals of this type is a useful mechanism for establishing the range of uncertainty, but in terms of a policy guide the appropriate value should be the *expected* risk level. In particular, the mean risk value is most important, not some other aspect of the distribution. A broad confidence interval simply means that the risk is not well understood (an important piece of information for policy-makers).

Practices to avoid. One common, and unfortunate, practice in the United States regulatory context is to focus on the upper end of the 95 per cent confidence interval in setting standards. In effect, the emphasis is on the risk value that will only be exceeded 2.5 per cent of the time. The justification for using the upper end of the 95 per cent confidence interval is frequently based on arguments of conservatism. By relying on an overstatement of the actual risk level, one will adopt policies that are more stringent than would be the case if we used the mean as our guide.

There is no analytical justification for such conservative biases. In effect, by focusing on the upper end of the 95 percent confidence interval we are lying to ourselves about what the true risk level is. One cannot use the argument of risk aversion to justify such an emphasis. Risk aversion requires that we value the

payoffs associated with risks appropriately, not that we distort these risks in the course of our analysis.

The dangers of using the upper end of the 95 per cent confidence interval are similar to failing to use the expected value, as is apparent in the following example. Suppose that the government can address one of two possible sources of air pollution. Source A leads to 5 expected deaths per year, but our knowledge of the properties of this chemical are very imprecise. As a result, the upper end of the 95 per cent confidence interval indicates that we might possibly be saving 20 lives per year by regulating this chemical, though we do not know for sure. In contrast, chemical B poses a risk that leads to an average of 10 deaths per year, and we know this risk level with precision.

Suppose that there are budgetary constraints that necessitate focusing on only one of the two chemicals. Is it better to regulate chemical A or chemical B? In this instance, twice as many lives will be saved on average by regulating chemical B. Focusing on chemical A because of emphasis on a possible worst case scenario in effect sacrifices five expected lives. Likewise, regulatory policies intended to be more protective, by treating chemicals as more dangerous than they likely are, will end by saving fewer lives, because governments will focus too much attention on the wrong risks.

Other kinds of biases undertaken in the name of conservatism or higher protection often creep into analyses as well. Risk estimates may be multiplied by arbitrary factors such as 2, 10, or 100. Similarly, some policies seek to reduce the risk to some factor much smaller than the zero risk level, *e.g.*, one-tenth of the exposure level associated with positive risk amounts. These distortions likewise have no analytical justification and only serve to distort the actual risk level.

Attempts to reduce risk exposure levels below the zero risk exposure amount are often characterized as providing a ''margin of safety.'' However, it should be realized that once the zero risk level has been achieved, these additional margins of safety are costly and do not save additional lives. It may be that these safety margins are a legitimate reflection of public concerns. However, if the public were given a choice to reallocate resources from providing a margin of safety without influencing expected health status to policies that were genuinely expected to save lives, it is likely that the policy emphasis on safety margins would diminish.

In some instances, potential errors in risk assessment can be traced to the underlying scientific models used. Assessing the risks to humans based on the risks to the most sensitive animal species is another manifestation of the conservatism bias. Typically scientific evidence is available on a variety of animal species from which one can extrapolate to humans. Ideally, regulatory agencies should utilize all of the information available to make the best estimates of the

risks to humans as opposed to simply focusing on the species that has been proven to be most sensitive to the risk exposure.[16]

There are a variety of other pitfalls one should avoid in risk analysis. Analysts, for example, sometimes assume that industrial pollution takes place with facilities operating at full capacity, whereas in practice less than full capacity may be the typical operating practice. Similarly, there is seldom recognition of the possibility of an adaptive response. Much of the controversy over greenhouse warming stems from the fact that scientists who have projected the substantial losses associated with climate change have failed to take into account societal adaptation to changes in climatic conditions. One would, for example, expect farmers to alter the crops they grow and to alter their irrigation practices so that the losses would be diminished as compared with a situation in which there is no change in behaviour. Change, however, is not costless and these adjustments may be incomplete. The possibility of adaptation does not in any way imply that the risks are necessarily small, only that failure to account for the adaptation in all likelihood will lead to overestimation of the risks.

Risk management: a separate decision. When undertaking an assessment, it is important not to confuse risk assessment (calculation of the probability of harm) with risk management (strategies for reducing the risk). Risk assessment should be an entirely separate process from the task of making policy decisions. A sound risk assessment is necessary irrespective of whether the ultimate objective of risk assessment is to incorporate it within the context of a benefit-cost analysis, a cost-effectiveness analysis, or simply an examination of the risk to see whether it is important given the mandate of the regulatory agency. The purpose of risk assessment is simple – to ascertain the degree to which the regulation will alter the risks and improve public health and safety.

10. RISK-RISK ANALYSIS

A variant on risk analysis is known as risk-risk analysis. Under this approach, one does not simply calculate the direct effects of the regulation on risk. Rather, one attempts to assess whether other risks may also be affected and to determine whether, on balance, the net effect of the regulation on risks is beneficial. Thus, the methodology is identical to risk analysis. The only difference is that the domain of inquiry is not limited to factors traced directly to the influence of the regulation. Risk-risk analysis arose largely from concerns that some risk regulations actually increased rather than reduced total risks.

There are two principal ways in which there could be other risk effects. The first mechanism is that the regulation may lead to a risk trade-off in terms of either a behavioural response to the regulation or through the multiplicity of risks that may be influenced by it. The following examples illustrate how this linkage

can occur. Regulatory officials occasionally consider bans of artificial sweeteners of various kinds. In the United States, for example, cyclamates have been banned, and saccharin must bear a hazard warning label. Bans and other acts that discourage the use of artificial sweeteners can cause other risks if consumers then eat food higher in calories. This may expose them to greater risks of heart disease and cancer that may offset, at least in part, the beneficial effects of limiting the use of artificial sweeteners.

A more mundane example of the presence of risk-risk trade-offs is that of drinking water. Chlorination of drinking water poses some cancer risk, though it is believed to be very small. Eliminating the use of chlorine would, however, lead to the risk of other illnesses caused by the bacteria that would be found in untreated water. Thus, policymakers ultimately have made the judgement that the risk reduction achieved through the use of the chlorine is greater than the cancer risk of that chemical. In a similar vein, there are adverse reactions to many widely used vaccines, such as the DPT vaccine. There is consequently a trade-off in terms of the decrease in diseases that will be prevented by the use of vaccines against the risks of adverse reactions, some of which may be fatal.

A more subtle kind of trade-off occurs when a regulation has spillover effects on a quite different type of risk. Fuel economy standards designed to promote the production of smaller and more fuel efficient cars will decrease the health risks associated with energy-related environmental pollution. However, it does this at a greater risk to the passengers themselves, who are more likely to die in accidents.

Determining whether, on balance, risk levels are increased or decreased is not always a straightforward process. If risks are of the same type (*e.g.* fatalities), then it is a simple matter to determine whether deaths rise or fall as a result of the policy. However, if there is a trade-off that involves different kinds of health outcomes, such as the risk of cancer from artificial sweeteners against the risk of heart disease from obesity, then some method is needed to determine the relationship between society's value of these risks. Nevertheless, an assessment of the magnitudes of the effects is an important prerequisite to any subsequent analysis and is a useful first step in highlighting how the regulation influences risk policy outcomes.

Risk-risk trade-offs and regulatory costs. The most recent variant of risk-risk analysis, and one that has received substantial prominence in the United States, is the effect of regulatory expenditures on risks.[17] All regulations involve some kind of costs, and these costs will make society economically poorer overall. In some cases, these costs are borne by shareholders of the companies affected. In others, it may be that workers' wages will be adversely affected by regulatory costs or the prices paid by consumers will reflect these costs. Finally, it may be that the taxes of society at large are raised to fund the cost of a regulation. In all of

these cases, there will be cost effects and real opportunity costs to society of the regulatory policy.

These costs are consequential, not simply because of benefit-cost concerns, but because of risk-related concerns as well. In particular, studies indicate that there is a strong positive income elasticity of individual health. As societal incomes rise, health status improves. Moreover, within countries, higher income groups generally have better health insurance, are more likely to take health-enhancing actions such as exercise, and have greater longevity. By making society poorer, regulatory costs consequently have some influence on health status as well since they decrease the resources society has available for various expenditures, including those that enhance individual health.

One mechanism for determining the extent of the relationship is to estimate how responsive mortality rates are to changes in income. How much of a drop in societal income is necessary to lead to one statistical death? Although there are a wide range of estimates for this relationship, one widely cited study indicates that the appropriate value is $12 million (in 1991 prices).[18] This estimate implies that for every $12 million in regulatory expenditures there is a loss of one statistical life, because the beneficial effect of income on health will no longer be able to take place once income levels have been diminished.

An alternative methodology for determining the level of regulatory cost that leads to one statistical death is based on a linkage between estimated value of life figures and this amount.[19]In particular, the amount of regulatory expenditure that leads to the loss of one statistical life equals the estimated value of life divided by the marginal propensity to spend on health. My estimates for 24 OECD countries indicate that the marginal propensity to spend on health out of income is 0.1. As a result, to determine the regulatory cost that will lead to one statistical death one simply multiplies the estimated value of life by a factor of 10. For example, if in a particular country the pertinent value of life estimate is $3 million, then $30 million in regulatory expenditures will lead to the loss of one life. Other value-of-life estimates can be used similarly.

Although this methodology is still being refined, it is useful in that it highlights the fact that – even if one is not directly concerned with cost-risk trade-offs as in the case of benefit-cost analysis and cost-effectiveness analysis – regulatory costs still are a matter of concern. In particular, these costs also have risk consequences so that even if one's sole concern is with risk levels one cannot completely ignore the cost impacts of regulatory policies.

The exact components of this risk-risk approach are still being refined, as it remains fairly new. Nevertheless, it promises to be a major addition to the regulatory analysis alternatives since it provides a more comprehensive perspec-

tive on the risk consequences of regulation without having to engage in the difficult process of assessing what the appropriate risk-cost trade-off should be.

11. THE IMPORTANCE OF REGULATORY IMPACT ASSESSMENTS

The overriding purpose of obtaining an assessment of the merits of regulatory policies is to ensure that they have a sound foundation in economic and social realities. Most importantly, is society obtaining sufficient benefits from these policies to justify the costs that are being imposed? Since these costs are frequently not budgetary costs but instead are borne by third parties, policy-makers are usually less aware of these costs than if they were dealing with an expenditure programme.

As the costs imposed by regulation continue to escalate, the need for more refined regulatory analyses will increase. Much of the impetus for the increased reliance on analytical judgements is the recognition that the costs of regulation are becoming truly substantial – running into the hundreds of billions of dollars. Some mechanism must be found to ensure that society is obtaining as much benefit as it can from these expenditures. Economic analysis of regulatory effects can be viewed as the framework for providing the substantive basis for making these policy judgements.

NOTES

1. W. Kip Viscusi is the John F. Cogan Jr. Professor of Law and Economics and Director of the Program of Empirical Legal Studies at the Harvard University Law School and is a specialist in regulatory analysis including risk assessment and regulatory impact analysis.

2. Thus, the general task is to maximize some social welfare function W(X1, X2..., Xn), where the Xi are the different objectives. In general terms, policy objectives are similar to attributes of consumer choice. One should always prefer more of the objective to less, or possibly less of the objective to more, as in the case of costs. The objective should be a well ordered metric so that option A is either preferred to option B, is indifferent to B, or is less preferred to B in terms of the degree to which it promotes a particular objective. Finally, the objective should be transitive. If option A provides more of a particular objective than does option B, and option B provides more of that objective than does option C, then the value of that objective achieved through option A exceeds that of option C.

3. For a review of the general approach to benefit-cost analysis and the formulation objectives, see Stokey and Zeckhauser (1978).

4. Economists will recognize these preferences as lexicographic orderings.

5. A corollary to the benefit-cost test is that since the objective is to maximize the spread between benefits and costs, one should continue to increase the scale of the policy until the point where the marginal benefits equal the marginal costs. Thus, in the case of tightening of risk regulation one would impose increasingly stringent standards on helth risk exposures until marginal costs are no longer below marginal benefits.

6. In particular, one would maximize B - 1C, where B represents benefits, 1 is the shadow price of capital, and C is the total cost of the policy. Higher values of 1 are associated with tighter budgetary constraints, where 11 if budgets are constraining. In terms of a practical guide to decision, in the case of budgetary constraints with continuously divisible policies, one would adopt policies with a ratio of B/C until this ratio just equalled the shadow price of capital 1.

7. Underlying this procedure is the Kaldor-Hicks potential Pareto compensation principle.

8. Indeed, we might even wish to argue that a case of cancer is more valuable in terms of the degree of loss than an automobile fatality. If we were willing to make some assessment as to the relative value, such as being 1.5 times the loss, then an assumption such as this could be incorporated into the analysis just as easily.

9. One refinement that should be noted is that the shadow price for government resources may differ. If, for example, budgetary constraints lead the government to adopt only projects with a benefit-cost ratio of 1, where 1 > 1, and if all policies are perfectly divisible, then the weight on the government costs should be 1. These costs have a higher opportunity cost since each dollar in expenditures can produce 1 in benefits.

10. The main reason why all these studies have utilized labour market data is that there are good data available on workers and their jobs that make it possible to disentangle the premium for risk from compensation for other attributes of the job. Such an estimation is a nontrivial task since more affluent workers tend to prefer safer jobs. One must consequently isolate the incremental premium workers receive for risk. For a more complete description, see Viscusi (1992*a*).

11. The reference point used is the average income of air travellers in the United States, which is higher than average US income, overall. In addition, the extrapolation was based on an assumed income elasticity of the value of life of 1.0. This estimate is based on the findings in Viscusi and Evans (1990) for non fatal job injuries.

12. An interim approach that can also be used is to adjust the value-of-life estimates that have been obtained in other countries to take into account the income differences and use this estimate as the value of life for the purposes of policy analyses.

13. It can be overcome through appropriate design of the survey by, for example, asking whether the respondent would be willing to vote for a particular initiative. Once placed in the median voter context, there is no incentive to misrepresent one's tastes.

14. There are exceptions if there are sign reversals in the time stream of net benefits-costs. Complex patterns of uncertainty over time can also lead to reversals.

15. Risk assessment is principally used for policies aimed at reducing risks to human health and safety and environment, but could be applied to any regulatory decision whose need or effect depended on the probability of a specific outcome.

16. There are other types of scientific concerns as well. For example, emphasis on a one-hit linear model as opposed to a multi-hit model or a non linear model of the risk may create biases in the risk assessment process.

17. See the letter from James B. MacRae, Jr., Acting Administrator, Office of Information and Regulatory Affairs, US Office of Management and Budget to Nancy Risque-Rohrback, Assistant Secretary for Policy, US Department of Labour, March 10, 1992. See also statement of James B. MacRae, Jr. before the Senate Committee on Governmental Affairs, March 19, 1992. More generally, see Lutter and Morrall (1992).

18. This updating is done by the author using the results reported by Keeney (1990).

19. This approach is developed in Viscusi (1992*b*).

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Part IV

SYNTHESIS

REGULATORY IMPACT ANALYSIS: BEST PRACTICES IN OECD COUNTRIES

by

Rex Deighton-Smith[1]

1. INTRODUCTION

The key goal of regulatory impact analysis is the optimisation of policy; to ensure that the benefits to society from regulatory action (measured in terms of explicitly identified objectives) are maximised and costs minimised. RIA should not, however, be seen as providing a single ''determinist'' outcome independent of political values. Its primary role is as a guide for policy choice.

RIA's intrinsic focus on optimising policy outcomes tends to push policy-making toward the adoption of longer-term views rather than shorter term ones and should enhance the ability of policy to serve important but diffuse interests, rather than responding to narrower but more concentrated ones.

There is a clear and close link between RIA and a properly functioning regulatory development process. This means that RIA must be seen as integral to the business of government and not as an optional ''add on'' that simply imposes additional costs on government administration.

If RIA is to be integrated fully with government policy processes a significant cultural change is needed among regulators, politicians, interest groups and, finally, the general population. The need to achieve this cultural change means that the implementation of RIA must be a long-term process. This requires that support must be maintained and strengthened at the political level until RIA is effectively integrated as part of the political and administrative cultures.

A systematic approach is essential. The design of the mechanisms by which RIA is applied is basic to its success. The best analytical methods will provide little benefit if system design is inadequate.

A key element of system design is to ensure maximum transparency and accountability at all stages of the process. This maximises the input of groups that

can provide important policy insights and helps to ensure that the conclusions of the RIA are given due weight in the decision making process.

RIA emphasises openness and accountability and this systematically favours policy that serves the interests of the whole of society, rather than those of special interest groups. Thus, RIA clearly serves fundamental political values important to good governance as well as longer-term economic growth. An increasingly policy literate population will demand such systems.

This chapter identifies and explains the elements of "best practice" in the current use of RIA on the basis of experiences in OECD countries and points to unresolved issues and likely future developments. The emphasis is on *ex ante* analysis of individual regulatory proposals, although analysis of aggregate, or cumulative, regulatory burdens is discussed toward the end of the chapter (see also Chapter 11 for more information on estimating aggregate regulatory burdens).

How can best practice in RIA be identified? Recognising the RIA is a means rather than an end, a "good" RIA system is one that serves the ends of better informed decision-making and more open and transparent government processes, while avoiding unacceptable costs and delays. Box 2 summarises seven performance criteria for an RIA system that Member country experiences show to be vital.

The remainder of this chapter is organised as follows: Section 2 focuses on the specific design elements of RIA systems. Section 3 evaluates analytical methods, while Section 4 identifies problems and strategies in applying RIA to existing regulations. Section 5 looks at methods for estimating total regulatory burdens. Section 6 explains strategies to maximise RIA's influence on political decision making while Section 7 proposes areas for future work on RIA.

Box 1. **Definition of key terms**

Method: The specific analytical approach used to assess the impact of a regulatory proposal (or alternative forms of government action).

System: The administrative process through which RIA is implemented and used. In addition to the method, the system generally includes consultation, feedback, scrutiny, publication, and decision criteria.

Regulator: A person or organisation with significant control over the content of laws and/or lower-level rules. Traditionally this refers to parliaments and government departments (subject to Ministerial direction), but can also include

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industry or professional bodies, standards organisations and *supra*-national harmonisation bodies.

Ex ante: An *ex ante* analysis of regulatory impacts is conducted prior to the adoption of a proposed regulation and relies on estimates as to what will be the real impacts in practice.

Ex post: An *ex post* analysis is one conducted on a regulation which is already in place. It is more precise, measuring the real impact of the regulation, but may be constrained in its ability to measure the need benefit of long-standing regulations where there is difficulty inferring what would be the situation in the absence of regulation.

Box 2. **Performance criteria for an RIA system**

1. Systematic. RIA must be part of a larger system that supports core analytical requirements and ensures that the analysis is able to influence policy decisions.

2. Empirical. RIA must make maximum use, within cost constraints, of quantitative data and rigorous empirical methods. This will maximise objectivity and comparability.

3. Consistent but flexible.. Analytical approaches must be broadly consistent to optimise overall results. However, analysts must retain sufficient flexibility to target scarce resources at the most important regulatory issues and fit the analysis to the issue at hand.

4. Broadly applicable. RIA should be applied to as wide a range of policy instruments as possible. It should not be possible to avoid RIA by using a different instrument.

5. Transparent and consultative. Extensive consultation should inform RIA. The results of RIA should, in turn, be widely available and the basis of decisions made clear.

6. Timely. RIA should be commenced early in policy development and its results made available in time to influence decisions *before* they are made.

7. Responsive. Effectiveness depends ultimately on how well decision-makers apply the insights of RIA. This requires that RIA address issues that are practical and connected to the current policy debate.

8. Practical. RIA systems must not require infeasible resource commitments and must not impose unacceptable delays on decision-making.

2. IMPLEMENTING RIA: SYSTEM DESIGN FOR HIGH QUALITY OUTCOMES

Section 1 shows that RIA has many contributions to make, but experience in practice indicates a mixed record. Even in countries with long experience in implementing RIA, the potential benefits have, at best, been partially achieved. In other cases, particularly where experience is limited, the benefits observable in practice can be quite limited.

One key conclusion is that a long-term perspective is essential when considering the implementation of RIA. While system design and quality of methods are crucial, as the following two sections show, the effective use of RIA also requires the development of new skills by a wide range of players including policy bureaucrats, regulatory reformers, politicians and interest groups. It requires the development of a culture of acceptance of the process and commitment to it in both public and private sectors and among the general public. Pressures exist toward the undermining of RIA as both a process and a habit of mind. Thus, it is necessary to focus on the longer-term task of embedding RIA in the administrative and political cultures at all levels if it is to be fully effective (see chapters 2 and 4 for more information on the development of RIA systems over the long term in Canada and the United States). Box 3 (below) summarises the best practice recommendations made throughout this chapter.

Experiences of Member countries clearly indicate that some principles of good system design can be identified. This does not imply that a single system for the implementation of RIA will be desirable in all countries at all times. Institutional, social, cultural and legal differences between countries require differing system designs (Table 1 in Chapter 1 contains more detail on systems currently in use in OECD countries). The learning that occurs with RIA over the longer term requires continuing consideration and evolution of system design. However, the following elements of ''best practice'' serve as starting points for the design of a system likely to maximise the benefits of RIA.

2.1. Allocation of responsibilities for RIA

a) The need for oversight

A key distinction among the RIA systems used by Member countries is that of the degree to which bodies external to the regulator, which have specific expertise in RIA, are given co-ordination and oversight responsibilities. While most countries with explicit regulatory reform policies have units within the administration specifically dedicated to this task, their roles vary considerably.

Oversight of the conduct of RIA by regulators is an essential quality control mechanism. The need for this quality control can be understood by considering the nature of the incentives likely to be faced by regulators.

Box 3. **Getting maximum benefit from RIA: Best practices**

1. Maximise political commitment to RIA. Reform principles and the use of RIA should be endorsed at the highest levels of government. RIA should be supported by clear ministerial accountability for compliance.

2. Allocate responsibilities for RIA programme elements carefully. Locating responsibility for RIA with regulators improves "ownership" and integration into decision-making. A central body is needed to oversee the RIA process and ensure consistency, credibility and quality. It needs adequate authority and skills to perform this function.

3. Train the regulators. Ensure that formal, properly designed programmes exist to give regulators the skills required to do high quality RIA.

4. Use a consistent but flexible analytical method. The benefit/cost principle should be adopted for all regulations, but analytical methods can vary as long as RIA identifies and weighs all significant positive and negative effects and integrates qualitative and quantitative analyses. Mandatory guidelines should be issued to maximise consistency.

5. Develop and implement data collection strategies. Data quality is essential to useful analysis. An explicit policy should clarify quality standards for acceptable data and suggest strategies for collecting high quality data at minimum cost within time constraints (see Chapter 10).

6. Target RIA efforts. Resources should be applied to those regulations where impacts are most significant and where the prospects are best for altering regulatory outcomes. RIA should be applied to all significant policy proposals, whether implemented by law, lower level rules or Ministerial actions

7. Integrate RIA with the policy-making process, beginning as early as possible. Regulators should see RIA insights as integral to policy decisions, rather than as an "add-on" requirement for external consumption.

8. Communicate the results. Policy makers are rarely analysts. Results of RIA must be communicated clearly with concrete implications and options explicitly identified. The use of a common format aids effective communication.

9. Involve the public extensively. Interest groups should be consulted widely and in a timely fashion. This is likely to mean a consultation process with a number of steps.

10. Apply RIA to existing as well as new regulation. RIA disciplines should also be applied to reviews of existing regulation.

Firstly, policy makers are often not analysts by training. The RIA requirement can easily be seen as ancillary to their core roles and they may perceive little incentive to acquire the necessary skills to conduct good RIA.

Secondly, regulators often see themselves as serving specific constituencies and are likely to be most responsive to the perceived views of those constituen-

cies. This may mean that they are less able to perceive, or take an objective view of, conflicts between these interests and those of society as a whole.

Thirdly, strong political demands for immediate action often weigh upon regulators and reduce commitment to a thorough analytical approach to decision-making.

Fourthly, regulators relatively unfamiliar with the nature and purposes of RIA are unlikely to understand and accept its benefits in decision-making.

By comparison, an oversight body located at the centre of government (*i.e.* in the chief minister's department or the budget agency) is better placed to take a "whole of government" view of policy issues and to develop expertise in the analytical requirements of RIA. The challenge for system design is to profit from these possibilities while ensuring, at the same time, that regulators have a sense of responsibility for RIA which will ensure they are motivated to conduct and apply high quality analyses.

b) Key responsibilities

RIA is everywhere a largely decentralised activity. In all cases the development of analyses is the responsibility of the regulator. Differences between systems arise in the following areas:

- whether guidelines are issued by a central body;
- the extent and specificity of any guidelines, including whether detailed methodological guidance is issued;
- the nature and extent of supporting training activities undertaken by central bodies;
- whether independent review and assessment of RIA is carried out; and
- the nature and locus of any review activity.

c) Who conducts analyses?

Throughout this chapter, the importance of the "cost/benefit principle" being adopted as a general approach to policy by regulators is stressed. This clearly must be supported by high-quality analysis, but there can be conflict between policies designed to achieve these goals.

A number of Member countries have sought to ensure analytical quality by issuing detailed guidance on what is expected and providing for extensive review of the results by independent bodies within government. While this has often been successful in ensuring high quality, this has sometimes occurred via the contracting out of the analytical requirements to private bodies. Regulators may

prefer this approach to taking the risk of further delays due to the need to modify and re-present analyses that have failed to meet scrutiny requirements.

Contracting out may, indeed, be necessary in some cases where particularly difficult analyses are required. However, there is a clear danger that the long-term cultural change toward integration of RIA in decision-making can be undermined if many analyses are conducted outside the regulatory body. A spurious distinction between RIA and policy development may develop, leading regulators to see RIA as an optional "add-on" which justifies decisions already taken, rather than as an essential guide to good policy development.

This suggests the key importance of training as a supporting policy. Oversight bodies have a crucial role in providing sufficiently broad and detailed training to allow regulators to feel confident of meeting the analytical requirements imposed by using internal resources. In addition, particularly in early stages of implementation, it may be useful for the expert body to take a more proactive role, supplementing general training inputs with assistance in completing specific analyses on an "as required" basis.

d) Oversight options

This section has argued that oversight of the conduct of RIA by regulators is essential as a quality control mechanism. It has discussed only one form of oversight, however; that of administrative oversight. This reflects the fact that this is clearly the most commonly used form in Member countries. However, other forms of oversight are also used.

Ex ante oversight can be provided at either the either administrative or parliamentary levels, or at both. In addition, the legal system can provide a form of *ex post* oversight.

Administrative and political oversight can be distinguished in terms of a number of important characteristics:

- Administrative oversight usually occurs during, rather than after the conclusion of, RIA. It can be detailed and interactive in nature and it can be conducted, at least partially, within a co-operative framework. It is generally conducted by a body expert in regulatory analysis and reform, usually located in a central department.
- Legislative oversight (whether via one or both houses of the legislature, or via a parliamentary committee) tends to occur after the RIA process is concluded, but prior to the effective implementation of the regulation. It is thus less interactive and may often be less technically rigorous. However, it may assist in the effective integration of RIA with political decision-making

and is likely to be less susceptible to political pressures emanating from the government of the day.

Experience with direct oversight of RIA by the legislature is limited in OECD countries, although there are indications in a few countries that this may be an effective means of quality control. Section 7 argues that this is a key area for further work.

A third form of quality control is often found in decentralised systems that are implemented through legislation, as the legislation in question may allow conformity with the specific RIA requirements to be challenged through the judicial system. In the United States, such challenges are frequently pursued. In a number of sub-national systems in Australia, while challenges have been rare in practice, the possibility of a challenge has certainly functioned as a real discipline, even in contexts in which administrative and parliamentary scrutiny processes are also established.

However, a "quality control" system that relies on the courts is unwieldy and expensive and open to criticism because of the uncertainty it can introduce as to the status of regulations. Thus, a strategy which seeks to rely primarily on this mechanism is unlikely to be successful.

2.2. Training the regulator

Because the skills required for the production of high quality RIA are quite different from the traditional skills of regulators, training programmes are critical. Trainers need to combine knowledge of technical material relevant to RIA with an understanding of government and policy processes. Regulatory reform bodies may, therefore, have a significant role in providing this training.

Training programmes must ensure a broad understanding of the purpose of RIA and of regulatory reform policy more generally. This, together with the teaching of major analytical methods, is crucial in ensuring consistency in the conduct of RIA across policy areas.

Internal training is generally preferable to the use of specialist external consultants because of the importance of the long-term cultural shift discussed above. This does not mean that external advice should not be sought in the completion of demanding RIA, but that regulators should be active players in their development and fully able to comprehend the implications of the analysis.

Training should be supplemented by the issue of detailed formal guidance material with official status. This enhances the effectiveness of training sessions by allowing easy reference to particular issues while RIA are actually being completed and by providing a resource to regulators who have not had the opportunity of being trained. Perhaps more importantly, it assists in achieving the consis-

tency of approach and methodology between RIA which is vital to maximise its overall contribution to efficiency.

2.3. Integration of RIA with the policy process, beginning as early as possible

A key and common failing of RIA programmes in practice is the separation of RIA from policy decision processes. This is often the result of RIA not starting until policy development is largely complete. The focus of the RIA can then easily become that of providing a *post hoc* rationalisation for a decision already taken, rather than a search for the optimal policy response to an identified problem.

System design must include effective means of ensuring that RIA is commenced early enough in the policy process to genuinely inform decisions and that it provides input to further policy development. A requirement for early involvement by a central oversight body can provide a means of ensuring this. Requirements for early consultation can also help as they create a necessity to provide at least preliminary analysis supporting particular proposals.

2.4. Scope of RIA requirements and targeting of effort

Table 1 in Chapter 1 shows that RIA systems vary greatly in terms of the scope of their application. Some governments require RIA only with respect to lower level rules, or even a sub-set of such rules, while others also require RIA for primary legislation. Where RIA has a limited scope, reasons cited have frequently been that RIA could unreasonably interfere with the legitimate workings of government, or that its application to primary legislation would be unwieldy or unworkable.

The different roles of primary legislation and lower level rules, together with the often very different processes for their adoption, will need to be reflected in the form of RIA system which is used. However, a number of countries report positive experiences with their use of RIA in relation to primary legislation. At a theoretical level it seems clear that the potential benefits of RIA can be greater with respect to primary legislation: This material generally has much greater impact and, while usually subject to greater scrutiny via the parliamentary system, this is not usually of the systematic and empirical kind which is given by RIA.

The principles expounded by Arrow (see Chapter 6) state that RIA should be focused where the impact of a proposed rule is greatest and where the prospect of affecting regulatory outcomes via analysis are greatest. This would certainly include much primary legislation. It also suggests a need for targeting of RIA resources within the area of secondary legislation.

There must be a potential benefit from RIA (in terms of improved policy outcomes) sufficient to justify the expenditure of resources necessary to conduct

it. This suggests the need for an initial "threshold analysis" to determine the likely significance of the proposal. Rules that are of only minor importance may need only a cursory, low-cost analysis, while very costly regulations may merit considerable investment in data collection and analysis (See Chapter 2 for details of one approach to targeting currently employed).

Use of targeting will lead to two significant benefits. Firstly, the shifting of RIA resources to the most important rules will enhance the credibility of the results and the benefits of policy improvements. That is, this approach reflects an underlying "cost/benefit analysis of cost/benefit analysis".

Secondly, it is crucial to establish and maintain support for the RIA process at both administrative and political levels. This requires that it not be seen as a bureaucratic process which can require the expenditure of resources in analysing insignificant policy proposals where there is little possibility of benefit.

2.5. Extensive public involvement in the process

Section 2 emphasised that public involvement in RIA is essential to enhance openness and accountability. It is also necessary as a means of ensuring the quality of final RIAs and the decisions subsequently taken.

In many cases, affected parties will have better access to relevant information than will regulators. Thus, maximising the information on which choices are based requires that there be adequate contact between these groups. While initial consultations (*i.e.* prior to the drafting of formal RIA) are important in this respect, it is also true that a process of consultation which is *informed* by the RIA is more effective than merely requesting input in a format in which such information is not made available.

Most private groups lack the resources to conduct their own RIA. The provision of an RIA providing full information on objectives, assumptions and options can greatly increase the ability of the public to respond and to provide useful information.

Efficiency and accountability also require that consultation is able to affect the policy outcomes at the broadest level. This suggests that consultation should commence at an early stage of policy development and that it should continue as the process develops. Thus, a well designed system for RIA should provide a number of mandated consultation opportunities. Such a "staged" consultation process will move progressively from considering broad policy choices to weighing more specific issues related to the detailed design of a proposal. Different groups may need to be involved at different stages.

3. ANALYTICAL METHOD AND ITS IMPORTANCE IN DETERMINING RIA EFFECTIVENESS

Section 3 discusses the question of effective RIA systems. However, the question of what RIA *method* should be required is central to the design and performance of any such system.

Several RIA methods are employed in one or more member countries and a range of descriptive terms is employed: benefit/cost analysis, cost effectiveness or cost/output analysis, fiscal or budget analysis, socio-economic impact analysis, consequence analysis, compliance cost analysis and business impact (sometimes small business impact) tests. (For further information, see Table 1, Chapter 1. For a discussion of the merits of different approaches, see Chapter 8.).

When considering best practice in methods the very wide range of policy issues and proposals to which RIA is applied is a central issue. Flexibility in application and a capacity to identify and utilise the best method for the task at hand are also key considerations, although specific legislative requirements may constrain choices.

Also relevant is the need for RIA to become essentially a habit of mind, rather than a paperwork exercise. This suggests the importance of focusing on the usefulness of the output generated in selecting the best methods.

3.1. Choosing between methods

Benefit/Cost Analysis (BCA) is the most comprehensive RIA method. It requires the consideration of all important impacts of the regulatory proposal and is also able to account for timing considerations, via the discounting process, which reflects society's different valuations of present and future benefits and costs.

BCA is thus consistent with the underlying goal of producing public policy that meets the criterion of being "socially optimal" (*i.e.* maximising welfare). Thus, there are clear analytical grounds for seeing BCA as the preferred method.

However, in moving from a rigorous theoretical view of BCA to practical implementation several significant constraints must be considered, including data availability, analytical skills and tight budgets (see Box 4). An analytical preference for BCA must be considered in the light of these issues and judgements as to their resolution in practice.

Although a few countries have used fairly rigorous BCA for many years and are very supportive of its usefulness, the above reservations have lead some governments to reject BCA altogether. Others have taken the view that less ambitious methods should be used in an initial RIA programme, with a move to BCA representing the goal or outcome of a long-term process of learning.

Box 4. **Establishing appropriate responsibilities for RIA system elements**

- clear indication (legislative or otherwise) that the regulator bears primary responsibility for the conduct and quality of RIA and is accountable for the decisions taken as a result;
- clear and detailed guidance from an expert central body, providing the basis for a consistent approach to RIA across policy areas;
- timely scrutiny of the method and analysis of the RIA by a central, independent and expert body, including adequate incentives to encourage regulators to carry out consistent, high quality analysis; and
- early exposure of the regulatory proposal and RIA to public scrutiny and discussion, with adequate opportunity for comment and a requirement for regulators to respond.

The principles of BCA should not be rejected simply because, quantitatively, BCA can be difficult in practice. The underlying principle of BCA is more important than quantification: **In any decision about government action, the costs of action should be justified by the benefits.** This principle, already widely accepted in public sectors, should guide all regulatory decisions, regardless of the analytical method adopted. The best practice is that **an RIA system should recognise a general BCA principle as being required for all regulatory decisions, but that the form of analysis should be based on practical judgements about feasibility and cost.** Since all other analytical methods are essentially partial BCA analyses, whatever analytical information is generated can be used to support the broad BCA principle.

Over time, a government may wish to improve its RIA programme gradually so that it better supports the application of the BCA principle. This step-by-step approach will help instil the BCA principle as a "habit of mind" within the administration, but recognises the practical and conceptual difficulties of this analytical method in the shorter term.

Once the BCA principle is recognised as central to good decision-making a government choosing analytical methods for its RIA programme should focus on the relative strengths and weaknesses of different methods, their ability to support the objectives of its regulatory reform programme and the costs and administrative requirements of each method. Costs are generally easier to quantify than benefits, for example. It is easier to focus on the impacts on identified groups, such as business, than on all impacts on the society. Such information can greatly

improve the quality of regulatory decisions and can be a very useful initial step, but should always be treated as partial information within a wider set of relevant issues.

Regulators should have some flexibility in applying the analytical methods, according to the nature of the regulatory proposal. Important characteristics of major methods are summarised in Box 5 (below).

Flexibility does not mean that regulators should be able to choose any method they wish to use – this will simply result in the greatest use of the least cost, least effort method. Rather, **regulators should have some flexibility within a standardised framework for choosing.** The number of permissible methods should be reduced to a few, essentially consisting of a more rigorous method for high-cost regulations and a less rigorous method for low-cost regulations. Guidelines for applying each method should also be standardised.

Box 5. **Major issues in the implementation of benefit/cost analysis**

- **Quantification issues.** Rarely will analysts be able to quantify all significant impacts and convert them into monetary terms. Qualitative analysis is an important element of BCA and the quantitative and qualitative parts of the analysis must be integrated.
- **Distributional impacts.** The question of who bears the costs and who reaps the benefits is central to the assessment of many proposals. BCA does not necessarily take account of distributional issues. However, as Viscusi points out (see Chapter 4.3.), BCA does provide the basis for such an accounting; it provides the opportunity, for example, for sectoral impacts to be weighted. Thus, a sophisticated use of BCA can identify and account for distributional impacts where these are of significance.
- **Uncertainty.** Data limitations will usually limit analytical precision. Uncertainty (*i.e.* real doubt as to outcomes, rather than inability to estimate their value) may also be a major issue. BCA must explicitly account for these uncertainties through the use of sensitivity analysis and the incorporation of its results into decision-making.
- **Learning effects.** In addition to its greater data requirements, BCA requires a higher degree of analytical sophistication than other methods. These analytical requirements also extend to many players. Thus, it may be unreasonable to expect that high quality BCA can be generated in the early days of implementing an RIA programme.

Box 6. **Key characteristics of various RIA methods**

Benefit/cost analysis is comprehensive and highly effective in addressing efficiency issues and in dealing with time preference. However, it is usually the most expensive option and is not itself well adapted to focusing on equity issues (although able to be adapted to allow a focus on such issues).

Cost eectiveness (or "cost-output") analysis can be seen as a partial BCA, as it makes no attempt to convert benefits to monetary terms, instead evaluating them in terms of other metrics: degree of risk reduction, number of lives saved, etc.. CEA is most useful where the range of realistic alternatives is confined to different means of achieving similar outcomes. It is less useful where policy proposals have a number of significant benefits attached to them, as CAE does not allow an additive approach to be taken to their evaluation. It is also of limited usefulness in answering the "threshold" question of whether regulation is required or desirable.

Compliance cost analysis is narrower still in scope, as it does not attempt to quantify benefits at all. Thus, the analytical requirements are further reduced and focused on costs, which are generally more easily estimable. Compliance cost approaches are of particular value where the overriding concern is whether a proposed burden is feasible, or proportionate, or reduced to the minimum.

Business (or small business) impact analysis is a partial variant of compliance cost analysis. It focuses on the costs to a particular sector, whether business generally or SMEs in particular. For much regulation, by far the largest cost burden is borne by the business sector, suggesting that this analysis will identify most direct costs. It will not capture costs to consumers, governments or other non-business groups. This approach is often used where the key concern of regulatory reform policy is that of limiting or reducing business impacts.

Fiscal or Budgetary analysis is also a partial compliance cost analysis, considering only the budgetary implications for government of the regulatory proposal, usually a quite small proportion of total costs. This form of analysis should, however, yield quite precise results and may be particularly useful where a potentially high cost compliance and enforcement strategy is a key element of a proposal, or where multiple levels of government will bear costs.

Risk assessment attempts to quantify risks (involving consideration of hazards and consequences) to enable a rational judgement to be made as to whether government action is justified. This method is helpful in answering the "threshold" question of whether to regulate, and also contributes to policy choices about the desirable degree of risk reduction. Complications with its use derive from observed variation between "real" and "perceived" risk, or between society's acceptance of risks of different kinds.

Risk-risk analysis considers risks as explicit trade-offs (do offsetting risk increases occur as an indirect result of a policy choice and are these significant to its effectiveness?). It has the merit of taking the widest view of consequences but consequently has larger analytical and data requirements attached to it.

Standardisation of methods has great value because this establishes expectations for adequate analysis, allows analysis to be compared across regulations and regulatory programmes, allows education and training to be cost-effective across the government and improves public understanding of RIA. The principle, then, should be **flexibility within a mandatory framework that ensures that all regulators make comparable choices about RIA methods and apply the methods in the same ways.**

3.2. Breadth of analysis

BCA is preferred largely due to its comprehensiveness. However, while BCA provides a theoretical framework capable of factoring in all impacts, there remains a practical problem of ensuring that they are identified for inclusion. Specific tools may be needed, as many policy options have wide-ranging indirect effects that are not immediately apparent.

Particularly important indirect impacts may include implications for trade, competition, competitiveness, employment or the environment. A further complication is that some of these impacts may have offsetting counter-effects or be transitional in nature. They may, however, remain important as an element in the political decision process.

Another benefit of a broad analysis that highlights sectoral effects is that these can be treated in context and weighed against other impacts, rather than being seen in isolation. Given the increasing tendency for governments to mandate explicit identifications of impacts on particular sectors (small business impact tests, environmental impact assessments, etc.) this is likely to be an increasingly important consideration.

Extensive public consultation should be used as a key mechanism for ensuring that all likely impacts are identified and their size estimated. In addition, general and specific checklists of possible impacts should be formulated and given wide distribution to regulators as a means of assisting identification.

3.3. The "threshold" issue

A frequently voiced criticism of RIA processes is that they can easily be seen as presuming that some policy action will be taken. A high quality RIA must take a critical approach to the "threshold question" of whether the issue identified is of sufficient magnitude to justify intervention: The "do nothing" option must always be explicitly considered in the RIA. One way to do this is by including a section setting out the nature and extent of the problem being considered and the consequent justification for intervention.

The case for intervention should take account of:

- the principles of risk assessment, including an understanding of the fact that all aspects of life involve risk and that all risk reduction involves trade-offs;
- the need to target limited government and private sector resources at those issues with the greatest potential for producing net benefits; and
- the issue of "regulatory failure" and the possibility that the magnitude of such a failure may be as great or greater than that of the market failure which underlies the policy proposal.

4. RIA AND THE REVIEW OF EXISTING REGULATION

Discussion of the use of RIA tends to focus on its role in determining choices between competing policy options. Thus, it is usually considered as a tool to be used in the analysis of new regulatory proposals. However, most countries that have adopted RIA programmes have also initiated reviews of existing regulation that are based on some form of RIA.

These reviews are seen as means of applying quality assurance disciplines to the great body of existing regulation. Improvement in overall regulatory quality requires a timely review of existing burdens using principles and methodologies broadly consistent with those applied to new rules.

The function of RIA in reviewing existing regulation is virtually identical with its use in evaluating new regulatory proposals. It should be applied to determine whether the regulation continues to yield net benefits to society and whether these are large enough to justify intervention (the threshold issue) and it should be applied in a comparative way to determine whether alternative regulatory approaches would be preferred (*i.e.* have higher net benefits).

However, the process of reviewing existing regulation is generally more aggregative than is the case with new regulation, with assessments being made of broad regulatory structures. This reflects both the reality that significant resource constraints exist, given the volume of existing regulation requiring review, and the fact that larger scale reviews are often more effective in identifying and taking into account important policy linkages. Section 4.4 (below) discusses choices as to the level of aggregation of reviews in more detail.

Determination of whether a rule produces net benefits is easier for existing regulation, as there is a body of real experience on which to draw. The effects of the regulation are known, or at least discoverable, whereas *ex ante* estimates of the likely effects of untried regulation will always be less certain and more prone to error. Thus, more rigorous standards are likely to be achievable when reviewing existing regulation.

This practical matter aside, the methodological issues surrounding the use of RIA are common to both areas. However, several important planning and implementation issues are specific to the review of existing regulation and these are the subject of the following section.

In addition, the application of RIA to the stock of existing regulation necessarily gives rise to consideration of the size and impact of the overall regulatory burden. Section 6 considers the question of estimating the aggregate regulatory burden and the possibility of applying a consciously determined policy to change it (further discussion can be found in Chapter 5.2).

4.1. Approaches to the review of existing regulation

The question of targeting is particularly important when reviewing existing regulations. The quantity of regulation potentially involved is vast and the prospect of achieving a thorough review within a manageable timeframe, during which political momentum for such a process can be expected to be maintained, is limited. RIA is resource intensive and the necessary expertise is scarce.

As a reflection of this, several governments that have attempted "systematic reviews" of *all* existing regulation have reported that the review processes have, in practice, been less rigorous than expected and the results have been correspondingly limited.

Efforts to avoid these problems have centred on various means of targeting analytical and reform efforts to the most fruitful areas. Three major strategies employed to date are:

- *Use of various "filters" to determine priorities.* It is often possible to identify characteristics of regulation which suggest *a priori* that reform will yield major gains. A recent example is provided by the review element of Australia's National Competition Policy Agreements, which focuses the regulatory reform process on legislation that affects competition (see Chapter 3). In France and the United States government-imposed paperwork burdens have been a particular focus of reform efforts. In Japan and Finland, permitting and licensing procedures have been targeted.
- *Use of sectoral approaches to regulatory review.* Particular industries, professions or other sectors can sometimes be identified as having high priority, usually as a result of the combination of having great strategic importance in the country's economy and the making of an *a priori* case that regulation is a key area of difficulty in that sector.
- *Use of expert bodies.* The expertise of affected groups can be used to identify priority areas for reform. Expert bodies may be composed of representa-

tives from business (or small business), taxpayers, consumers, environmentalists, etc.

Even where such approaches are successful in indicating priorities, it remains necessary to consider feasible schedules for completion of reform. Where major programmes are envisaged, this will mean periods of several years.

4.2. Existing constituencies opposed to change

A key asymmetry between the analysis of existing regulations and that of new proposals is that the former already have constituencies that benefit from its existence, are aware of those benefits and can be expected to oppose reform proposals strongly.

This suggests that changing existing rules may be generally more difficult than making good rules in the first place. RIA can play a key role in reducing the influence of sectional interests. It clearly identifies the often dispersed costs which are associated with a particular regulation and thus tends to expose self-interested arguments and reduce the possibilities for regulatory capture. Thus, the consistent use of RIA, particularly in the context of highly transparent systems with adequate opportunities for public input, is likely to maximise the amount of reform achieved as a result of reviewing existing regulation.

Of course, exposing self-interested arguments and systematically shifting the focus toward policies which serve the wider good also requires other tools. Political issues such as the need to build constituencies in favour of change are crucially important and are considered further in section 7.

4.3. Level of aggregation of reviews

The existence of important interdependencies between elements of the regulatory structure and the significance of the cumulative impact of regulations on particular sectors has been noted above. These factors must also be weighed in determining the strategic approach to be taken in planning reviews of existing regulation.

It is clear that reviews can be conducted at different levels of aggregation and that a more aggregated approach will enhance their ability to focus on these wider factors. Against this benefit must be considered the potential for loss of focus, of methodological rigour and of timeliness which can exist where unduly large review tasks are attempted.

In addition, a number of possible organising principles might be used to group reviews into larger tasks. For example, reviews can be organised according to industries or professions. They can be conducted according to areas of Ministerial portfolio responsibility or undertaken chronologically according to the age

of the regulation in question. It is not clear that there is a single, "best", choice among these. Thus, a careful approach which takes account of the particular reform environment will be important.

RIA can contribute by helping to ensure that particular impacts are neither "double counted" nor overlooked and that interdependencies are reliably identified. Its systematism and transparency are particularly important where more than one of the above "organising principles" is used concurrently, as may frequently occur.

4.4. Transitional strategies

Section 4.2, above, noted one form of asymmetry between making new regulation and reforming or repealing existing regulation. An additional form relates to the "sunk costs" of compliance.

Compliance costs associated with existing regulations have, by definition, already been incurred. These costs have been borne by industry participants (or other regulated groups) in good faith attempts to meet their legal obligations and can be considered as an investment in business assets (An example might be the purchase of a taxi licence which has scarcity value because of regulated restrictions on supply). Immediate changes to regulatory arrangements which undermine the value of these investments can lead to windfall losses. While these are notionally offset by previous windfall gains, it is usually not the same players who bear the losses and reap the gains.

As a result, reform strategies for existing regulation may need to consider transitional arrangements to ensure that significant inequities are addressed and that support for reform is not undermined. However, attempts to do so must also recognise that demands for transitional assistance are often used strategically to defer and ultimately defeat reform once political momentum has begun to decline.

RIA can contribute in this area by providing reliable estimates of the relative costs of various transitional proposals and the gains from reform. This will help to clarify that the size of the gains from reform requires the transitional costs to be borne. It will also inform what is likely to be an iterative and negotiated process of reform involving various interest groups and the government, improving the probability of an outcome that is both efficient and equitable.

4.5. The dynamic dimensions of the review process

The process of reviewing existing regulations has been described as necessarily requiring both a targeted approach and a realistic time for completion. However, it is not a "once only" process. Rather, it must be made a permanent element of the reform programme.

While application of RIA principles to the stock of regulation will significantly improve its quality, continuing economic, social and institutional change means that the reformed regulatory structure itself progressively departs from the optimum over time. This tendency may be minimised by the progressive adoption of performance based regulation (and the use of non-regulatory alternatives) in preference to prescriptive standards, but will nonetheless remain a key consideration.

Some governments are responding to this by providing for automatic "sunsetting" of regulation after a certain lifespan, usually five to ten years. This represents a systematic approach to the task of re-evaluation when combined with a requirement that replacement regulation be subjected to the same RIA disciplines as new regulation.

However, this approach has usually only been adopted for lower level rules, leading to frequent conflict where an outdated primary statute sets the broad terms of the lower level rule and the latter are unable to pass RIA scrutiny.

Recognition that primary legislation also requires frequent review has sometimes been reflected in the inclusion by parliaments of clauses requiring that the statutes be reviewed within a certain period of adoption, with parliamentary scrutiny of the results of such reviews. There is also some evidence that primary legislation is increasingly likely to be restricted to dealing with broad framework issues while more detailed (and therefore changeable) requirements are increasingly being provided for in lower level rules. This tends to enhance the ability of the legislative system to respond to a changing environment.

5. TOTAL REGULATORY BURDEN: ESTIMATION AND POLICY

Regulatory reform programmes have historically considered both the quality and quantity of regulation (see Chapter 5 for a discussion of the issue of regulatory inflation and its importance to regulatory reform). An early driver of reform activity was the perception that competitiveness and growth were being held back by an excessive total regulatory burden. However, relatively little progress has been made in the task of estimating total regulatory burdens, that is, the aggregate cost of regulations for the national economy.

5.1. The importance of understanding total regulatory costs.

On one view, the size of the total regulatory burden may be a question of second order importance: If a high quality RIA programme ensures that all new regulation has a positive net present value to society (and if older regulation is subjected to similar scrutiny) then each new regulation represents a net addition

to social well-being and should be welcomed. The concept of limits does not necessarily arise.

However, there are a number of reasons to think otherwise. Firstly, it must be recognised that RIA will not generally capture the full opportunity costs of regulation. Their comparisons of alternatives are restricted to other means of achieving identified regulatory burdens and the potentially greater net benefits of foregone investments in increased productivity do not enter the equation.

Similarly, the question of the perceptions of economic actors is likely to be important. If aggregate regulatory burdens reach some critical point or points there may be a crucial impact on the perceived attractiveness of the investment environment (perhaps because regulatory barriers are seen to increase uncertainty as to returns).

Of course, quality of regulation is crucial in this regard: Governments that use flexible, streamlined regulation can afford more of it than those that use complex, inflexible "low quality" regulation.

Secondly, it must be remembered that regulation necessarily reduces personal choices. Money spent on regulatory compliance costs is money that the government has required be spent in a certain way. Society will necessarily set limits on the extent to which resources can be diverted to ends determined by the government, although different value systems mean that societies differ as to where this limit lies.

Thirdly, regulation frequently has important distributional consequences. While often central to the rationale for regulation, in many other cases, distributional impacts can also be incidental to other purposes. Given practical limits to the ability to have "winners" compensate "losers", there may well be strong community resistance to further regulation on distributional grounds. (For example, further increases in cigarette taxes, justified on health promotion grounds, may be opposed because of the impact on the horizontal equity of the broader tax system).

Fourthly, total regulatory burden may be taken as a partial proxy for regulatory effectiveness. If total burdens can be measured with some confidence they can be compared. Countries could use the results of comparisons with others regarded as "similar" as a benchmarking exercise, providing an indicator of their relative regulatory effectiveness and the requirements for further reform.

5.2. Methods of estimation

Theoretically, what is required is a direct estimate of the total costs (administration, compliance, indirect/productivity/innovation) of each set of regulations, which is then summed to obtain the total burden. At first glance, this would

appear plausible, at least in countries with BCA requirements for all new regulation as well as automatic sunsetting of existing regulation.

However, these requirements are typically restricted to a subset of regulatory instruments. They may cover lower level rules but not primary legislation, or the converse may be the case, although it is rare that the most substantial regulation is subject to RIA. In almost no case do RIA requirements effectively include "quasi regulatory" instruments, such as guidelines, policies etc., nor are incorporated standards necessarily given full consideration.

In addition, the analyses in question are necessarily *ex ante* and highly speculative in nature, with little *ex post* validation being undertaken in most countries. Thus, there is necessarily much uncertainty surrounding the estimates. Added to this is the fact that the estimation occurs only prior to introduction, or during irregular reviews, so that they may have become outdated due to significant changes in the sectors in question. Finally, these estimates are wholly static in nature and to not incorporate the dynamic costs of regulation.

Given these factors, it may be necessary to rely on a range of indirect estimates of regulatory costs. In Chapter 5, Hopkins discusses a wide range of such indicators, their strengths and their weaknesses. Indicators covered are regulatory agency spending, regulatory agency personnel, other measures of regulatory agency activity and compliance spending (estimated in various ways). In addition, there is discussion of the need for more sophisticated indicators which would capture some of the costs typically hidden by the above estimates.

5.3. Regulatory budgeting

If it is possible to measure total regulatory costs, one then moves to questions of managing those costs. The concept of regulatory budgeting has been described in detail in a previous PUMA paper.[2]

Regulatory budgeting is based on the premise that regulatory costs are conceptually similar to government spending through the budget process: The government mandates the spending of resources on particular ends in each case. However, while governments are required to account in detail for their fiscal spending, regulatory "expenditures" are largely hidden. While RIA requirements have provided some information at the level of specific regulations, there is still no accountability for the total amount of "regulatory expenditure" which a government requires.

The regulatory budgeting concept is that governments would be required to account for regulatory expenditures in a similar way to fiscal expenditures. Indeed, the "regulatory budget" could even be presented as part of the fiscal budget.

While the "full" regulatory budgeting model clearly involves very considerable information requirements, it is also possible to suggest "partial" uses of its basic insight. For example, governments may choose, even given incomplete information, to set a target rate of decrease in regulatory burdens (or to "freeze" them at current levels). This would require that offsetting reductions in compliance costs, whether via reforms of revocations of regulation, be identified wherever new regulations were proposed.

In this scenario the information requirement becomes considerably less daunting, being restricted to assessment of the costs of those regulations being reformed/revoked and those being introduced: an incremental approach. However, the key aspect of achieving some level of control over total regulatory costs is retained.

Such an approach may be feasible *in situ*ations where there is a broad view that the extent of regulatory costs has reached (or exceeded) some sort of maximum desirable level. For example, the Australian Government recently charged its Small Business Deregulation Taskforce with identifying measures which would reduce the total paperwork and compliance burdens of regulation by 50 per cent, indicating a clear view that the total cost of regulation was well in excess of the "optimal" level.

6. THE POLITICAL DIMENSION: MAXIMISING THE IMPACT OF RIA

RIA is a powerful tool for improving the quality of political decision-making. However, the application of insights derived from RIA can be constrained by the activities of various groups that oppose reform or seek new regulation based on principles other than those adopted in RIA or by the capacity of decision-makers to use analytical information. It is thus important to consider how the design and implementation of a system of RIA can maximise its impact.

6.1. Objective pressures favouring RIA

Governments in the OECD area face a number of objective pressures to which RIA can respond. For example, there is strong pressure to improve competitiveness in increasingly open international markets and to respond to growing budgetary constraints, while public demands for new government actions on a range of social and environmental issues continue to grow.

These competing pressures can be accommodated if policy efficiency is improved; that is, if the cost of pursuing given goals is minimised. This is, of course, the key promise of, or rationale for, RIA. Recognition of this fundamental aspect of RIA by politicians and interest groups should be the key to obtaining their support for its use and development.

6.2. RIA as a process of cultural change

This report has emphasised the need to see RIA as a process of cultural change. This longer term goal has been presented largely as being applicable to regulators, but it is also relevant to politicians, interest groups and the general population.

A more "policy literate" population will tend to demand better justified policy from its government. More sophisticated lobby groups will tend, similarly, to frame their demands in more explicit and empirical terms. More informed politicians will be better placed to respond to (and encourage) such changes in policy debate.

Thus, the important function of education, training and transparency should be understood as being broadly applicable to all levels of decision-making in both public and private sectors, with mutually reinforcing effects.

6.3. Maximising political commitment

Notwithstanding the objective pressures favouring RIA, the degree of political commitment can be affected by the system by which RIA is implemented. A key goal is to maximise "ownership" of RIA at the political level.

A number of Member countries have emphasised the importance of a structured approach which clearly establishes agreed principles of reform at the highest level and is supported by specific commitments from relevant Ministers as part of implementation. This might include the allocation of specific responsibilities for regulatory reform to Ministers in each of the major regulatory portfolios, a requirement for Ministers to approve RIAs personally and/or the use of parliamentary scrutiny processes.

6.4. Role of interest groups

Another process increasingly favoured as a means of both targeting activity and maintaining the pressure for reform is that of standing committees or taskforces of interested groups. These groups tend to be dominated by business interests. However, where other important constituencies for reform exist or can be developed, these may also be used in this way.

6.5. Sophisticated advice on managing reform

Reform inevitably has losers as well as winners and political costs as well as benefits. A sophisticated approach to integrating RIA with decision making processes must recognise these facts and seek to present the case for reform in

the most attractive light possible, taking account of transitional issues and being sure that the benefits are properly identified and highlighted.

7. CONCLUSION: EMERGING ISSUES IN APPLICATION OF RIA AND AREAS FOR FURTHER WORK

Better quality regulation is a key goal of public sector management reform. Better regulatory development systems will lead to better regulation and hence greater effectiveness. Success in improving effectiveness is, in turn, a major determinant of the ability of the public sector to meet competing demands for lower costs, better performance and better service standards.

Recognising this, the Council of the OECD in March 1995 adopted a *Recommendation on Improving the Quality of Government Regulation*, incorporating the "OECD Reference Checklist for Regulatory Decision-Making". The recommendation includes a commitment to better RIA, among a range of other system improvements. Thus, all Member countries are in 1997 engaged in assessing regulatory systems. This report takes a further step by providing an operational guide to the assessment of the quality of RIA systems.

However, this chapter also points to significant gaps in our knowledge and emerging challenges for regulatory management. Two broad areas can be identified for future work to ensure that our understanding of best practice in this area is extended and kept up to date. These are an understanding of the implications of current trends in regulation making for RIA activity and an identification of key areas for further research that will improve our systemic management capacities.

7.1. Current regulatory trends and their importance for RIA activity

7.1.1. Moves toward flexible "performance-oriented" regulation

Regulation that specifies outputs, rather than means or inputs, is slowly replacing "command and control" regulation to minimise costs due to regulatory restrictions on technological and process innovations. However, the flexibility in compliance strategies which these approaches seek to maximise poses problems for compliance cost assessment: Without knowing how affected parties will choose to comply (now and in the future) how are cost estimates to be derived?

One approach to deriving cost estimates is to use supporting "guidance documents" which are often produced to supplement performance based rules in undertaking RIA. Usually having "deemed to comply" status, these documents generally provide detailed prescriptive guidance on compliance. Reliance on these guidance documents for compliance cost assessment is likely to provide a reliable "upper bound" estimate of costs.

Such an estimate is likely to be useful given that experience suggests that prescriptive guidance is often widely used in practice. That is, the upper bound may not diverge far from the real total. In addition, to the extent that there are likely to be systematic upward biases in regulators' estimates of the benefits accruing to regulatory proposals, any tendency of this approach to overestimate compliance costs can be seen as implicitly offsetting.

A possibly more difficult problem is posed by the incorporation of standards written by non-government bodies in regulation. Often, changes in these standards will automatically be adopted via the regulation. In these circumstances even the identification of the change within government may be problematic, much less the design of systems to ensure assessment.

7.1.2. Regulation at different levels of government

The range of "regulators" and of regulatory tools has expanded and become more complex. Groups of governments are increasingly acting co-operatively and agreeing on uniform or harmonised regulations while delegation of regulatory powers to other levels of government and to non-government organisations is also common.

These trends have significant implications for RIA activity. This paper has previously stressed the need for an RIA system to be carefully designed, taking into account the institutional and cultural framework in question. Where the system must deal with regulations made collectively by a group of governments, this task is likely to become much more difficult. The collective implementation of the "Principles and Guidelines for National Standard Setting and Regulatory Action" by the Australian State Governments has shown that such inter-governmental systems can be developed, but the need for consensus can mean compromises on rigour and transparency for those governments with the most developed RIA systems, while the gestation period for such agreements is often extended.

Similarly, providing consistency and adequate oversight are major challenges for any system of RIA designed to deal with regulatory activity that is delegated to local or regional levels.

7.1.3. Non-regulatory alternatives and "grey" regulation

Work in the OECD suggests that non-regulatory alternatives are increasingly being used by governments to achieve their regulatory objectives in a more efficient and effective way. Where such alternatives are considered and rejected in favour of a regulatory approach, the analysis will be presented as part of the RIA and thus made transparent and required to be rigorous. There is often no

similar requirement in situations in which the non-regulatory option is chosen. RIA systems generally extend only to regulation – indeed often only to lower level rules – and there is a need to focus on the design of some similar "quality control" systems for other tools.

While a degree of conservatism perhaps makes it unlikely that non-regulatory solutions will be adopted without adequate justification at present, and while the instruments themselves may be less prone to yielding perverse outcomes than is regulation, there is a clear need for mechanisms to ensure confidence in their use in the longer term.

A closely related and rapidly emerging problem is that of the increasing use of "grey regulation". This term denotes informal regulatory instrument such as guidance notes, instructions, agreements, Ministerial policies or decrees and other "quasi-regulatory" means used by administrations to influence private behaviour. Not enough is known about these kinds of regulatory actions, but anecdotal evidence suggests that their use is expanding throughout the OECD area and that it is very difficult to include them in RIA programmes.

7.1.4. Cumulative impacts of regulation

"Regulatory inflation" has meant that there are increasingly areas in which detailed and closely related regulation is interwoven, or inter-dependent. This can create major difficulties in disaggregating and attributing their effects and, hence, conducting meaningful RIA on their constituent parts. This can also be an issue where primary legislation creates general duties which are then specified in significant detail in lower-level rules.

Some governments hope to use RIA to maintain a focus on the cumulative burdens of regulation on various sectors. This will be extremely difficult, but sometimes highly desirable, as the distribution of compliance costs may be extremely important. Governments need to know when a series of regulations, taken together, are imposing impossible or unreasonable burdens on a particular group or groups.

The importance of this is in part related to compliance and enforcement. If compliance burdens on a particular group are already high due to other regulation, the likely "voluntary" compliance levels with new standards may be significantly lower than would otherwise be the case. This is likely, in turn, to reduce the effectiveness of government regulation and mean that enforcement resources and strategies will need to be rethought.

At present, RIA is poorly equipped to deal with these issues of cumulative burdens and research on means of using it for this purpose may be extremely important.

7.1.5. Compliance and enforcement

Regulatory inflation may reduce voluntary compliance for at least two reasons. Firstly, increasing volumes of regulation often mean that affected individuals become less aware of the rules with which they must comply and thus more likely to fail to comply as a result of ignorance. Alternatively, even if awareness has been maintained, compliance burdens may have expanded beyond that which is regarded as "reasonable" and will voluntarily be met.

This has clear implications for both enforcement requirements and likely regulatory effectiveness, with the former likely to increase and the latter to fall. If these impacts are significant, it suggests that attention will need to be paid to them in RIA preparation

7.2. Areas for further research

This chapter has emphasised that the implementation of RIA processes and ideas is a long-term and evolutionary process. Despite the fact that some countries and some sub-national governments now have extensive experience with RIA, significant areas for further development remain. The following sections revise some of the problems with existing RIA processes that have been discussed in this chapter and suggest some directions for future research to address them.

7.2.1. How can RIA activity most effectively be targeted?

RIA is potentially resource intensive and must be properly targeted to ensure that high productivity results from resources employed in this way. This implies two strategies:

- Conscious review of the desirable scope of RIA requirements (*i.e.* should it apply to laws, lower level rules, standards and codes, other "quasi-regulatory instruments?).
- A need to set RIA thresholds, below which the impact of regulation is so small that the likely benefits of RIA are insufficient. This will apply to lower level rules and "quasi-regulation", but may also apply to primary legislation which deals with matters not susceptible to useful cost/benefit type analysis.

7.2.2. How can ex post *evaluation of regulations contribute to regulatory quality?*

Evaluation of regulation is not widely practised in Member countries. In some circumstances, requirements for *ex post* review have been included in new legislation, but this has remained an *ad hoc*, rather than a systematic process.

However, work on other policy instruments conducted in the OECD increasingly suggests that evaluation according to pre-set criteria is a key instrument in promoting dynamic effectiveness.

The widespread and increasing use of RIA in member countries may favour the extension of evaluation to regulation on a systematic basis. The RIA process requires explicit identification of the criteria for success or failure of a new regulation, thus providing evaluation criteria from the outset. However, the *ex ante* analyses conducted in RIA are necessarily subject to considerable uncertainty, especially where entirely new areas of regulation, or types of regulation, are considered. Given this, and the stress which RIA places on policy rationality, the need for verification seems clear.

Further research should focus on where responsibility for evaluation should lie, how it could be conducted most cost-effectively and how to ensure an effective "feedback" into policy review and revision.

7.2.3. How can relationships with interest groups be improved?

Interest groups have a key role in both information provision and in ensuring openness, transparency and the acceptance of regulatory decisions. To maximise this role requires attention to identifying representative groups and enhancing their ability to respond to consultation opportunities. This involves fundamental aspects of system design.

7.2.4. How can total regulatory burdens be estimated and monitored?

One key objective of RIA is to assist in minimising regulatory burdens. However, our understanding of the total regulatory burden is insufficient, as is that of changes in the total over time. Research in this area is essential if there is to be any possibility of an informed dialogue as to questions of how much regulation is optimal in different societies.

Chapter 4 reviews currently available indicators, which are all indirect in nature. It discusses their advantages and shortcomings and indicates areas for further research in this area.

7.2.5. How can dynamic (productivity) costs be brought within the scope of RIA?

This chapter and chapter 4 both indicate that current RIA methods perform badly in identifying and quantifying the costs in terms of lost innovation and productivity gains which regulation imposes. There is thus a long term tendency to underestimate the total cost of regulation to a significant extent, which reduces the effectiveness of RIA.

A key area for further work will therefore be to develop tools to allow these costs to be estimated and their importance gauged. Two key areas that are usually handled inadequately in RIA programmes are the effects of regulation on trade and competition, both of which provide essential pressures for improvements in national economic efficiency and productivity.

Although GATT agreements require national governments to be aware of the trade effects of regulations, few governments in practice make any attempt to systematically assess the trade impacts of rules. Regulatory effects on competition, too, are rarely assessed, though barriers to competition may be one of the most damaging costs of regulation. In both cases, new and simple analytical techniques are needed that can be applied in regulatory administrations at low cost. These will also need to be successfully integrated with the other elements of RIA if they are to maximise their contribution to our understanding of regulatory effects.

7.2.6 How can greater political commitment be achieved?

A key message of this chapter has been that there must be strong political commitment if the potential gains from RIA are to be substantially realised in practice. However, as the nature of reform activity changes so must the approach to integrating its messages into political decision-making. This will be especially important as the concept of regulatory management becomes increasingly central.

7.2.7. How can systemic approaches to "regulatory management" be developed?

Regulatory management refers to an ongoing process of reassessing and optimising regulatory structures and systems. As countries develop mature regulatory reform systems, this tends to become the next challenge, recognising the fact that a ''once and for all'' optimisation of regulation is an impossibility.

Thus, building a systemic approach to dealing with the need for this ''permanent reform'' will be an essential challenge. Such an approach will need to be focused on the implementation of this concept at the political level as well as within the administration.

RIA will be a key element of regulatory management as a regular revisiting of the question of the costs and benefits of regulations is essential to ensure that they have not become outdated due to economic, technical or social changes.

NOTES

1. Rex Deighton-Smith is responsible within the OECD's Public Management Service for work on regulatory impact analysis, among other issues.

2. OECD (1992), *Controlling Regulatory Costs: The use of Regulatory Budgeting* by John F. Morrall III, Public Management Occasional Papers, Regulatory Management and Reform Series No. 2, OCDE/GD(92)176, OECD, Paris.

Part V

DATA STRATEGIES FOR RIA AND FOR REGULATORY REFORM

COLLECTING AND USING DATA FOR REGULATORY DECISION-MAKING

by

Ivy E. Broder[1] and John F. Morrall III

INTRODUCTION

Regulation has the potential to do much good for society. Environmental regulation can make our surroundings more pleasant and health and safety regulation can provide more time to enjoy life. But misguided regulation can also waste resources and harm society. Regulation is not likely to benefit society unless it has been designed based on systematic thinking and adequate information. Professor Viscusi's paper lays out and discusses the various analytical techniques policymakers have used to assess the consequences of various regulatory strategies. This paper is meant to be a practical guide on how to collect and organize the data needed to complete these analyses. If policymakers use the proper analytical techniques and reasonably accurate data to make regulatory decisions, society's welfare is likely to be enhanced.

The fact that some regulatory analyses are elaborate and complex documents should not be an excuse for shunning analysis. Important regulatory decisions should not be undertaken until information about consequences and costs are assembled and systematically considered. However, the amount of time and effort spent on regulatory analysis should be commensurate with the improvement in the regulation that the analysis is expected to provide. The potential for regulatory improvement depends in part on the economic significance of the regulation. If the regulation is expected to have little impact on the lives of individuals or the health of the economy then little analysis need be done. However, if the regulation is expected to be costly or to significantly change the way business is conducted, then it is important that the regulation be well designed. Even if the regulation is expected to produce significant net benefits and is clearly desirable, regulatory analysis can still be useful in finding cost savings or additional benefits.

Over the past 20 years in the United States, a series of Presidential Orders has required agencies to analyze the costs and benefits of all major or "economically significant" regulations that agencies intend to propose.[2] Economically significant regulations are generally defined as those regulations that produce an annual effect on the economy of $100 million. Because the United States government has used the $100 million threshold for its regulatory analysis requirement since 1975 without increasing it to account for inflation or the growth in the economy, the criteria for when regulatory analyses should be performed has become increasingly strict over time. The fact that the threshold hasn't been raised by the four Presidents who have administered regulatory oversight programs may be viewed not just as an endorsement by the executive branch of the US government of the usefulness of regulatory analyses but as a presumption that the usefulness of regulatory analyses has grown over time.

The relative size of the $100 million threshold for the US economy can be used for establishing a threshold for doing regulatory analyses for other OECD countries. Using 1991 GDP's this method produces a regulatory threshold for Japan of approximately 8 billion Yen (*i.e.* $100 million divided by US GDP of $5.7 trillion times Japan's GDP of 450 trillion Yen equals about 8 billion Yen using 1991 GDP's). This procedure also produces regulatory analysis thresholds of 50 million DM for Germany, 120 million FF for France, 10 million pounds for the UK and 12 million Norwegian Kroner for Norway.

Less clear than the usefulness of regulatory analyses in general, however, is how these methods of analysis are to be applied to specific regulatory proposals. The purpose of this paper is to provide an overview of data sources, methods of producing estimates and other significant factors needed to *carry out* the analytical methods necessary for making informed regulatory decisions. The emphasis will be on social regulations; that is, health, safety and environmental regulations, rather than on economic regulation, or the regulation of the price and entry restrictions on specific industries.

In our discussion of specific data collection and organizing methodologies it is important to keep two observations in mind. First, the need and usefulness of more data will almost always outstrip the resources available to collect and analyze it. However, this situation must not be used as an excuse to neglect the data collection and analysis that can be done given resource constraints. Rarely will data be perfect. Data or information of some sort is almost always available even though it may be of varying quality. Optimally, the amount and quality of the data to be collected depends on the expected incremental benefits in improved regulation from better data compared to the additional costs of collecting better data. Absent that, one must do the best one can with the resources one has. Some kind of analysis can *always* be done. Second, the specific methods used for data collection and the type of analysis performed with the data will be

dependent on the specifics of the regulatory case. Some methods of data collection and analysis are appropriate is some circumstances, but not in others.

COST ANALYSES

Conceptually what we want to know is how regulated entities would alter their behaviour to comply with a new regulation. The entities may be firms in the private sector, subordinate governments, or private citizens. The various types of information gathering techniques used to determine the behavioural response of these regulated entities include: public consultation, engineering studies, survey design and econometric studies. These information sources are not mutually exclusive; in fact the most comprehensive and accurate cost estimates are likely to contain elements of all four approaches. They are discussed in order of when they first came into widespread use in the US and in the order they are likely to be used as more resources become available.

Public consultation. This information collecting technique directly gathers cost and other information from firms or others affected by a regulation. Either selected firms are asked for their input or a general notice is issued asking for comments about the regulation from any affected party who would like to participate in the public consultation process. In the US often both techniques are used. Typically in the early stage of a rulemaking a government agency may seek basic information from certain knowledgeable members of the public in order to facilitate framing a general notice to the public asking for information from all interested parties.

In the US this process is governed by the Administrative Procedures Act which also requires the proposing agency to respond to all relevant comments from the public before final regulations can become effective. It is an important first step in collecting information because it is relatively inexpensive and many firms or interested parties are eager to participate. But this eagerness is also the weakness the approach if nothing more is done to gather or organize information. It should be obvious that this approach is inevitably weighted in favour of those participants who provide the information.

It is important that data be objective and representative. Getting information from a few firms that are known to the regulators may, without the data being carefully justified and explained, produce an extremely biased estimate of costs. The analysis may not provide objective answers to questions about impact because of the natural self-interest of the selected parties or the parties that have the incentive and know-how to fully participate in the process. In some cases, firms have an incentive to overestimate compliance costs if they don't want a regulation adopted. In other cases, some firms will have an incentive to underestimate costs: for example, if a firm that supplies the equipment that enables an

industry to comply with a regulation is asked about cost there will be an incentive to underestimate the costs. Also, firms that have already complied with a proposed regulation will have an incentive to understate costs, because if the regulation goes forward, they will then have a cost advantage over the firms who haven't complied.

It was partly for this reason that in 1975 the US started requiring that information on costs and benefits be collected and then analyzed in a more systematic way than simply relying on public consultation. This regulatory analysis requirement, however, did not replace the public consultation process; it was added to and integrated into it. The current US requirement for economically significant regulations is that data on costs and benefits and impacts of regulations must be systematically collected and analyzed before formal notice is given to the public about the proposed regulation so that the public can comment on the data and the analysis of it. Agencies are also encouraged to consult early in the rulemaking process with interested parties before they start systematic data collection and analysis. Real-world checks are very important. If an analysis is developed without some involvement of the affected parties, the results might be sterile or devoid of realism.

Although it is important to keep in mind that public consultation alone cannot be as objective or give as good and systematic an idea of costs as collecting a probability sample, it is still a necessary first step and can provide important and useful information. And if resources do not permit more objective approaches, it still should be used as long as its limitations are kept in mind.

Engineering studies. This method of cost estimation is sometimes called the "model plant" approach. Detailed information is needed in this type of study about the types and costs of inputs that produce the outputs of the production process being regulated. For regulations that require major modifications in production processes, an industrial engineering consulting firm or outside suppliers of the equipment required by the regulation may be asked to provide an estimates of the cost of making the modifications to the plant and equipment of the typical or "model firm" in the industry. More elaborate studies will ask for cost estimates of several types of "model plants" or of the required modifications.

If the regulation would require only minor modifications or if the changes are very firm specific, then firms in the industry itself might be asked to provide their "inhouse" estimate of the costs of the required changes. This latter approach has the characteristics of public consultation or the survey approach because of the difference in the incentives for the two types of firms supplying the information (the suppliers to the regulated industry might benefit from the regulation while the firms in the industry have to pay for the mandated changes).

The costs to be estimated will be of two types: recurring or operating costs and non-recurring, primarily capital, costs.[3] Proper discounting techniques and amortization over the useful life of the new plant or equipment must also be considered. Total costs can either be shown in present value terms or annualized over the relevant time horizon. If a model plant approach is not likely to capture the variety of responses firms may need to make to comply with the regulation, alternative plant sizes and the different likely methods of compliance should also be modelled if resources permit. These estimates can then be combined with quantitative estimates of the number of firms that will have to make the different changes to estimate the total cost to the industry. The advantage of this approach is that it allows policymakers to see the cost impact on different sectors in the industry, such as small firms compared to large firms or profitable firms compared to firms barely surviving.

Examples of regulatory analyses[4] which used engineering studies are:

1. Refrigerator Efficiency Standards (US Department of Energy). In this regulation, appliance manufacturing firms were required to build products which will consume less energy than current products with similar capacity characteristics. Alternative designs and the relationship between cost and energy efficiency were estimated for 12 alternative designs of 10 different types of refrigerators. The design alternatives involved different assumptions about types of compressors, thickness of the doors and insulation, etc. The range of costs per unit were from $154 to $201 for a manual refrigerator and up to a high of $685 for a side-by-side refrigerator/freezer. The projected demand curve was estimated and taking into account the decline in demand due to price increases, it was estimated that 1.12 million units would be shipped each year, allowing total costs to be estimated.
2. Housing Accessibility Standards (US Department of Housing and Urban Development). Architectural firms and planners were asked to design prototype apartments which would accommodate the disabled, primarily those in wheelchairs. Design considerations included wider doorways, balcony accessibility, kitchen, bathrooms, ramps for split levels, and elevators. These model housing units were "costed out" and projections of the number of units constructed each year were obtained from government surveys of new residential construction [5]
3. Pollution Reduction (US Environmental Protection Agency). Most air and water pollution regulations involve production design changes (and not just end-of-pipe treatment). Some examples of water pollution rules that required such process changes involved the steel processing industry, the pulp and paper industry, the canned and frozen food industry. An extremely important recent development with international applicability

is the response to the 1987 Montreal Protocol on controlling ozone depleting chemicals. Much of the response to the regulations phasing out CFCs, halons, etc. has been analyzed for EPA using the engineering approach by ICF, Inc, a large U.S. consulting firm traded on the New York Stock Exchange. Changes in the capital stock of equipment using these chemicals, changes in the production process necessitated by the use of alternative chemicals, consequential changes in energy and other costs associated with alterative materials and technologies, were all estimated. The costs of total phaseout of ozone depleting chemicals (tightening beyond the London Amendments to the Montreal Protocol) were estimated to be $36 billion in 1985 dollars by the year 2075.

Survey design approach. This approach is most useful when a large variety of cost information must be collected from many different types of firms or where information on a model plant would not be sufficient. This estimation approach may not necessarily involve getting engineering estimates for a new production process, but is better suited for obtaining data for regulations that will be met through the use of add-on or end-of- pipe, or retrofitting equipment, education and training programs, recordkeeping and testing, etc. Trade associations or firms are typically consulted to obtain some type of per unit cost estimate. In a well done study, these cost estimates are based on representative samples of a large number of firms. Then estimates are extrapolated to the industry as a whole using supplemental surveys from the government or other groups which estimate the number of firms in different size and/or industrial classification category.

Another type of survey approach is the kind used to estimate *ex post* costs of in-place regulations. One very important example in the US is the Pollution Abatement and Control Expenditure Survey, which has in fact been used by other countries to attempt to estimate the cost of similar regulations in their own countries

Some recent examples of studies using this type of cost approach to collect information for regulatory analyses include:

1. Food labelling regulations (US Food and Drug Administration (FDA)): This regulation required food product companies to label their food products a certain way to display their nutritional content and limited the health claims firms could make about their foods to those claims preapproved by the FDA. The rule will have a significant impact on OECD countries, since it will apply to foods imported into the US The Research Triangle Institute in North Carolina carried out a cost analysis of these proposed regulations. It surveyed 350 firms in order to collect data on label inventories and 30 firms to discuss actual and hypothetical labelling policies. It used sales data on 21 000 grocery stores collected by the A.C. Neilson polling com-

pany to estimate the number of products that would be affected by the regulations. Just in terms of packaged products, it then established administrative costs for relabeling products, analytical testing, inventory label disposal costs, label reformulation and loss of trademark names. It then simulated costs in each of those categories for different firm sizes and industrial classification codes and aggregated them to the entire US. For example, administrative costs involve additional hours of labour time and consulting. Using government survey data on wage rates, costs were estimated for different types of establishments. They were able to do this because the size of the sample was large enough to produce a statistically reliable cross section of firms. Total cost were estimated to be $1.5 billion.

2. Electrical Work Standards or Lockout-tagout (US Occupational Safety and Health Administration (OSHA)). This regulation involved putting locks on electrical equipment to prevent machines from starting up inadvertently and crushing or electrocuting unsuspecting workers who might be servicing the machines. Current practices and the amount of additional time it would take to follow the new procedures were determined by on-site surveying of firms. Using the US Bureau of Labour Statistics Occupation Employment Survey, the number of employees and the average wage rate for each industrial category was also estimated, leading to an estimate of additional time costs. The number of locks required multiplied by the cost of the lock was estimated from BLS Census of County Business Patterns. Other similar examples involving time cost increases and add- on equipment are frequently done for other OSHA, Mine Safety and Health Administration, and National Highway Traffic Safety Administration (NHTSA) regulations. All make use of government data on business employment, wage rate and establishment patterns in different industries to produce the total cost estimates.

3. Worker Protection Rule against Pesticides (US Environmental Protection Agency). Using data from the US Department of Agriculture (USDA) Farm Costs and Returns Survey, the number of farms with and without hired help and the number of acres planted for each of 8 major crop categories was obtained. The USDA Agricultural Work Survey Force gave an estimate of the average number of work days handling vs. number of days in the field. For example, the costs to farm establishments of protection devices was estimated by multiplying the number of workers who needed to be protected as estimated from the two USDA surveys by the cost of coveralls, gloves, footware, etc., Training costs were estimated using wage rates and the number of workers needing training as estimated from the surveys. The present value of costs over a 10 year period was estimated to be over $400 million.

Econometric approaches. This approach is the most sophisticated and generally requires trained economists or statisticians to carry it out. It differs from the model plant approach in that it relies on probability samples rather that expert point estimates. Thus it is better suited to when the industry facing the required regulatory change is complex and diverse. It can also provide much more useful impact information than just the direct costs of the regulation. Multivariate statistical techniques, most commonly regression analysis, are applied to survey data collected for the analysis or from published government or private data bases. Technical parameters that can be used to model production functions are estimated and then used along with prices to estimate cost functions. The way the technical parameters or prices will be changed by the regulation are then plugged back into the equations to simulate how costs, profits, and consumer prices could be affected by the regulation.

1. Insulation Requirement in Canada: First the cost of insulation was related to the level of thermal resistance and different functions were specified for the walls and ceiling. Then it was estimated that the cost of increasing insulation levels for walls from 11.9 to 17.0 would cost $33.00 per 100 square feet. This estimate was then compared to the estimated fuel savings, the benefit of the regulation.

2. Air Pollution Emissions for Mobile Sources (EPA): One component of the cost of reducing emissions is the increased fuel costs that occur when autos have additional anti-pollution equipment. This can be extrapolated from a statistical model which shows the relationship between fuel usage and automobile weight. Using data from RF Polk, which keeps data on the US automobile fleet, these costs were aggregated for the number of autos in different size categories and projected into the future.

General Equilibrium Models. The most sophisticated analytical methods for estimating impacts (*ex post*) on all sectors of an economy has recently received a great deal of attention from economists. For example, Hazilla and Kopp developed a model of the US Economy and estimated the impact of the Clean Air Act amendments and found that when secondary effects were taken into account, the total costs far exceeded the direct, industry borne costs. Jorgenson and Wilcoxen also have a widely used model. Applying this technique would be a long-term goal.

Paperwork and Government Enforcement Costs. The government costs of administering and enforcing regulations should not be left out of regulatory analyses even though these cost do show up in government fiscal budgets. Moreover these costs are not trivial. Downing has suggested that such costs may add 20 - 38% to the cost of regulation. These costs should also be the easiest for the government to estimate since they are its own.

BENEFIT ANALYSES

Ostensibly the purpose of regulation is to improve society in some distinguishable way. That can happen only if regulation provides benefits to society that are greater than the costs. Thus to know whether regulations are having their intended effect we need to be assured that the net benefits accruing to the public are indeed positive. Just as regulators must be careful to make sure that those who bear the costs of regulations are not allowed to exaggerate the magnitude of the costs of regulations so too must they assure that the beneficiaries are not allowed to exaggerate the magnitude of expected benefits. This latter task is made more difficult because benefits are usually harder to measure than costs and because very often one of the indirect beneficiaries of regulation is the agency that issues the regulation.

Benefit estimates are made up of two parts: risk analysis and valuation of benefits. Risk analysis can also be divided into two parts, exposure assessment and risk assessment. When combined they produce a quantified estimate of magnitude of the benefits expected from regulation. Perhaps the most difficult tasks in estimating benefits, as suggested in Professor Viscusi's paper, is whether and how to place a dollar value on the quantified benefits so that they can be compared with costs. However, quantified estimates of benefits should be made regardless of whether benefits are based on market-priced goods, such as energy savings or non-market items, such as cancer cases avoided or the number of animal species not extinguished. The following outlines the major considerations that should go into any type of benefit analysis and additional factors that should be taken into account when a dollar value is placed on benefits that are difficult to monetize.

Estimating ''Exposures''. For regulations designed to protect people from harm, ''exposure'' assessment is a measure of the amount of harm, sometimes called ''dose'', to which individuals are potentially subject. Exposure assessments are combined with risk assessments, which are estimated schedules that relate hypothetical exposures or dose to the likely harm or response, to estimate the degree of harm individuals are actually likely to experience. For regulation of health risks, exposure is the amount of the harmful substance to which the individual comes into contact over a given period of time. For safety regulation, exposure is an estimated time and degree to which an individual may be subject to an accident. Clearly the exposures are workers in the affected industries. Individual exposure profiles are then aggregated to produce exposure assessments for groups of individuals.

Some examples will show the great variety and complexity of exposure assessment. For anti-pollution rules, exposure assessment estimates the number of individuals and the degree to which they have been or may be expected to live

in the area in which they are exposed. For motor vehicle safety, exposure assessment would estimate the number of passenger miles travelled in the type of motor vehicle in question. And for worker safety, exposure assessment would measure the number of hours workers came in contact with the harmful substance or unsafe equipment.

There are many different types of government surveys which provide estimates of the number of people potentially affected by various regulations: labour market surveys (number of people employed in different industries, different firm sizes, different types of occupation, etc.); census surveys (number of people living within an area which may be affected by pollution of any kind, number of people in various age categories, health or disability status, attending school, cause of death, etc.). For transportation-related regulations, there are detailed estimates in the US of the number of automobiles and annual miles travelled in different categories, the number of people using different modes of transportation, the number of people involved in accidents by type of accident.

Some examples of the benefits that have been calculated for such regulations recently include FDA Food Labelling (12 000 deaths avoided over a 20-year period because of changing dietary patterns associated with clearer food labels, primarily through fat reduction, which, after smoking is the most preventable cause of death in developed countries) and EPA Pesticide Rules (8 000-16 000 nonhospitalized and 300 hospitalized acute and allergic pesticide poisonings averted and 6 cancer deaths averted annually).

A second type of exposure assessment may be done for regulations that are not aimed at reducing risks to health and safety but are intended to provide economic benefits such energy efficiency, equal opportunities or accessibility. For example, ''exposure'' for energy efficiency standards, where the benefits are energy savings can only be determined by estimating the number of households who purchase the items to be regulated. This exposure or demand pattern would then be compared with the expected purchase patterns induced by regulation. Industry demand models are easily constructed using econometric models based on data from trade associations, government population projections, housing models, etc. Using these methods, energy efficiency standards for refrigerators described above were expected to lead to benefits of $9 billion in net present value terms.

It is important to emphasize the need to know the degree of exposure by category. This may require special surveys where government data is not available. However the data needed may be collected in the same surveys used to collect cost data. In fact there is a certain correspondence in what is needed to estimate baseline costs. Knowing the amount of equipment that may need to be modified to reduce a safety defect provides evidence that can be used to estimate exposure.

Many of these US Government surveys mentioned above are also collected in other OECD countries. And in some cases it may be possible to use US data to extrapolate to countries where data is not available. Automobile safety is one area where this shortcut approach might be promising since the product and its use is very similar in certain OECD countries.

Risk assessments

As discussed above in order to estimate benefits of limiting exposure to hazardous practices or substances, risk assessments must be combined with exposure assessments to estimate benefits. Kip Viscusi's paper briefly mentioned the importance of using good risk estimates. There are many sources that provide the risk of a huge number and types of substances (carcinogens and other hazardous chemicals). For example, one well known source is the US Public Health Service publication of its annual report on carcinogens, which lists 175 known or reasonably expected substances that may be carcinogens. For each substance there is a discussion of the nature of exposures and the number of people exposed, and any regulations of the substances. This catalogue is based on the monographs of International Agency for Research on Cancer in Lyon. It includes extensive references for estimating risk in terms of the dose-response relationship. The OECD also publishes a book on Existing Chemicals.

Since risk assessments are scientific estimates of the potency of various substances, this information is generally applicable to all countries with similar problems. In the jargon of economists, it is an international public good. An important consideration is the degree of uncertainty or level of confidence with which risk assessments are estimated. Most risk assessments of toxic substances are based on either animal or epidemiologic studies. Only well conducted epidemiologic studies can determine whether a chemical is a human carcinogen. But well conducted epidemiologic studies are difficult to perform because of the lack of data and the fact that they must be performed *ex post*.

Thus animal studies usually using specially bred mice or rats have been used to test many more chemicals than epidemiologic studies. Recently the validity of using animal studies to extrapolate to humans has been called into question because of mounting evidence that the high doses that animals must be exposed to in these studies may produce different biological effects then low doses of the same chemicals. However until better methods are developed to predict effects on humans are developed dose-response relationships based on animal studies will most likely be continued to use for regulatory assessments.

An important international example that uses risk information is EPA's estimation of the benefits of CFC reductions according to the Montreal Protocol and subsequent London Amendments as well as a complete phaseout alternative.

Using projections of cancer and other risks from ozone depletion, they estimate that the health benefits (found by estimating the number of cancer deaths and cataracts cases avoided and putting a dollar value range on those benefits) is between $3 and $12 billion through the year 2075.

The risks of many activities has been estimated through government surveys. In the US a partial listing includes: BLS Occupational Injury and Illness, Population at Risk in Employment and Earnings, State Worker Compensation Boards, National Health Interview Survey, National Institute of Occupational Safety and Health Surveys, the Survey of Income and Program Participation from the Census Bureau, BLS's Supplemental Data Systems for injury claims, National Occupational Hazard Survey, National Occupational Exposure Survey, Consumer Product Safety Commission, the National Safety Council, Federal Aviation Administration on noise levels, NHTSA (seatbelt effectiveness), Survey of Disability and Work, National Health Interview Survey, enforcement data from individual agencies, Fatality Catastrophe Abstracts (work place accidents including electrocutions, falls, plant explosions, hearing loss, automobile accidents; non-work related including transportation accidents crashes, poisonings, fires, etc.) for which risk estimates are available.

Monetizing benefits

There has been a tremendous amount of academic work done in the area of estimating the dollar value of the benefits of health, safety and environmental improvements. As Professor Viscusi points out in his paper, the way to estimate the dollar value of the benefits to regulation is to estimate what individuals would be willing to pay for it. This is called the willingness to pay approach. There are two main methods of estimating willingness to pay. The most reliable method is to use statistical techniques, usually multiple regression analysis, to simulate market prices. The most frequent application is to use regression analysis to show how much workers are willing to pay (through reduced wage rates) to reduce job risks, while holding job characteristics constant.

Aside from the attempts to estimate the "value of life", attempts have also been made to quantify the benefits of many environmental amenities, such as the benefits of reducing air pollution, water and noise pollution using regression techniques. The most common of these methods is the estimation of the differences in property values in areas with different level of environmental amenities. Although these characteristics are unpriced in the market, shadow prices can be inferred from market data, in a manner similar to the willingness to pay for reduced risk estimated from labour market studies.

The second method relies not on revealed preference, but on stated preferences in contingent value surveys. The problem with this approach is that survey

respondents have little incentive to reveal their true preferences in answers to hypothetical questions. Thus the values derived from these surveys vary widely and are very sensitive to the way the questions are asked and structured. Nevertheless, many benefits can not be estimated in any other way and thus this approach will continue to be used. Estimates of the value of life have used this approach as well as estimates of the value of various amenities such as clean drinking water or a clear view of the Grand Canyon.

A good example of the willingness to pay approach using revealed preference can be garnered from the work done on noise pollution. A number studies from a number of different countries yielded a relatively robust estimate of 0.40% per decibel. That is, if the ambient noise in a neighbourhood is reduced by 1 decibel, housing values would increase by 0.4%. Since the median sales price of existing homes in 1989 in the US was $93 100, this translates into $372 per decibel. In the late 1970s, an EPA proposed rule was evaluated that would have set limits on motorcycle noise emissions to 80 decibels. Aggregating the number of people living in urban areas who would be affected by traffic noise and projecting the change in the ambient noise levels, benefits were estimated to be just over $100 million (in 1989 values), under very optimistic assumptions about compliance.

FINAL THOUGHTS

This paper is meant to offer guidance on how to locate, organize, and use data to improve regulatory decisions. We conclude with advice on how to get started and how to increase the usefulness of the analysis in improving regulations.

Before starting a regulatory analysis project one would like to know how much analysis needs to be done. As discussed earlier that depends in part on the expected contribution of the analysis to improving the regulation. But since the potential improvement that the analysis can bring depends on the potential costs and benefits of the set of possible regulations that might be enacted, the answer is complicated. An interactive process of an increasing level of analysis and narrowing of options is probably the best approach. It may be useful to present some actual cost estimates of US regulatory analyses. In fact some of the costs for full scale analyses of major regulations can be quite high. Small scale analyses of important rules (tire safety) have cost only $50 000 US. General industry regulations for OSHA, for example, typically cost in the $ 1/4 - 1/2 million range. Others have exceeded $3 million over a several year period, although this cost is unusual. Keep in mind that these costs are high because of the size and heterogeneity of the US economy. The cost of regulatory analyses for similar regulations in other countries should be much lower because some US data can be used and

because the number of firms needed for a statistically good sample will also be lower. Furthermore, the availability of international data bases should make the data collection efforts much less expensive. An OECD paper forthcoming from the Secretariat on international data bases will help here. One example is the International Road and Traffic Accident Data base.

A second consideration one needs to think about before starting the project is what kind of data will be needed. The way to answer that question is to think about the purpose of the analysis. The purpose is not just to compute the total costs of a proposed regulation, but to design a regulation that is cost effective. To do that you need to know what discretion policymakers have to chose the cost effective option among the possible alternatives. Thus several options may need to be investigated so that the most cost effective regulatory alternative can be recommended.

A complication results because not all firms will be affected the same way by the different regulatory options. In general, although firms have a comparative advantage over the government in providing individual cost compliance information their self interest in the different regulatory alternatives means that an appropriately wide sample of firms must be surveyed and care taken in interpreting the results in order not to let any one firm or group of firms from biasing the information and gaining a competitive advantage.

On the other hand, government agencies and public interest groups usually have the comparative advantage in estimating benefits, since this is usually where the demand for the regulation arises. Also the benefits usually accrue to the public or broad constituency groups, not to specific firms. Thus the basic research on the benefits of regulation will usually be done or funded by government agencies or non-profit groups. Care must also be taken in analyzing benefits since these organizations also may be self interested in different regulatory regimes. Even if there is little time or money available to collect cost and benefit information, it is important to think about the regulation systematically.

There are two types of considerations that should improve the usefulness of the analysis. First the analysis should be concerned with not just determining whether the regulation is cost beneficial but also whether it is cost effective. Regulatory alternatives must be considered as an important part of any regulatory review. There are two major kinds of regulatory alternatives: First, different alternative regulatory levels should be examined. There should be a baseline of no regulation and alternative levels of stringency of regulation. Appliance efficiency standards, pollution emission levels and automobile safety standards will have different costs and benefit impacts depending on the degree of stringency. Since usually incremental costs increase and incremental benefits decrease as the stringency of regulation increases an optimal level of regulation that maximizes

net benefits (benefits minus costs) will exist. Thus the greater the number of levels analyzed, the better the chance to find the optimal level of regulation.

A second category of alternatives that should be examined is the continuum between traditional command and control regulation and pure performance regulation. Along this continuum toward pure performance standards are found various market oriented solutions, such as imposing pollution fees, allowing bubbles within a firm or establishment and allowing trading among firms through marketable permits, such as auctioning landing slots or radio spectrum or trading emission rights.

Perhaps the most important factor that will assure that the analysis is used for good purpose is the existence of a strong central oversight review group that will make sure the regulatory review system actually works as envisioned above. Although it is important for individual agencies or ministries to house the analysis, having a central review group is critical for several reasons: First consistency and comparability among agencies is necessary if the regulatory review program is to be cost effective. Second, a central regulatory review group can play the key role in maintaining quality control among the agencies by holding individual regulatory reviews to a high level of analysis and by providing guidance to the agencies through expert consultations and written regulatory analysis instructions. Lastly individual government agencies often have their own agendas and biases. They are not disinterested parties in the regulatory process. They often want to perpetuate their own bureaucracies and sometimes are captured by the groups they regulate. A central oversight group armed with high quality data and analysis is key to smarter regulation and an improved quality of life given the competing demands on society's scarce regulatory resources.

NOTES

1. Ivy E. Broder is Dean of Academic Affairs and Professor of Economics at the American University, Washington D.C. Dr. Broder has published several articles on the impact of regulation.

2. For a discussion of the US experience with regulatory oversight over the last 20 years including President Clinton's Executive Order No 12866 issued September 30, 1994, see John F. Morrall III "The American Experience in Deregulation: Lessons for Korea" in Seung-Cheol Lee and Jaehong Kim (eds.) Privatization & Deregulation (Seoul: Korea Economic Research Institute, 1994).

3. See for example the Guidance on Preparing Compliance Cost Assessments for the UK (1992).

4. The regulatory Analyses cited in the paper are listed in the Bibliography.

5. See the Survey of Market Absorption of New Apartments.

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11

DEVELOPING GENERAL INDICATORS OF REGULATORY COSTS

by
Thomas D. Hopkins

EXECUTIVE SUMMARY

This paper explores prospects for developing general indicators of the aggregate costs generated by regulation in OECD Member countries. While there is widespread recognition that such costs are substantial, their overall dimensions have not been well charted in most countries. Regulation and fiscal actions are largely substitute policies, yet only the latter are measured routinely and systematically. Making explicit the magnitude and distribution of all such effects would improve government accountability.

Both definitional and data problems handicap efforts to develop regulatory cost indicators. The scope both of regulation and of its cost or burden is contentious, although a useful starting point is a definition of regulation as any mandated action not funded by government. Then burden can be defined as any adverse effect experienced in the private sector from such regulation.

Precise measurement of this burden in the aggregate is not feasible due to data limitations and differing conceptions of the array of adverse effects that should be monitored. However, a useful sense of the extent and relative growth rates of the various types of regulation can be provided through the construction of burden indicators, and this paper reviews seven alternative approaches:

- regulatory agency personnel;
- regulatory agency spending;
- other measures of regulatory agency activity;
- compliance spending–an incremental perspective;
- compliance spending–a survey-based perspective;
- compliance spending–synthetic indicators;
- more sophisticated indicators of burden.

Each of the seven has merit, and no single indicator can provide a wholly adequate sense of aggregate regulatory burden. The one that represents perhaps the best combination of practicability and common sense is agency staffing, although compliance spending normally should be considered an important complementary indicator. Where resources are available for more expensive research activity, there is much to be said for extending the econometric studies that have begun to generate more sophisticated burden indicators.

1. INTRODUCTION

All governments rely upon regulation as an important tool of public policy. Through regulation, governments attempt to control directly certain aspects of the conduct of the governed. Some regulation restricts or prohibits certain actions, while other regulation requires and guides action. Regulation is targeted variously to individual citizens, to business and not-for-profit private organizations, and to subordinate levels of government. It can be either a substitute for or ancillary to state ownership and to fiscal policy, on both the revenue and expenditure sides of government budgets.

Governments of OECD countries routinely measure and publicize the size and composition of their budgets, and a variety of indicators exist to chart the growth of and fluctuations in government spending and taxation. Allocating government funds to the task of accounting for the fiscal actions of government is a universally accepted practice. In particular, government budgets normally provide great detail on the aggregate costs of spending programs, which fosters political accountability and traces fiscal consequences of policy changes, thus facilitating prudent management.

On the other hand, the perceived intrusiveness of government regulation in OECD countries can be detected only through anecdotal information, partial indicators and general impressions. Systematic efforts to track and account for regulatory effects are uncommon despite a recognition that the scope of regulation is broad indeed. The US Office of Management and Budget reports that "Except for government spending programs and taxation, regulation directs a greater amount of the nation's resources toward public purposes than any other policy instrument " (US OMB, 1993: 111). Yet without good information about the extent of regulatory consequences, it is difficult to gauge the need for or effect of changes in regulatory management and policy.

This is an important concern because regulation inherently is coercive and costly from the perspective of those who are regulated. Compliance with the regulation entails a burden for which the government typically provides no compensation. In principle, the government imposes such regulation in order to improve public policy, which means that more-or-less offsetting gains from regulatory compliance will be generated somewhere in the country. These gains pre-

sumably do not flow to those who bear the regulatory burden, else the regulation would be needless and voluntary compliance would be assured through the self interest of the regulated.

While any particular regulatory burden may be either amply warranted by its benefits or of dubious merit, such judgements lie beyond the purview of this paper. The focus here is solely upon the question of how OECD Member countries might generate indicators of the extent of their aggregate regulatory burdens. Such indicators would have direct usefulness when government officials address regulatory priorities. They also would be an essential starting point in any consideration of the kind of regulatory budgeting initiatives discussed in John F. Morrall's recent report (OECD, 1992*a*).

2. SUMMARY OF THE GENERAL PROBLEM

The task of measuring regulatory costs is beset with challenges, not least of which is the question of just what such costs encompass. While the question is obvious, its answer is not, except in rather abstract terms. Fundamentally, a cost is imposed only if some valued resource use is displaced, and the amount of the cost is the value that is foregone. This is the basic economic concept of opportunity cost; if a regulation diverts no valued resources, it imposes no costs.

For example, a decade ago the United States adopted a regulation requiring automobile manufacturers to make a relatively minor change in their product–installing a third, high-mounted brake light in all new cars. This regulation imposed modest but measurable new costs on the manufacturers, involving some body redesign and additional parts. If the government had not adopted this regulation, manufacturers would not have changed the brake light configuration of every new car, and society would not have shifted as many resources away from their previous uses. The cost of this regulation was the additional dollars spent on brake lighting, less any such spending that would have been undertaken voluntarily, in the absence of the regulation.

This focus on additional spending mandated by regulation implies that establishing a baseline is a fundamental part of any effort to identify costs. The baseline reflects the spending patterns that would prevail without the regulation. If, as is likely in most regulatory areas, some of the desired result would materialize even were the regulation never adopted, it is easy to overstate regulation-induced spending. Moreover, the baseline will be sensitive to the effectiveness of public information campaigns encouraging voluntary steps that, if not taken, subsequently may be mandated. Certainly some consumers were aware that the third brake light would improve driver reaction times, lessening the risk that their vehicles would be hit from behind, and such a light was available for purchase and installation in already built cars. Hence, to the extent such voluntary purchases were forthcoming, the cost of the brake light regulation was less than

the cost of equipping the entire new fleet with this feature. Other examples of this point are not hard to find: one study found that only a third of the total installation cost of a certain water treatment system properly could be attributed to regulation, since normal business practices would have led the firm to install a moderately less costly system in the absence of the regulation (Weidenbaum, 1990: 233).

This cost identification issue is further complicated by the fact that conduct initially mandated through regulation very often becomes so accepted by those regulated that later elimination of the regulation would have little or no economic consequences. A decade of experience with the brake light regulation has persuaded virtually all parties of its wisdom, and it is most unlikely that rescinding the regulation would have any effect. If elimination of a regulation would create no cost savings, it seems reasonable to question whether continuation of the regulation can be said to impose any costs. There assuredly are real costs associated with the brake light parts and installation, but these costs would be incurred voluntarily – and nearly universally now, unlike the situation a decade ago – even if the mandate were abolished. Hence any judgement about regulatory cost should reckon with how those regulated would respond both to initial implementation and to retention of the regulation. Over time, the level of spending properly attributable to any particular regulation can either rise or fall for this reason of public acceptance, as well as for more obvious reasons of economic growth (increasing the regulated activity level) and inflation.

It also is important to note that spending occasioned by regulation is only part of the regulatory cost story, and sometimes a quite small part. A regulation can so increase the price of a product or activity as to markedly reduce its usage or availability. Indeed, at one extreme, it can be priced out of existence or even banned explicitly, as in the case of certain pesticides. Such a regulation results in less rather than more spending on the regulated product/activity, but this by no means indicates that regulatory cost is small (or negative). The imposition of such a ban denies access to something that was valued by its purchaser, who now must turn to substitutes or settle for less. Economists attach considerable importance to this loss of producer and consumer discretion and satisfaction, but its measurement, while often attempted, is rarely easy to accomplish unambiguously.

Stated more precisely, the cost of a regulation is the compensation that those it adversely affects would have to receive to avoid any loss in well-being. This encompasses all adverse effects that are attributable to regulation whether they take the form of changes in spending, employment, productivity, innovation, incomes, prices, consumption, or other aspects of living standards. Its scope is so broad as to make comprehensive analysis exceedingly difficult. Thus it essentially is by default that the kinds of partial indicators discussed later in this paper are so prevalent.

Regulation is a broad mantle, and any effort to sketch aggregate burden dimensions faces the dual challenge of selecting an appropriate concept of cost or burden, on the one hand, and of reaching agreement on what array of government actions to include in the definition of regulation, on the other. The most commonly encountered definitional schemes distinguish economic from social regulation, where economic regulation refers in the main to restrictions on business pricing and entry, and social regulation refers to risk reduction mandates. Economic regulation is the older of the two; it arose to protect consumers and firms financially from monopoly power and also from what used to be termed destructive competition. Social regulation arose to protect consumers, workers and the environment from damaging by-products of economic activity. Certain government activities that serve to regulate behaviour sometimes are regarded as falling outside these categories; for example, antitrust actions can be viewed as a form of economic regulation, or not as regulation at all. Other such "gray area" government activities include the extensive requirements – especially paperwork – associated with taxation, procurement and grants, and law enforcement generally.

When accountability for government intrusiveness into the private sector is of central concern, then the scope of regulation probably should be construed to include any mandated resource use that is not made explicit in a government's budget. This would argue for complementing the economic and social labels with a third, which has been termed process regulation – paperwork that imposes nontrivial costs on the private sector without clear linkage to any other regulatory objective. Certainly the reporting obligations related to tax compliance stand out as the primary candidate for such a process category of regulatory burden.

An alternative way to characterize the scope of regulation is to identify the general targets of regulation as it applies directly to business organizations. This would include such treatment of employees and customers and conduct of business operations and production as:

Employee relations

- Worker health (illness prevention)
- Worker safety (accident prevention)
- Wage and hour standards (overtime, minimum wage)
- Unemployment and worker dismissal requirements
- Retirement/pension benefits requirements

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(continued)

- Payroll record keeping and reporting requirements
- Family leave requirements
- Equal opportunity/affirmative action/disability requirements
- Accessibility requirements for employees

Customer relations

- Product/service safety
- Product/service performance/warranties
- Labelling/advertising/marketing standards
- Product/service pricing, financing, consumer credit requirements
- Accessibility requirements for customers

Production/operations

- Corporate governance and antitrust
- Tax compliance burdens beyond the tax payments themselves (record keeping, return preparation and audits)

Environmental regulation

- Air emission controls
- Water pollution controls
- Solid waste disposal regulation
- Handling and labelling of hazardous materials
- Site cleanup (*e.g.* US Superfund) compliance
- Noise regulation
- Zoning and land use restrictions
- Intellectual property (patents, copyrights, licenses, trademarks)
- Energy conservation standards

Some regulation applies directly to citizens and non-business organizations, and the effects of other regulation are largely indirect (as in the case of much international trade and infrastructure), so the above listing is not a complete characterization of the scope of aggregate regulatory burdens. For a similar approach being employed in a current Canadian regulatory indicator project, see Table 1.

Table 1. **Accounting Protocol to Determine the Cost of Compliance**

Examples of areas of government regulatory activities

1. **Corporate governance**
   - Corporation legislation
   - Competition act
   - Disclosure requirements
2. **Taxation**
   - Income tax
   - Real estate tax
   - Custom duties
   - Excise tax
   - Business and property tax
   - Good and service tax
   - Provincial sales tax
   - Commodity taxes
3. **Environmental**
   - General emission requirements
   - Handling and disposal requirements
   - Environmental assessments
   - Government user fees
4. **Goods and services**
   - Market entry controls
   - Price controls
   - Product control
   - Production controls
   - Information disclosure
5. **Human resources and labour management**
   - Employee health and safety
   - Labour legislation
   - Pension
   - Remuneration
   - Entry requirements
   - Pay Equity
   - Payroll deductions
6. **Transportation**
   - Safety and distribution specifications
   - Rates and fees
   - Interprovincial movement
7. **Communication controls**
   - Advertising/marketing
   - Broadcasting
   - Telecommunications
8. **Consumer**
   - Protection legislation
   - Labelling requirements
   - Substance restrictions
9. **Financial transactions**
   - Loans and guarantees
   - Monetary regulation
   - Currency regulation
10. **General reporting**
    - Statistical reports
11. **Infrastructure**
    - Land use and zoning
    - Government supplied services
12. **Intellectual property**
    - Patents and copyrights
    - Trademarks
    - Licences
13. **Government programs in support of business**
    - Loans and loan guarantees
    - Grants
14. **Government procurement policies**
    - Price stabilization objectives
    - Employment equity requirements
15. **Transfer of governement technology and intellectual property**
    - licences for government patents

Source: Everingham Associates, 1994.

3. DISCUSSION OF METHODOLOGIES

Making any headway in the face of these complexities in regulatory burden measurement requires a clear articulation of practicable alternative indicators, no one of which will convey a complete sense of the full burden. There can be no single all-purpose indicator not only because of ever-present data limitations but also because the scope of the burden under review will vary with the policy objective. The burden concept that appears to attract greatest interest is the cost imposed on the private sector by economic, social and process regulation, and this is what most indicators attempt to reflect. Some are far easier to develop and apply than others, and those that appear among the most feasible are discussed first. A more general point affecting all potential burden indicators is that as regulatory programs come to rely more on incentives for prevention rather than particular equipment specifications, it will prove tougher to determine just what the burden of the regulations may be (Schmalensee, 1994: 61).

Regulatory agency personnel

While not all government employees are regulators, many agencies (or units within agencies) exist primarily to carry out regulatory activities. If the staff employed in such agencies/units grows over time, it may not be implausible to

Economic regulation

- Finance and banking
- An industry-specific cluster containing transportation (rate and entry regulation only), commodity trading, communications, and energy, and
- General business, a residual including international trade, intellectual property (patents, trademarks and copyright), antitrust, securities markets, and miscellaneous.

Social regulation

- Consumer health and safety (hazards from food, medical services, drugs, alcohol, tobacco, auto and other transportation, and all other product hazards)
- Job safety and other working conditions (employment standards, workplace conditions, pension programs)
- Environment (including waterway and fish and wildlife conservation programs, as well as pollution reduction/prevention)
- Energy (mainly nuclear and pipeline safety).

assume that regulatory burdens are rising. This is the logical underpinning of one commonly encountered indicator of regulatory burden. In the US, a private university research center (the Center for the Study of American Business at Washington University in St. Louis, Missouri) annually issues two burden indicators, one of regulatory agency staffing and the other of regulatory agency spending; the latter alternative is discussed below and both are illustrated in Figure 1 (Warren, 1995). The Center identifies some 55 federal agencies whose employees it believes are assigned primarily to regulatory tasks, which it classifies according to the two-part approach discussed in Section II, with the following subdivisions:

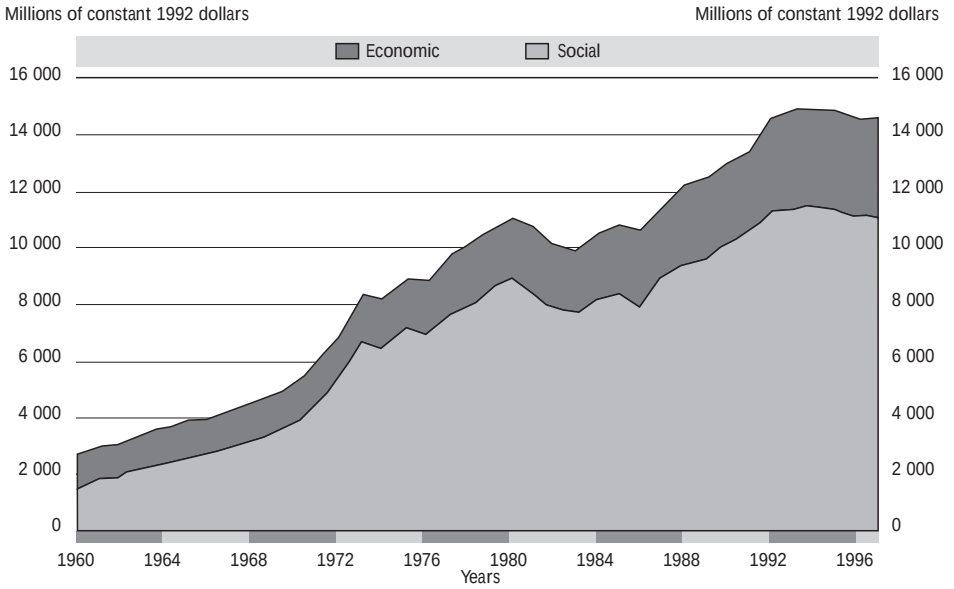
What earlier was referred to as process regulation is not included in the Center's classification scheme, which excludes agencies mainly involved with taxation, subsidies/credit operations, and procurement.

In countries whose government budgets report staffing patterns by agency, the main task is one of making judgements, such as those reflected in the above listing, about which units primarily regulate. Multipurpose agencies for which staffing data are not amenable to such categorization present a problem to the analyst, but agencies could themselves be asked to identify at least roughly how their staff might be apportioned between fiscal and regulatory functions.

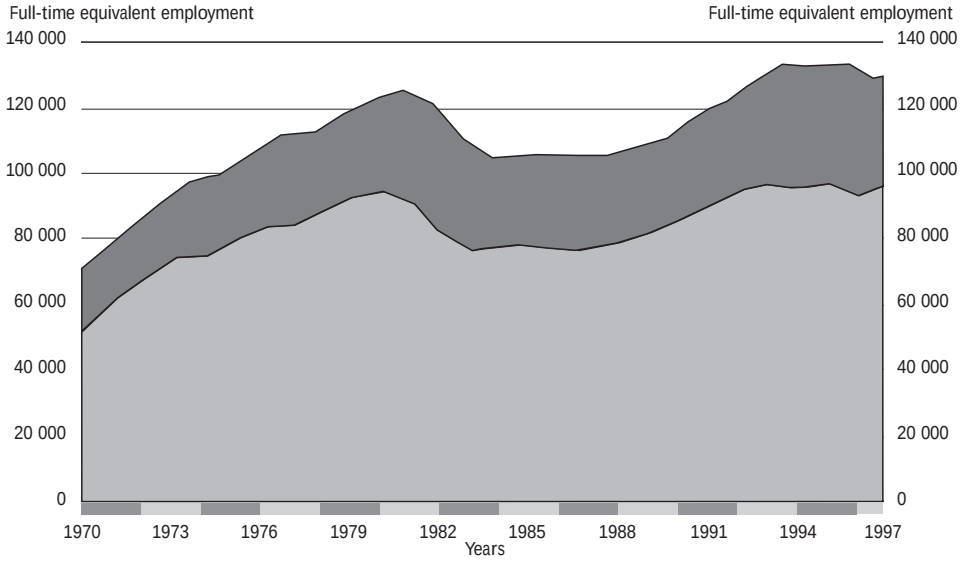
The principal strength of the regulatory staff indicator is its practicality and usefulness in highlighting trends over time. For example, Figure 1 from the Center's 1995 report effectively dramatizes some rather pronounced changes in the US over the past two decades. Note that only federal regulation is tracked by the Center; regulation emanating from state and local governmental units is not captured. The measure is effective in conveying ''a qualitative sense of the direction in which a government is going,'' and some economists consider it to be the best available indicator of the extent of government regulation (Winston and Crandall, 1994: 5, 13).

Its weaknesses are that the same number of regulatory personnel can create markedly different burden levels for those regulated depending on their energy levels, the operating constraints facing agency staff, and the regulatory strategies employed. For example, a shift from a design specification to a performance standard for an effluent regulation may require just as many regulators but reduce the burden on the firm. Furthermore, in countries where the central government periodically changes the share of its regulatory power being delegated to subordinate levels of government, data gathered only on federal agency staffing will be misleading. There also is considerable potential for agencies subjected to this kind of scrutiny to engage in forms of ''cost shifting'' that would undermine its usefulness. For example, an agency could reduce its own monitoring function/staff while requiring more time-consuming reporting efforts by businesses. Or an agency could resort to greater reliance on consultants or contractors not counted as its own staff.

◆ Figure 1*a.* ***Regulatory Spending Trends, 1960-1997***



◆ Figure 1*b.* ***Regulatory Staffing Trends, 1970-1997***



Source: Center for the Study of American Business, Washington University. Derived from the Budget of the United States Government, various fiscal years.

Certainly there is nothing fixed about the burden dollars each new regulator is able to impose on the private sector. On the other hand, some evidence does exist supporting its use as a proxy for compliance spending. A study of the 1972-90 period in the US found a significant relationship exists between the number of employees in the Environmental Protection Agency and business environmental compliance costs (Winston and Crandall, 1994: 4). Thus a regulatory staffing indicator can have merit as a way of helping to identify broad trends in aggregate regulatory burden, and the numbers can be adapted to various purposes, such as showing how regulatory priorities are shifting or how regulatory employment changes compare to private sector employment changes.

Regulatory agency spending

A companion indicator to staffing is the simpler one of identifying how much the regulatory agencies themselves spend. The logic here is that as regulators spend more money, those being regulated probably find it necessary also to spend more for compliance purposes. More inspections of a larger fraction of all firms, for example, should increase compliance spending by the private sector. The Center for the Study of American Business provides this indicator of US regulatory burden along the same categorical lines as it does for staffing. It may be less useful than the staffing indicator for countries experiencing substantial changes in real wages and where agencies are undergoing costly reorganizations or agency office construction programs. Even where no such complications exist, this measure is at best a crude proxy for societal burden. There is no satisfactory multiplier translating each dollar of agency spending into dollars of private sector burden, although one innovative effort to develop such a multiplier for the US generated results that proved not unreasonable in light of later research findings (see Weidenbaum and Defina, 1978, and Litan and Nordhaus, 1983). The shortcomings noted for the agency staffing personnel proxy are generally applicable as well to the agency spending measure; indeed, as agencies revise their strategies to accomplish more with less, during periods of fiscal stringency, regulatory burdens would be expected to rise even as agency spending declines.

Other measures of regulatory agency activity

Other measures that have attracted attention include simple counts of *a)* pending and completed regulatory actions in total and by level of significance (*e.g.* major vs. minor), and of *b)* pages required to print each year's regulatory changes as well as all currently applicable regulation. The counts reflecting new activity (either number of actions or number of pages) have some validity and considerable rhetorical appeal, but they are not very reliable indicators of burden. Usually a new regulatory proceeding is required whether the aim is to ease

or to tighten regulatory stringency, so even extensive deregulation can result in larger page and action counts. Moreover, the documents that contain regulatory notices (*e.g.* the daily *Federal Register* in the US) typically also contain a variety of official notices with no relevance to regulation. A further cautionary note is not the usefulness of any particular "page-counts" would be lessened by shifts occurring across types of regulatory instruments, from basic legislation, to implementing regulations, to quasi-regulations such as codes of practice or policy directives.

Compliance spending – an incremental perspective

What any government agency spends to implement a regulatory program is nearly always dwarfed by the spending the private sector must undertake to comply with the regulations. For example, US regulatory programs to lessen the risk of ocean oil spills, as they existed a decade ago, entailed some $2 of industry spending for each $1 spent by the US Coast Guard (Cohen, 1986: 167-188). This is illustrated even more vividly by regulations recently adopted governing construction of new oil tankers that will result in US consumers paying at least a half billion dollars more annually in shipping charges while creating negligible new costs for the government (Hopkins, 1992: 59).

Studies of private sector compliance spending are broadly of two types, *ex ante* and *ex post*, and both can be used to generate burden indicators. The former are agency estimates based on hypothesized responses to regulatory changes, often relying on engineering assumptions about how firms will implement new regulation. Such *ex ante* analysis typically is a central part of documentation (Economic Analyses, formerly termed Regulatory Impact Analyses) that the US requires for major regulatory changes. The governments of several other OECD countries have somewhat analogous requirements embedded in regulatory checklists, as explained further in a paper by Eric Milligan and Margot Priest (OECD, 1993). Were each government to make one agency responsible for collecting from each regulator, and cumulating, whatever annual cost estimates of newly adopted regulations are produced, an indicator of additional regulatory burdens in the aggregate could be developed. Were such estimates made available on a consistent basis annually for all major regulatory changes, the task of measuring aggregate compliance spending would gradually become ever more transparent as the share of properly analyzed regulations rose over time.

Even in such a scenario, however, reasonable questions would arise about whether actual outcomes resembled those forecast, inviting audits in some form. In fact, a more basic factor seriously constrains the fruitfulness of reliance on *ex ante* analysis. Regulatory agencies rarely have the proper combination of incentives and resources to ensure consistently competent analyses of the flow of regulatory actions. One complicating factor in the US, for example, is that the

President lacks authority to insist that all regulatory agencies undertake such analysis, many being independent from White House oversight. As a result, it is rather unlikely that even a moderately accurate sense of aggregate burden can be gleaned from the piece meal flow of *ex ante* estimates. Nevertheless, since even partial indicators have value, and since cost estimates already are being generated for at least part of the flow of new regulation in some countries, the creation in each country of a central listing service that aggregates new regulatory costs warrants consideration. What could emerge is an at least primitive indicator of aggregate compliance spending attributable to the flow of new regulation.

Compliance spending – a survey-based perspective

A second type of compliance spending estimates derive from *ex post* analysis entailing either surveys or econometric modelling. These are more promising sources of aggregate burden indicators, although they too have their limitations. The surveys ask those who are regulated how much more they are spending than they would in the absence of regulation. It is impractical to query every regulated entity about every regulation, and most surveys address only certain categories of regulation. Statistical sampling techniques permit drawing useful inferences from relatively small samples of the regulated population, but they do not ease the task of verifying the plausibility of the responses. Very often a firm will know what additional spending has been forced upon it by some particular new regulation, but it will have at best only a vague sense of the costs of all the regulation it faces. Moreover, the firm may lack much incentive to make the effort to trace its regulatory costs.

Environmental protection is the one regulatory area for which most headway has been made in estimating aggregate compliance spending for the whole stock of regulation, and estimates exist for most OECD Member countries (see Kopp, 1990 and Jaffe, 1993). In the US, the Department of Commerce's Bureau of Economic Analysis annually publishes in the *Survey of Current Business* its estimates of expenditures that US residents make to produce cleaner air and water and to manage solid waste. These estimates are based on several sources, including annual surveys ("Pollution Abatement Costs and Expenditures") conducted by the US Bureau of the Census. An unusually comprehensive, one-time estimate of annual pollution control costs, both historical and projected to 2000, was issued several years ago by the US Environmental Protection Agency (US EPA, 1990).

When a regulatory agency such as the US EPA does provide this kind of comprehensive estimates, it markedly improves the prospects for creating overall burden indicators in a country. Indeed this was an essential building block for one recent aggregate cost analysis in the US discussed in the next section. Yet most data collections serve a variety of objectives, and facilitating aggregate regulatory

burden estimates is not necessarily near the top of the list. EPA's data, for example, include some spending that is either voluntarily undertaken (*e.g.* trash collections) or financed by the government (about one-third of the total). Similarly, when a regulatory responsibility is shared by more than one agency, as often happens, it is easy to overlook some costs, and the EPA data do not include mandated costs in areas of ocean and noise pollution that emanate from its sister agency, the US Department of Transportation. This simply means that using such data in the construction of indicators generally will require making adjustments to ensure that all mandated private sector burdens are represented.

The present state of burden surveys permits construction of two types of indicators. One is economy-wide but covers in most countries only a single cluster of regulation – typically, environmental protection. Countries of course could institute comparable surveys for other classes of regulation. Alternatively, or in addition, the governments of OECD countries could build upon increasingly common industry surveys, often sponsored by trade associations. The latter would generate a set of industry or sector indicators that cut across regulatory target areas.

Good recent examples are available for the financial sector in Canada, France, the UK, and the US, as highlighted in Table 2 (Sutton, 1994). One older survey also warrants mention, because of the impressive steps its sponsors took to ensure objectivity, which yielded a guidance document that would be of value to any organization interested in mounting its own burden survey. The sponsor was the US Business Roundtable, which contracted with an accounting firm to document the direct compliance costs imposed on 48 major corporations by six federal regulatory programs in 1977, including environmental, worker health/safety/pensions, employment opportunity, energy, and consumer fraud (Andersen, 1979). While industry support of burden surveys can be highly productive, obviously no trade association would want to understate its regulatory burdens. Careful outside review of such studies would be advisable before a government would want to endorse them.

Two survey initiatives now underway in Canada offer considerable promise in improving burden indicators. One is called the Business Impact Test (BIT), and the other is the pilot test of a new accounting protocol intended to identify the cost of compliance with all regulation. The BIT is an interactive, software-based questionnaire aimed at capturing the effect of particular regulations on business competitiveness without requiring special analytical resources. It was developed collaboratively by government (Industry and Science Canada and the Treasury Board Secretariat) and industry (the Canadian Manufacturer's Association). The other Canadian initiative is in many respects a logical successor to and extension of the Business Roundtable's 1977 US study. An extensive accounting protocol is being tested through on-site surveys of the regulatory experiences of a small set

Table 2. **Measuring the cost of regulation in financial services**

Study	Focus	Methodology	Key findings
American Bankers Association (1992)	US banking industry for 1991	• Survey of 974 banks in the US. Only 21 banks had assets exceeding $1 billion – accounting for 46 per cent of the sample by assets. • Deposit insurance premiums are excluded from regulatory costs.	• Total compliances costs of $10.7 billion. These are equal to 9 per cent of industry operating expenses and 59 per cent of net profits after tax • More than 50 per cent of total costs arose from areas not directly responsible for compliance matters. • Relative compliance costs decrease with size. • The Community Reinvestment Act in the most time-consuming legislation.
McKinsey and Co.	4 US commercial banks in 1992	• Estimated ongoing incremental costs associated with 60 regulations covering deposit insurance, soundness and safety, the holding company, consumer compliance and reserves. • 4 banks in sample.	• Compliance costs were equal to 8.4 per cent of non-interest expenses. • 2.3 per cent of the total arose from the opportunity cost of reserve requirements.
FFIEC (1992)	US banking industry	• Reviewed previous studies that had examined the cost of regulation for US banks.	• Compliance costs estimated to be 6 to 14 per cent of non-interest expenses. • Total industry compliance costs estimated to be between $7.5 billion and 17 billion per year.
Franks and Schaefer (1993)	Regulatory bodies in the UK, US and France, 1992	• Measured the cost of running regulatory agencies in securities trading, investment management and unit trusts, and life insurance. • Internal compliance costs are excluded.	• Securities trading: UK-£55.3 million; US-$569 million; and France-FF244.7 million. • Investment management: UK-$25.6 million; US-$58.7 million; and France-$4.5 million. • Life insurance: UK-£9.8 million; US-$220 million; and France -FF38.8 million.
Thakor and Beltz (1993)	Selected regulations for US banks, 1991	• Examined regulatory compliance costs associated with the Community Reinvestment Act, the Banking Secrecy Act and the Real Estate Settlement and Procedures Act. • Survey of 445 banks for 1991 (only 8 banks with assets of more than 51 billion).	• Average compliance costs equal to 18 per cent of net income, 0.75 per cent of assets. • Compliance costs are highest for the CRA.

Source: Sutton, 1994.

of firms, which later could be expanded and used as the basis of economy-wide burden indicators (Table 3 shows how the results may be portrayed). Both could be replicated in other OECD Member countries.

Compliance spending – synthetic indicators

Survey-based studies typically have rather wide gaps in terms of either regulations or sectors covered, as just noted, but there may be useful ways to close some of these gaps without engaging in costly new surveys. A literature search for academic studies of particular programs or industries may turn up enough additional information to permit construction of synthetic indicators that combine survey findings with other research into the direct spending effects of regulation.

Table 3. **The cost of regulatory compliance: summary of the impact by government**

ACTIVY AREA:
AREA OF REGULATION:

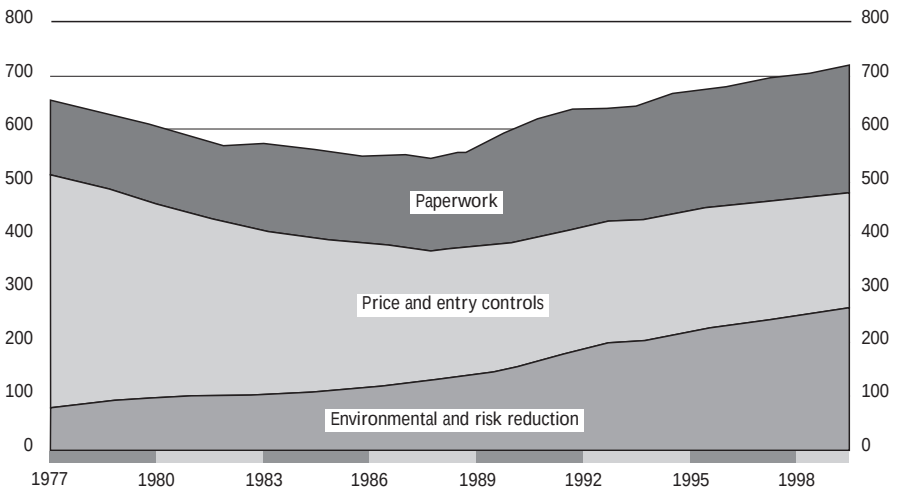
Level of government and regulation number(s)	Incurred in other periods			Incurred in the current period				Other and current periods Total
	Capital costs	Other costs	Total	Personnel costs	Capital costs	Other costs	Total	
Federal: – – – Total federal								
Provincial: – – – Total provincial								
Municipal: – – – Total municipal								
Total compliance costs			$				$	$

Source : Everingham Associates, 1994.

For example, in the US, extensive searches for studies of all economic and social regulatory programs were completed for 1977 (Litan and Nordhaus, 1983) and for 1988 (Hahn and Hird, 1991). These searches yielded aggregate cost estimates for the two years, detailed by type of regulation. Then later as more adequate particular studies emerged, it was possible to use them as replacements for the corresponding segments of the earlier estimates (see Figure 2 and Hopkins, 1996). Most notably, EPA's release in 1990 of more extensive survey estimates of environmental spending, with some adjustments, then could be substituted back into the aggregate cost estimates for 1977 and 1988. Moreover, it was possible to extrapolate all other compliance cost estimates for years between 1977 and 1988, and project them forward to 2000, by relying on judgements about the time pattern of regulatory activity. Such judgements themselves were informed by the kind of indicators discussed at the outset of this section.

Such a process could be undertaken in other OECD Member countries, for it essentially consists of an amalgamation of data from rather diffuse sources, with modification as newer or more complete studies become available. It necessarily suffers from whatever inconsistencies or errors afflict the underlying studies, and precision is elusive. Yet an eclectic piecing together of all shreds of evidence – from surveys and other sources – on how private sector spending is directly affected by regulatory programs can produce a credible indicator of aggregate burden.

◆ Figure 2. ***Total Regulatory Costs (1995 dollars, in billions)***



Source: Hopkins, 1996.

A proxy for compliance spending sometimes can be developed from qualitative surveys of regulatory stringency. Consider employment regulation, which is widely recognized as a source of substantial burden, especially among European members of OECD. Innovative indicators now are available that have been derived from multi-country surveys of regulatory constraints on employment practices; they use a promising multidimensional scoring system illustrated in Tables 4 and 5 (Grubb and Wells, 1993). Table 4 shows the step by step construction of one of the rankings, strictness of protection against dismissals, which range from a highly burdensome 10.5 for Spain and Portugal down to a low-burden 1.0 for the United Kingdom. Table 5 then provides summary rankings for each of seven facets of employment regulatory burden. While no account is taken in these rankings of how consistently and firmly these regulatory constraints are enforced, they do reflect available ''information about legislation, collective agreements and court judgements in the late 1980s'' and go well beyond opinion polls about regulatory complaints (op.cit., 11). Such an approach has obvious merit for cross-country comparisons and also may be useful in tracking annual burden levels.

That these employment regulatory burden indicators cannot be translated into money measures is not necessarily troublesome. Indeed, even where it is possible, expressing burden indicators as a single monetized estimate for whatever year is of interest may not always be the most useful outcome. There will be uncertainties about most of the components of this estimate, and there likely will be differing views about whether all the right components are included. Presenting reasonable ranges will be responsive to the uncertainty concern, and it may be useful to provide estimates in the form of building blocks that the reader can combine, discard or rearrange. For example, whether compliance spending that results from a mandated higher price should be counted on the same basis as that resulting from a mandated new filter system is open to debate. The former is basically a transfer of spending power that absorbs no physical resources, and for this reason many think it is not truly a cost. The contrary view is that any involuntary spending should be highlighted, and that costly ''rent-seeking'' behaviour by proponents of the mandate will be induced. This argues for presenting both types of spending, but separately labelled as ''efficiency'' or ''transfer'' in nature. In the US case, economic regulation has been found in general to impose ''three dollars of transfers for every dollar of efficiency costs,'' so the issue is not unimportant (Hahn and Hird, 1991: 249).

Such separate labelling also has merit in the process regulation area, for dual reasons. There will be disagreement about whether paperwork burdens of taxation, etc., should be considered a regulatory issue, and disagreement as well over how to quantify such burdens. Where as in the US governments generate estimates of private sector burden hours associated with various government functions, it is possible to identify regulation-like burdens that are not captured in

either the economic or social regulatory categories (US OMB, 1990). The indicator then can show this either monetized at some average wage rate or simply as burden hours.

A quite different, but complementary tactic, is to key the development of indicators to particular industries undergoing privatization and/or deregulation. The extent of the reduction in regulatory burden and of the regulatory residual then becomes the focus. This too can be done either qualitatively or quantitatively. Table 6 illustrates the former in the case of petroleum, electricity and transportation, contrasting the burdens in 1975 and 1990 across OECD Member countries (OECD, 1992*b*). For the US, Clifford Winston has thoroughly explored the latter approach (Winston, 1993).

More sophisticated indicators of burden

It commonly is believed that direct compliance spending, even were it accurately and comprehensively measured, substantially understates regulatory burdens. For example, the US Environmental Protection Agency reports that ''compliance cost estimates may understate substantially the true long-term costs of pollution control'' (US EPA, 1990: 1-3), a point with which economists generally agree (Cropper and Oates, 1992: 722). Regulation forces change, altering what firms had adopted as the most profitable and productive means of doing business. Any resulting productivity decline will be poorly (if at all) reflected in compliance spending, which also will not register adverse effects that any plant closings may have on consumers and workers. Regulation also constrains innovation and growth, as evidenced by the behaviour of industries such as transportation after it is privatized and deregulated.

There are no easy ways to develop an adequately comprehensive indicator of all these effects; complex econometric modelling of the entire economy is required. To see why such a broad scope is needed, consider more stringent regulation (whether environmental or otherwise) of a basic industry such as electric power. As the added costs to this industry are passed along in the form of higher rates, adjustments will ripple through many other industries, probably causing eventual changes in production practices, growth and pricing of firms (such as aluminium producers) far removed from the regulated utility industry.

The technique of general equilibrium analysis is well-suited to tracking such indirect effects, but it has only been applied to particular clusters of regulation. For example, one prominent study used a general equilibrium framework to show that environmental regulation alone reduced GDP in the US by 2.6 per cent annually from 1973 to 1985 (Jorgenson and Wilcoxen, 1990: 315). Other general equilibrium studies find even larger adverse effects in reduced output (Hazilla and Kopp, 1990). Other current work showing much promise entails input-output

analysis of the effects that regulation have on value-added (Nestor and Pasurka, 1993). Yet while it is clear that "...regulation acts to inhibit investment in productive capital" (Schmalensee, 1994: 63), the magnitudes are elusive, and substantial effort is required to produce indicators of this dimension of burden.

4. CONCLUSIONS

Government implementation of regulation, however prudent and well-designed, necessarily imposes burdens on those who are regulated. Some of these burdens are obvious, but many are not, due to indirect effects that ripple through the economy. Making explicit the magnitude and distribution of all such effects would make government more accountable, and it would help focus the attention of reformers on areas that are more rather than less significant.

The logical first step in this kind of effort is to seek a common understanding of the scope of "regulation" and "burden" that warrants greatest attention. Perhaps the most useful starting point is to define regulation as any mandated action not funded through a government's fiscal budget. Then burden can be defined as any adverse effect experienced in the private sector from such regulation.

Precise measurement of this burden in the aggregate is not feasible for a host of reasons, including data limitations and differing conceptions of the array of adverse effects that should be monitored. However, a useful sense of pervasiveness, intrusiveness, extent, priorities, and relative growth rates of the various types of regulation can be provided through the construction of burden indicators, and this paper reviews seven alternative approaches:

- regulatory agency personnel;
- regulatory agency spending;
- other measures of regulatory agency activity;
- compliance spending – an incremental perspective;
- compliance spending – a survey-based perspective;
- compliance spending – synthetic indicators;
- more sophisticated indicators of burden.

Each of the seven has merit, and no single indicator can provide a wholly adequate sense of aggregate regulatory burden. The one type of indicator that represents perhaps the best combination of practicability and common sense is agency staffing, although compliance spending normally should be considered an important complementary indicator. Nonetheless, where resources are available for more expensive research activity, there is much to be said for building on the econometric studies that have begun to generate more sophisticated burden indicators.

Table 4. **Indicators of the "strictness" of employment protection legislation**

A. Values of the indicators

	Regular procedural inconveniences		Notice and severance pay for no-fault individual dismissals						Difficulty of dismissal			
	Procedures	Delay to start of notice	Notice period			Severance pay			Definition of unfair dismissal	Trial period	Compensation at 20 y	Reinstatement
			9 m	4 y	20 y	9 m	4 y	20 y				
Scale	0 to 3	Days	Months						0 to 3	Months		0 to 3
Belgium	1	3	2	3.6	11.4	0	0	0	0	3.3	12.5	0
Denmark	0.05	0	1.6	2.8	5.0	0	0	1.5	0	3	9	1
France	1.5	12	1	2	2	0	0.4	2.7	0	1.2	15	0
Germany	3	10	1	1	4.5	0	0	0	2	6	18	2
Greece	2	1	0.6	1.7	9	0.3	0.9	4.6	1	2	9	2
Ireland	1.5	3	0.2	0.5	2	0	0.5	3.9	0	12	24	1
Italy	1.5	0	0.3	1.1	2.2	0.7	3.5	18	0	0.8	32.5	3
Netherlands	3	35	0.6	1	5.3	0	0	0	1	2	5.3	1
Portugal	2	17	0.8	2	9.1	0.2	1.7	9.3	3	1	20	3
Spain	2.25	40	1	3	3	0.2	1.3	6	2	1.7	35	0
UK	1	3	0.2	0.7	2.8	0	0.9	4.6	0	24	10.8	0

Table 4. **Indicators of the "strictness" of employment protection legislation** *(cont.)*

B. Ranking of countries by the indicators in part A

	Regular procedural inconveniences		Notice and severance pay for no-fault dismissals			Difficulty of dismissal			
	Procedures	Delay to start of notice	Entitlement according to job tenure			Definition of unfair dismissal	Trial period	Compensation	Reinstatement
			9 m	4 y	20 y				
Belgium	2.5	5.0	11.0	8.0	8.0	3.5	4.0	5.0	2.5
Denmark	1.0	1.5	10.0	6.0	4.0	3.5	5.0	2.5	6.0
France	5.0	8.0	5.0	5.0	3.0	3.5	9.0	6.0	2.5
Germany	10.5	7.0	5.0	1.5	1.0	9.5	3.0	7.0	8.5
Greece	7.5	3.0	5.0	7.0	9.0	7.5	6.5	2.5	8.5
Ireland	5.0	5.0	1.5	3.0	5.0	3.5	2.0	9.0	6.0
Italy	5.0	1.5	8.0	11.0	11.0	3.5	11.0	10.0	10.5
Netherlands	10.5	10.0	3.0	1.5	2.0	7.5	6.5	1.0	6.0
Portugal	7.5	9.0	7.0	9.0	10.0	11.0	10.0	8.0	10.5
Spain	9.0	11.0	9.0	10.0	7.0	9.5	8.0	11.0	2.5
UK	2.5	5.0	1.5	4.0	6.0	3.5	1.0	4.0	2.5

Table 4. **Indicators of the "strictness" of employment protection legislation** *(cont.)*

C. Summary rankings by main area

	Regular procedural inconveniences	Notice and severance pay for no-fault dismissals	Difficulty of Dismissal	Overall ranking for strictness of protection against dismissals
Belgium	3.5	10.0	2.0	4.0
Denmark	1.0	6.0	3.0	2.0
France	7.0	5.0	5.5	5.5
Germany	9.0	2.0	8.0	7.0
Greece	6.0	7.0	7.0	8.0
Ireland	5.0	3.0	4.0	3.0
Italy	2.0	11.0	10.0	9.0
Netherlands	11.0	1.0	5.5	5.5
Portugal	8.0	8.5	11.0	10.5
Spain	10.0	8.5	9.0	10.5
UK	3.5	4.0	1.0	1.0

Source: OECD (1993), *OECD Economic Studies,* No. 21, Winter, OECD, Paris, p. 13-14.

Table 5. **A summary of rank indicators for employment regulation**

	Protection of workers against dismissals	Regulation of fixed-term contracts	Regulation of TWA employment	Restictions on normal weekly hours	Restrictions on overtime, weekend and night work	Restrictions on regular employee work	Restrictions on overall employee work
Belgium	4	11	8	10	5	4	5
Denmark	2	2	5	11	2	2	2
France	5.5	8	3	7	7.5	7	6
Germany	7	9	6	8.5	6	7	7
Greece	8	7	10	4	10	9	10
Ireland	3	2	1.5	2	3.5	3	3
Italy	9	10	10	6	3.5	5	8
Netherlands	5.5	4.5	4	8.5	7.5	7	4
Portugal	10.5	6	7	3	11	11	11
Spain	10.5	4.5	10	5	9	10	9
United Kingdom	1	2	1.5	1	1	1	1

Source: OECD (1993), *OECD Economic Studies*, No. 21, Winter, OECD, Paris, p. 24.

Table 6. **Extent of regulatory burden in selected industries**

	Petroleum											
	Production				Transportation				Distribution			
	1975		1990		1975		1990		1975		1990	
	Entry	Prices	Entry	Prices	Entry	Prices	Entry	Prices	Entry	Prices	Entry	Prices
Australia	R	R	R	U	U	U	U	U	R	U	R	U
Austria	R	U	R	U	R	U	R	U	R	M	R	U
Belgium	U	M	U	M	U	M	U	M	U	M	U	M
Canada	U	R	U	U	R	R	R	R	U	U	U	U
Denmark	R	U	R	U	U	U	U	U	U	U	U	U
Finland	R	U	R	U	U	U	U	U	M	R	M	U
Germany	U	U	U	U	U	U	U	U	U	U	U	U
Ireland	R	R	R	R					U	R	U	R
Japan					R	R	R	R	U	U		
New Zealand	U	R	U	U	R	U	U	U	R	R	U	U
Norway	U	M	U	M	U	U	U	U	U	M	U	M
Spain	R	R	M	R	R	R	R	R	R	R	M	U
Switzerland	R	U	R	U	R	U	R	U	U	U	U	U
Sweden	U	M	U	U	U	M	U	U	U	M	U	U
Turkey	R	R	R	U	M	M	M	M	U	R	U	U
United Kingdom	U	U	U	U	U	U	U	U	U	U	U	U
United States	U	R	U	U	U	R	U	R	M	R	U	U

Key: U = Unregulated
M = Partially regulated
R = Regulated

Table 6. **Extent of regulatory burden in selected industries** *(cont.)*

	Electricity											
	Generation				Transmission				Distribution			
	1975		1990		1975		1990		1975		1990	
	Entry	Prices	Entry	Prices	Entry	Prices	Entry	Prices	Entry	Prices	Entry	Prices
Australia	U	U	U	U	U	U	U	U	U	U	U	U
Austria	M	M	M	M					R	M	R	M
Belgium	U	M	U	M	U	M	U	M	U	M	U	M
Canada	U	M	U	M	M	M	M	M	U	U	U	U
Denmark	R	R	R	R	R	R	R	R	R	R	R	R
Finland	R	M	R	U	R	U	R	U	R	M	R	U
Germany	M	U	M	U	M	U	M	U	M	M	M	M
Ireland	R	R	R	M	R	R	R	M	R	R	R	M
Japan		R		R		R		R		R		R
New Zealand	R	R	U	U	R	R	U	U	R	U	R	U
Norway	R	U	R	U	R	R	R	R	R	U	R	U
Spain	R	R	R	R	R	R	R	R	R	R	R	R
Switzerland	R	U	R	U	R	U	R	U	R	U	R	U
Sweden	U	M	U	M	R	M	R	M	R	M	R	M
Turkey	R	R	U	R	R	R	M	R	R	R	M	R
United Kingdom	R	R	M	M	R	R	R	R	R	R	R	R
United States	R	R	M	M	R	R	R	R	R	R	R	R

Key: U = Unregulated
M = Partially regulated
R = Regulated

Table 6. **Extent of regulatory burden in selected industries** *(cont.)*

	Transport											
	Trucking						Airlines					
	1975			1990			1975			1990		
	Entry	Service	Prices	Entry	Service	Prices	Entry	Service	Prices	Entry	Service	Prices
Australia	U	U	U	U	U	U	R	R	R	M	U	U
Austria	R	R	M	U	U	U	R	R	R	M	M	M
Canada	R	U	M	M	U	U	R	R	R	U	U	U
Denmark	R	R	R	R	U	U	R	R	R	R	R	R
Finland	R	M	R	R	M	U	R	R	R	R	R	R
Germany	R	R	R	R	R	R	R	R	R	R	R	R
Ireland	R	U	U	U	U	U	R	R	R	M	M	M
Japan		R	M		M	M		R	R			R
New Zealand	R	R	R	U	U	U	R	R	R	U	U	U
Norway	R	R	R	U	U	U	R	R	M	R	R	M
Spain	M	M	M	M	U	M	R	R	R	M	M	R
Switzerland	U	U	U	U	U	U	R	R	R	R	M	M
Sweden	M	M	U	U	U	U	R	R	M	R	R	M
Turkey	U	U	M	U	U	U	R	R	R	U	R	R
United Kingdom	U	U	U	U	U	U	M	M	R	M	M	M
United States	R	M	M	M	U	M	R	M	M	U	U	U

Key: *U = Unregulated*
M = Partially regulated
R = Regulated

Source: OECD (1992*), Regulatory Reform, Privatisation and Competition Policy*, OECD, Paris, p. 63.

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12-1996

OECD PUBLICATIONS, 2, rue André-Pascal, 75775 PARIS CEDEX 16
PRINTED IN FRANCE
(42 97 08 1 P) ISBN 92-64-15603-8 – No. 49715 1997