The Costs and Benefits of Regulation: Some Implications for Developing Countries*

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Executive Summary

In developed countries, the past two decades have witnessed an unparalleled rise in new regulations related to the environment, health, and safety. During this period, there also has been substantial economic deregulation of several industries in some countries, including airlines, trucking, railroads, financial markets, energy and telecommunications. Developing countries are engaged in deregulating various sectors of the economy and devising new regulatory frameworks for others.

This paper has three objectives: first, to provide an overview of the costs and benefits of regulation throughout the world; second, to highlight the potential gains from the reform of regulation and deregulation in developed and developing countries; and third, to glean some fundamental lessons from the experience with government regulation and make suggestions for improving regulation in developing countries.

The review of the literature on the benefits and costs demonstrates that it is possible to systematically explore the costs and benefits of regulatory activity using standard economic analysis. It also shows that regulation can have a significant adverse impact on economic growth. Specifically, regulation aimed at controlling prices and entry into markets that would otherwise be workably competitive is likely to reduce welfare, growth and the average standard of living significantly. In addition, process regulation that is unnecessary can impose a significant cost on the economy. Nonetheless, social regulations may have significant net benefits for the average consumer. At the same time, these regulations may not meet goals in an effective manner and in some cases may result in a net decline in living standards.

There are several policies developing countries might consider adopting to improve their general approach to regulation. The appropriate regulatory tool and framework will depend on several factors, including bureaucratic expertise, resource availability, political constraints and economic impacts. There is a general need to enhance the capability for evaluating regulation at local and national levels.

The overall lesson is not that regulation is generally undesirable, but that it often has undesirable economic consequences. Moreover, these impacts result partly from political forces that lead to certain kinds of wealth redistribution. While not denying such forces, we believe they can be mitigated by more sharply evaluating the consequences and tradeoffs involved in regulating before policies are implemented.

The Costs and Benefits of Regulation: Some Implications for Developing Countries

I. Introduction

In developed countries, the past two decades have witnessed an unparalleled rise in new regulations related to the environment, health, and safety. During this period, there also has been substantial economic deregulation of several industries in some countries, including airlines, trucking, railroads, financial markets, energy and telecommunications. At the same time, developing countries, complementing their far reaching privatization programs, are engaged in deregulating various sectors of the economy and devising new regulatory frameworks for others.

This trend toward economic regulatory reform is likely to continue as a result of the globalization of markets. Regulators are becoming more constrained by the increased mobility of capital and labor (Lee and McKenzie, 1991). If they choose to keep prices substantially above the costs of production, firms will consider moving to a more hospitable economic environment or find a way to bypass the system. One example is the state-sanctioned telephone monopoly in some countries. Increasingly, consumers and businesses are finding ways around these monopolies by making use of internet services and services that provide long distance calls more cheaply. This natural tendency to avoid paying monopoly prices leads to increased pressure for deregulation and privatization.

As the political costs of regulating specific sectors of the economy increase, politicians will see deregulation as a cost-effective strategy for promoting growth. Other things equal, those countries where the economic and political gains are likely to be greatest can be expected to proceed the most rapidly. Those industries with a more complicated economic structure, such as electricity and telecommunications, can be expected to be deregulated more slowly.

Not all regulation is on the decline, however. Citizens in many countries express a desire for more regulation in several areas, such as environmental protection, public health and safety standards. The increased interest in regulating these areas can be partly explained by increases in income. As consumers become wealthier, they demand more amenities, such as cleaner air and water and better sanitation. As these demands increase, politicians will supply more of these goods and services, but they will also explore ways of supplying them more efficiently.

Current political concerns with limiting tax increases in many countries are creating even more incentives to use certain kinds of regulation. When legislators constrain themselves in terms of spending and taxes, regulation can be a useful tool for achieving political objectives, such as transferring wealth to particular interest groups in exchange for political support. In this kind of political environment, legislators substitute regulatory requirements or mandates whose costs are not directly paid for by taxpayers with less visible, but nonetheless real, costs. From the government's perspective, the effort appears to be relatively low-cost. The federal budget is barely affected when a major change is mandated by regulation.

The impact of regulatory activity on country economies continues to be hotly debated. While few would deny that regulation can increase consumer welfare, this depends on how regulation is designed and implemented, and the specific problem it is attempting to solve. Moreover, regulation can add substantially to the costs of doing business, and these costs frequently are passed along to consumers in the form of higher prices.

This paper has three objectives: first, to provide an overview of the costs and benefits of regulation throughout the world; second, to highlight the potential gains from the reform of regulation and deregulation in developed and developing countries; and third, to glean some fundamental lessons from the experience with government regulation and make suggestions for improving regulation in developing countries. Given the scarcity of data on this subject in developing countries, most of the data presented here comes from the United States and other developed countries.

Section 2 defines regulation and explains its justification as well as the root causes of its inefficiencies. Section 3 reviews the literature on the aggregate costs and benefits of regulation.[1] Section 4 provides some general estimates of the potential gains from reform and a more detailed analysis of the potential for structural reform of specific industries in developed and developing countries. Finally, Section 5 presents the key findings and offers some policy recommendations.

II. Regulation: Definition, Rationale and Problems

There are many types of regulation. While some overlap is inescapable, a common classification scheme consists of three parts: economic, social and process regulation. Economic regulation refers to restrictions on prices, quantity, entrance and exit conditions for specific industries. Social regulation refers to regulations that affect a wide array of industries. Typically, environmental, public health and safety regulation are placed in this category. Finally, process regulation refers to government management of the operation of the public and private sector, such as paperwork requirements and administrative costs incurred by both producers and consumers. These categories are not as neat and tidy as they might first appear. Paperwork requirements, for example, might be a significant component of some social regulation, such as environmental protection or worker safety. Moreover, some regulations, such as those affecting education and social services, do not fit neatly into any particular category here. Despite these deficiencies, this framework is a useful starting point for measuring many of the most important costs and benefits of regulation.

There are several economic arguments supporting regulation (MacAvoy, 1992). The most common ones are based on correcting for market failure or on equity considerations. In the case of social regulation, a primary rationale is that individual companies may not take into account the full social cost of their actions without government intervention. For example, a firm will tend to pollute excessively unless it incurs some implicit or explicit cost for polluting. In the

[1] All estimates presented in this paper are expressed in the year dollars of the original study.

case of workplace safety, workers may not have adequate information on hazards to make fully informed choices. Direct regulation represents one approach to the problem of obtaining such information. In the case of economic regulation, the primary economic rationale has to do with the potential for improving production efficiency. If there are economies of scale or scope, a single firm may, in theory, be able to produce more efficiently than several competing firms, but then its monopolistic power may need to be restrained through regulation. In addition, there may be additional value to consumers as more consumers use a network, such as telephones.[2] While it is possible to provide some economic rationales for regulation for a wide range of economic activity, such rationales are often not persuasive in practice. Just as there is potential for many kinds of "market failure," there is also potential for "government failure."

There are two reasons for inefficient regulation. One is economic and the other is political. The economic reason is that it is difficult for a government authority to regulate companies because it lacks the necessary information. For example, a business might have a good idea of its cost and demand structure, but a regulator typically does not have access to such information. The firm usually is better informed than the regulator; moreover, it rarely has an incentive to tell the regulator all it knows. Such "information asymmetries" imply that economic regulation will rarely achieve a "first-best" or efficient outcome. That does not mean that regulation is not a useful approach for increasing economic efficiency when an industry is subject to increasing returns to scale or there are network externalities. It does mean, however, that the effectiveness of regulation is limited and that it has some serious structural defects. These defects need to be kept in mind when comparing this approach with viable alternatives.

Similarly, the regulator imposing social regulation must frequently base decisions on very limited information (Lewis, 1996). For example, in setting the overall emission limitation for acid rain, the U.S. government had some crude estimates of the costs and benefits. After the program was implemented, however, the costs of achieving the emission standard were lower than expected. The lower costs resulted in part because of the flexibility inherent in the market-based regulatory approach that was adopted. At the same time, unforeseen changes in energy and transportation markets also played an important role.

Political problems with regulation also lead to inefficient economic results. Since regulation redistributes resources and rents, politicians often use it to secure political gains rather than to correct market failures. A large array of regulatory instruments, such as quotas, licenses, and subsidies, are used to transfer significant amounts of wealth from consumers to small groups of producers. The result is often that regulation is inefficient. Some classic examples arise in the area of U.S. agriculture, including peanuts (see Box 1), sugar, and dairy products. Moreover, the wealth transfers also arise in social regulation. Environmental and energy regulations that involve mandates frequently carry a heavy price tag. For example, Anderson et al. (1995)

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[2] For example, email will be more useful to a user if more people have email addresses. On the subject of the economics of networks, see Klein (1996), Katz and Shapiro (1991), Liebowitz and Margolis (1994), and White (1997).

estimate the savings from the use of market incentives in environmental regulation at US$8 billion (1986 dollars) in 1992 and project that potential savings in 2000 could be as high as US$38 billion, or 26% of estimated compliance costs. When transfers are this large, beneficiaries will be willing to expend considerable resources on lobbying and other activities that enhance their earnings and protect these transfers, even when there are huge efficiency costs to the economy as a whole.

Box 1
The U.S. Peanut Market

An example of a small group's benefiting from regulation at the cost of a large group is the peanut-quota system. Since 1949 the federal government has run a program that limits the number of farmers who can sell peanuts in the United States. Imports are also severely restricted. On top of these restrictions, price supports are used to guarantee that farmers with peanut quotas can cover their production costs each years. This generally results in the minimum selling price being about 50 percent higher than the world price. For 1982-1987, it was estimated that the average annual consumer-to-producer transfer was $225 million (in 1987 dollars) with an associated deadweight loss of $34 million (Rucker and Thurman, 1990). In 1982 there were 23,046 peanut farmers, which means that on average each received a net transfer of $11,000. In contrast, the cost to the average consumer of this program was only $1.23. Few consumers would be willing to spend their own time and money to dismantle the peanut program when they would only gain $1.23. However, the program is worth $11,000 to the average peanut farmer and that would certainly make it worth one's while to see that the program continues.

Source: Viscusi, Vernon and Harrington (1996)

Of course, if regulation becomes very inefficient and visible, there may be pressure for change. Firms with new technologies may lobby for reduced regulation. In addition, consumers and businesses may find ways of buying products and services at lower prices by opting out of the regulated markets. For regulation in tradable goods markets, the pressures to deregulate will come from declining market shares of domestic producers who are vulnerable to less regulated imports. In addition, tradable goods producers that rely on heavily regulated non-tradable goods sectors will have an interest in facilitating deregulation of these sectors to lower their overall productions costs.

Another source of pressure for regulatory reform comes from scholarship that documents the costs of regulation. As noted above, as technology evolves, we find that there are fewer industries in which classic economic regulation can be justified on efficiency grounds. In addition, economists have also documented a wide array of cases in which more flexible regulation, such as performance standards and market-based approaches, can achieve better results at a lower cost (Hahn, 1996; Anderson et al., 1995)

III. The Costs and Benefits of Regulation

Most systematic economic studies of regulation have focused on federal regulation in the United States (Weidenbaum and DeFina, 1978; Litan and Nordhaus, 1983; Hahn and Hird, 1991; Hopkins, 1992; Winston, 1993). The first study to synthesize data on the costs and benefits of regulation was done by Hahn and Hird (1991). Table 1 and Table 2 provide estimates for the costs of economic regulation and the costs and benefits of social regulation. Hahn and Hird demonstrate four key ideas. First, it is possible to systematically explore the costs and benefits of regulatory activity using standard economic analysis. Second, the efficiency costs of economic regulation appear to be much smaller than the costs associated with transfers (e.g., between producers and consumers). Third, such information can be useful in gaining a better understanding of the economic impacts of regulation. Fourth, there is a great deal of uncertainty in the data, and these uncertainties should be conveyed as clearly as possible to policy makers.

Focusing on the cost side of regulation, Hopkins (1992) has extended the work of Hahn and Hird. Hopkins' principal insight is that the costs of process regulation are substantial. Table 3 provides estimates of the cost of social, economic, and process regulation as of 1991 and for selected years from 1977-2000. The total cost of regulation in 1991 is estimated at US$542 billion (1991 dollars), or about 9.5 percent of gross domestic product (GDP).[3] The largest component of those regulatory cost was process regulation, or US$189 billion in annual expenditures related to government paperwork requirements, primarily for tax compliance. The tax compliance costs do not necessarily represent efficiency costs, however, since one must consider all aspects of a tax system in evaluating its impact on efficiency. Nonetheless, the shear magnitude of the process costs suggest that paperwork could be reduced dramatically while improving efficiency.

[3] Hopkins' estimate for the total cost of regulation includes transfer costs. Total costs without transfer costs are $412 billion.

Table 1
Annual Costs of Economic Regulation in the United States in 1988
(in Billions of 1988 Dollars)

Regulated Sector	***Efficiency Costs***	***Transfers***	***Sources[b]***
International Trade	17.3	85.6-110.6	Hufbauer (1986)
Telecommunications	<14.1	< 42.3[a]	Wenders (1987)
Agricultural Price Supports	6.7	18.4	Gardner (1987)
Airline	3.8	7.7	Morrison & Winston (1986, 1989)
Rail	2.3	6.8[a]	Winston (1985)
Postal Rates	na	4-12	President's Commission on Privatization (1988)
Milk Marketing Orders/Price Supports	0.4-0.9	0.9-3.5	Ippolito & Masson; Buxton & Hammond (*reported in* MacAvoy (1977))
Natural Gas[c]	0.2-0.4	5.0	Loury (1983)
Barge	0.2-0.3	0.6-0.9[a]	Litan & Nordhaus (1983)
Davis-Bacon Act	0.2[a]	0.5	Thiebolt (1975) (updated)
Credit	0.05-0.5	0.15-1.6[a]	Litan & Nordhaus (1983)
Ocean	0.05-0.08	0.15-0.22[a]	Jantscher (1975)
Trucking	0[d]	0	
Oil Price Controls	0	0	
Cable TV	0	0	
Total	**$45.3-46.5**	**$172.1-209.5**	

na not available

[a] Figures estimated using 3:1 ratio of transfers to efficiency costs.
[b] Indicates primary source of estimate.
[c] Cost of natural gas regulation expected to approach zero as all price controls are lifted.
[d] If estimate is zero, federal regulation is assumed to be negligible.

Source: Hahn and Hird (1991)

Table 2
Annual Costs and Benefits of Social Regulation in the United States in 1988
(in Billions of 1988 Dollars)

Regulated Sector	*Costs*	*Benefits*	*Sources*[b]
Environment	55.4-77.6	16.5-135.8 (58.4)[a]	Hazilla & Kopp (1990); Freeman (1990); Portney (1990)
Highway Safety	6.4-9.0	25.4-45.7	Crandall (1986)
Occupational Safety and Health (OSHA)	8.5-9.0	negligible	Crandall (1988); Denison (1979); Viscusi (1983)
Nuclear Power	5.3-7.6	na	DOE policy study (1979 (*reported in* Litan & Nordhaus (1983))
Drugs	< 1.5-3.0	na	Peltzman (1973)
Equal Employment Opportunity (EEO)	0.9	na	Weidenbaum & DeFina (1978); Litan & Nordhaus (1983)
Consumer Product Safety	> .034	na	U.S. Federal Budget, FY 1990 (administrative costs only)
Total	**$78.0-107.1**	**$41.9-181.5**	

na not available
[a] Point estimate is in parentheses.
[b] Indicates primary source of estimates.

Source: Hahn and Hird (1991)

Table 3
Annual Costs of Federal Regulation in the United States
(in Billions of 1991 Dollars)

Regulations	*1977*	*1988*	*1991*	*2000*
Environmental Regulation	42	87	115	178
Other Social Regulation	29	30	36	61
Economic Regulation-Efficiency	120	73	73	73
Process Regulation	122	153	189	221
Subtotal of Costs	*313*	*343*	*413*	*533*
Economic Regulation-Transfers	228	130	130	130
Total Costs	**540**	**473**	**542**	**662**

Source: Hopkins (1992)

To place the numbers in context, each American household would be billed US$5,683 (1991 dollars) annually in addition to its current taxes if this regulatory compliance cost were shared equally and collected directly and not imposed on business instead. From another perspective, total federal spending in 1991 was about US$1,200 billion, or approximately twice the total cost of regulation. This two-to-one ratio between government spending and regulatory costs certainly does not correspond to the relative emphasis each receives in either the government's statistics or its decisionmaking.

There are no aggregate estimates of the benefits and costs of regulation outside of the United States. In Australia, the total cost of regulation was estimated to be between 9 to 19 percent of GDP in 1986 (Organization for Economic Cooperation and Development, 1996a). Mihlar (1996) provides a preliminary estimate for the costs of regulation in Canada of 12 percent of GDP. Based on an assumed ratio between private compliance costs and regulatory program spending, he extrapolated national regulatory costs from federal and provincial administrative budgets. While the calculation is crude, it provides a rough estimate of the size of the regulatory burden.

Three points are worth noting about these regulatory cost estimates, since they are often cited without careful analysis. First, the figures are highly uncertain and often incomplete. Yet, estimates as reported in the press and even scholarly papers sometimes fail to reflect this uncertainty. Second, the figures developed using this approach to cost estimation are likely to understate the total impact of regulatory costs because they do not include the adverse impact that regulation typically has on innovation. Third, as shown in Table 4, the cost of regulation as a fraction of GDP is fairly significant for countries where such estimates are readily available, ranging from 7 to 19 percent. In addition, there are significant benefits to deregulation.[4]

[4] The Organization for Economic Cooperation and Development (1996b) also estimated that regulatory reform programs could increase GDP in the long run by as much as 3.5 percent in the United Kingdom and by as much as 6 percent in Japan, Germany and France.

Table 4
Costs of Regulation and Gains from Deregulation[a]
(as a Percentage of GDP)

Country	*Cost of Regulation*	*Projected Benefits of Economic Deregulation*	*Source*
United States	7.2-9.5%	0.3%	Hopkins (1992)[b]; Winston (1993)[c]
Australia	9-19%	5.5%	OECD (1996a)[d]
Canada	11.8%		Mihlar (1996)[e]
Japan		2.3-18.7%	OECD (1996b)[f]
European Union		3-7%	OECD (1996b)[g]
Germany		0.3%	OECD (1996b)[h]
Netherlands		0.5-1.1%	OECD (1996b)[i]

[a] These numbers are underestimates of the effects of deregulation since the studies do not include all sectors where deregulation can be beneficial.

[b] The cost estimates, as of 1991, include process costs. The range reflects the inclusion of economic transfers.

[c] Winston estimated the gains of deregulation in the United States at 0.7-0.8% of GDP in 1990. The 0.3% estimate represents the potential gains if the industries could achieve optimality.

[d] The costs of regulation, as of 1986, are derived from Commonwealth (1986). The projected benefits from deregulation are based on both the Hilmer and related reforms (Industry Commission, 1995). These reforms essentially cover legislative and regulatory changes in order to provide a national competition policy framework and to broaden the coverage of competition policy instruments. They also cover moves to foster competition in national infrastructure areas such as electricity, gas, water and road transport.

[e] The costs estimates are calculated in 1993-94.

[f] Projections of savings from deregulation are based on reducing the price and productivity gap with the United States. See Shimpo and Nishizake (1996) for an overview of the studies.

[g] Citing Emerson (1988). Projections of savings from deregulation are based on dismantling technical trade barriers and custom formalities, enhanced economies of scale and lower profit margins from enhanced competition.

[h] Citing Lipschitz, et al. (1989). Projections of savings from deregulation are based on more market oriented pricing in agriculture and mining, the dismantling of tariff and non-tariff barriers in selected industries and reforms in product and labor markets.

[i] Citing Van Sinderen, et al. (1994) and Van Bereijk and Haffner (1995). Projections of savings from deregulation are based on the reduction of product market rigidities in 20 major sectors of the Dutch economy.

Many studies have attempted to estimate the adverse impacts of regulation using measures other than economic cost. For example, Christainsen and Haveman (1981) examined the effect of regulation on labor productivity and concluded that over 10 percent of the slowdown of the growth in labor productivity in the mid-1970s was due to the expansion in federal regulation.[5] MacAvoy (1992) examined the long-term growth effects of regulation on eight industries from 1973 to 1987. He found economy wide losses of 1.5-2.0 percent of U.S. gross national product (GNP). Studies examining environmental, health and safety regulation have yielded qualitatively similar impacts. For example, Jorgenson and Wilcoxen (1992) found the cost of pollution control was associated with a reduction of over 2.5 percent of U.S. GNP over the period between 1974 and 1985. In an examination of the impact of environmental and occupational health and safety regulation on the manufacturing sector, Robinson (1995) concluded that the cumulative effect was to reduce multifactor productivity by more than 10% over a twelve year period.[6]

Other studies describe the relationship between regulation and output growth. For example, Friedman (1995) argues that the growth in regulation is at least, in part, responsible for the slowdown in economic growth. In a study of eleven OECD countries, Koedijk and Kremers (1996) tested the relationship between market regulation and output growth, shown in Figure 1. They constructed an index of regulatory intensity in the countries, and showed a sharp negative correlation between regulatory intensity and output growth. The countries with the least regulation enjoyed the highest growth in output per person. The measures the authors construct are admittedly crude, but they probably serve as a proxy for the degree to which markets are regulated in different countries.

The economic impact of different labor regulations on employment growth can be seen in Table 5. The table suggests that countries with less onerous labor market restrictions (at the top of the table) enjoyed robust employment growth, while countries with more severe restrictions (at the bottom of the table) suffer declining employment growth. While many other factors can affect employment growth, there are strong reasons to believe that flexible labor market policies are likely to increase employment (Guasch, 1997).

The preceding tables and figures present the overall trends in regulatory costs and impacts, but they fall short of providing a basis for ultimate judgments about specific regulations. Such judgments require information on the benefits of regulation as well as its costs. More important still, they require analysis of incremental rather than total effects. Only then is it possible to assess whether a the economic benefits of a particular proposal outweigh its costs.

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[5] The authors estimated that between 12 and 21 percent of the slowdown in the growth of labor productivity in U.S. manufacturing during 1973-77, as compared with 1958-65, was due to the expansion of federal regulation.

[6] The incremental impact of regulation grew from a 1.1% annual reduction in multifactor productivity in 1974-1975 to a 2.5% annual reduction in 1985-1986.

Table 5
Labor Regulations

Country	*Payroll Taxes*[a]	*Severance Payments*[b]	*Employment Growth (1992-1995)*[c]	*Unemployment Rate (1996)*	*Collective Bargaining*
Australia	27.8	Low	1.0	9.0	Centralized
Chile	20.9	Low	2.3	6.3	Firm Level
Japan	22.9	None	0.6	2.5	Firm Level
Malaysia	24.3	Low	3.3	2.8	Firm Level
New Zealand	11.5	None	1.4	8.0	Firm Level
United States	20.1	None	1.8	5.5	Firm Level
Argentina	50.0[d]	High	-0.7	17.2	Centralized
France	54.7	High	-0.4	11.6	Centralized
Italy	52.8	High	-1.7	10.2	Centralized
Spain	38.2	High	-1.6	22.4	Centralized

[a] Payroll taxes are firm donations plus obligatory personal contributions. The values for France, Spain, Italy and Japan correspond to 1994, those for Malaysia to 1995, and those for Argentina and Chile to 1996.
[b] Severance payments based on OECD indexes.
[c] Employment growth is measured as annual average percentage growth.
[d] Argentina amended its labor laws in 1996, and payroll taxes now average 41.0.

Source: Guasch (1997)

IV. Assessing the Gains from Regulatory Reform

While information on the economic impacts of regulation is limited, there is a fairly comprehensive database in the United States and in some other countries that provides a good indication of the scope for regulatory reform. Moreover, several countries are in the process of developing useful information that would help streamline the regulatory process (see Box 2). Here, we first examine the potential for improving social regulation and then examine the potential gains from reforming economic regulation.

Box 2
Regulatory Reform in Mexico

The government of Mexico is now implementing a far-reaching program to carefully examine the country's regulatory structure at the federal, state, and local levels. The aims of the Agreement for the Deregulation of Business Activity include streamlining federal regulation, reducing corruption by codifying regulation, and helping to promote more efficient and effective regulation. The program, while new, has enjoyed some early successes. Recent legislation simplifies administrative procedures, requires a quicker administrative response time, and reduces paperwork for foreign investors. In addition, a series of legal reforms aims to simplify court proceedings and reduce the costs of commercial lending. As a result of these reforms, Mexico City's Superior Court reports that the number of civil trials filed decreased by 24% from 1995 to 1996. Agency-by-agency rule simplification and elimination is also proceeding swiftly. For example, the approval time for a business requiring health, safety, and environmental controls to begin operation has been reduced from an average of over 200 working days to a maximum of 21 working days. Finally, a complete inventory of federal rules in effect are available on the internet. Making such information more easily accessible should help to reduce corruption and compliance costs.

Source: Secretaria De Comercio Y Fomento Industrial (1996)

Social Regulation

In the area of social regulation, it is essential to examine the likely impact of individual regulations. Hahn (1996) has compiled the most comprehensive analysis of the benefits and costs of recent regulation based on studies by government agencies. He surveyed over ninety Regulatory Impact Analyses (RIAs) for environmental, health, and safety rules from 1990 to mid-1995 and found that there is considerable variation in the type and quality of analysis agencies perform for individual rules. Benefit analyses were often incomplete, and in less than 20 percent of the rules did agencies show that quantified monetary benefits would exceed quantified costs.

To make the analysis consistent across different programs and regulations, he converted dollar estimates to 1994 dollars, and introduced a common discount rate as well as a consistent set of values for reducing health risks. The results are summarized in Figure 2, which provides

an overview of the distribution of net benefits of 54 final regulations. The left side of the figure shows the number of rules with net costs that fall in various categories. The right side of the figure shows the number of rules with net benefits that fall in various categories. The figure illustrates that average benefit for a rule with net benefits exceeds the average cost for a rule with net costs.

Several conclusions emerge from his analysis. First, using government agency data, it would appear that there is a present value of about US$280 billion (1994 dollars) in net benefits to government regulation in those areas since 1990. Yet over half the final rules would not pass a benefit-cost test, even when we use government agencies' numbers. Aggregate net benefits are positive because many of the rules that do pass have substantial benefits. Eliminating final rules that would not pass a benefit-cost test could increase the present value of net benefits by more than US$115 billion.

There are reasons, however, *not* to take the agency numbers at face value. Both theory and empirical evidence suggest that agencies are likely to overstate substantially the aggregate numbers for net benefits. Agencies with a single objective (e.g., protecting the environment improving safety in the workplace) have an incentive to overstate the benefits of their program relative to the costs so that they can better meet the demands of interest groups.

Another measure of the impact of regulations is how many lives a regulation is likely to save. Interestingly, a review of several final and proposed regulations reveals the amount spent for each premature death that would be avoided because of the existence of the regulation varies over eight orders of magnitude - from roughly US$100,000 to over US$5 trillion (1990 dollars) (Morrall, 1986)! This suggests that regulations could be developed that would prevent many more premature deaths while still saving consumers' money. Recent studies have attempted to quantify potential gains in both the United States and abroad. Reallocating the current U.S. investment in 185 life-saving interventions could avert an additional 60,000 deaths, or twice that of the status quo (Tengs and Graham, 1996). In addition, reallocating recent domestic regulatory expenditures of about US$8 billion (1994 dollars) could save more than 100 million additional life-years in developing countries (Hahn, 1996).

Economic Regulation

There was much economic deregulation in developed countries in the late 1970s and early 1980s, particularly in transportation and energy. Since the early 1980s, however, economic regulation has not advanced very rapidly even though there is ample room for further deregulation in areas such as telecommunications, electricity and the financial services (Noll, 1997). Developing countries have been late entrants in the move toward deregulation, but are quickly catching up. Indeed, some countries, such as Chile, have progressed even further than most developed countries. And some countries in the Latin America and Caribbean region, such as Argentina, El Salvador, Peru and Mexico, are undertaking major economic deregulation initiatives.

In this section, we review additional evidence on the potential benefits from economic deregulation. We will first consider the developed countries with a focus on the U.S. experience and other OECD countries and then examine the record of the developing countries.

Developed Countries

The overall welfare gains from deregulation across sectors in the United States have been substantial. The focus was eliminating entry and exit restrictions and freeing prices to their market levels. Table 6, taken from Winston (1993) shows more recent estimates for the benefits of deregulation as well the potential gains from further reform. Aggregate welfare gains amounted to US$35 to US$46 billion (1990 dollars) per year. Consumers had annual gains of US$32 to US$43 billion per year from lower prices and better services. Producers gained about US$3 billion per year from increased efficiency and lower costs. Winston estimates that additional gains from remaining distortions could be in excess of US$20-plus billion per year.

However, there is evidence that the gains from deregulation that economists have estimated are likely to be significantly understated. In a recent paper, Winston (1996) argues that the time it takes for industry to adjust to the new deregulated environment is substantial. Winston notes that although industry may adjust prices to reflect marginal costs quickly after deregulation, it takes time to optimize production. He argues that policymakers and the public tend to notice only the short term effects and, therefore, undervalue the benefits of deregulation. Frequently, the positive impact that deregulation has on innovation is overlooked. Innovations in technologies and operations sparked by deregulation increased productivity and reduced operating costs by 24 to over 50 percent in different industries.

Sectoral studies examining the effect of regulation yield similar results on the adverse consequences of economic regulation. Caves, Christensen, and Swanson (1981) undertook a cross-country study to compare total productivity growth for U.S. railroads from 1956 to 1974 to the growth achieved by Canadian railroads over the same period. Both industries had access to the same technology, but Canadian railroads were subject to less regulation than U.S. railroads. The authors argue that regulation substantially reduced productivity growth and estimate that, if the United States had experienced the same growth as Canada, the cost of providing rail services

in 1974 would have been US$13.8 billion (1985 dollars) lower.[7] After railroad deregulation in the United States, Willig and Baumol (1987) estimated that between 1980 and 1985 annual operating expenses dropped 26 percent while traffic volume remained virtually unchanged. Deregulation of the rail sector also led to increases in investment.

Table 6

Welfare Gains from Deregulation in the United States in 1990 (in Billions of 1990 Dollars)

Industry	***Consumers***	***Producers***	***Total***	***Further Potential Gains***
Airlines	8.8-14.8	4.9	13.7-19.7	4.9
Railways	7.2-9.7	3.2	10.4-12.9	0.4
Road Freight	15.4	(4.8)	10.6	0
Telecommunications	0.7-1.6	-	0.7-1.6	11.8
Cable Television	0.4-1.3	-	0.4-1.3	0.4-0.8
Stockbroking	0.1	(0.1)	0	0
Natural Gas	-	-	-	4.1
Total	**32.6-43.0**	**3.2**	**35.8-46.2**	**21.6-22.0**

Source: Winston (1993)

[7] While average total productivity growth for Canadian railroads during the period was 3.3 percent per year, it was only 0.5 percent for U.S. railroads.

Deregulation of the trucking sector led to major improvements in efficiency.[8] The annual welfare loss due to allocative inefficiency resulting from regulation of rail and motor carriers rates has been estimated to be US$1 billion to US$4 billion (1977 dollars) (Braeutigam and Noll, 1984; Winston, Corsi, Grimm and Evans, 1990).

A comparison of the pre-and post-deregulated U.S. airline industry also provides striking evidence of regulation's impact on productivity and production costs. Cost per unit of service were reduced by approximately 25 percent and were accompanied by sharp work force reductions[9] with little effect on output in the first few years following deregulation (Caves, Christensen, Tretheway, and Windle, 1987).[10] In addition, excess capacity decreased and productivity increased. Morrison and Winston (1995) estimate the net annual gains to travelers from airline deregulation at US$18.4 billion (1993 dollars).[11]

In the telecommunications sector in the United States, long-distance telephone rates as of 1996 have decreased by more than 70 percent since the divestiture of AT&T in 1984 (Taylor and Taylor, 1993; Wall Street Journal, 1991). The examples of cellular telephony and voice messaging in the United States illustrate how regulation can also slow the introduction of new products and discourage innovation. While the cellular concept was discussed in the late 1940s and was clearly available in 1973, it was only in 1983 that the FCC began to issue licenses using a non-market mechanism. That delay in licensing cellular telecommunications cost the U.S. economy more than US$25 billion per year (1983 dollars) (Rohlfs, Jackson and Kelly, 1991).[12] These losses were about 2 percent of GDP in 1983 when cellular service began. Similarly, the delay in introducing voice messaging services cost more than US$1.3 billion (1994 dollars) per year (Hausman and Tardiff, 1996).

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[8] Average unit costs dropped dramatically after deregulation, from US$0.3 dollars per ton-mile in 1977 (pre-deregulation) to US$0.1 dollars per ton-mile in 1983 (post-deregulation) (1977 dollars). After deregulation, many of the inefficient were forced to leave the industry, leaving behind those firms with low unit costs (McMullen and Stanley, 1988).

[9] For example, work force reductions at American Airlines and United Airlines were 17 and 24 percent, respectively.

[10] Under regulation, the 3.0 percent annual decline in unit costs for U.S. airlines was way below the 4.5 percent decline of non-U.S. airlines from 1970 to 1975. Following deregulation, from 1978 to 1983, costs of U.S. airlines fell by 3.3 percent compared to 2.8 percent for non-U.S. airlines.

[11] The authors estimate that consumers are gaining US$12.4 billion annually from lower fares under deregulation and US$10.3 billion from greater flight frequency. While increases in travel restrictions, travel time, load factors and the number of connections have reduced consumer welfare,the annual gains to travelers are substantial.

[12] In addition, the expenditures to obtain those licenses cost society between US$500 million and US$1 billion.

Similar post-deregulation effects have been observed in other sectors, such as stock exchanges and banking, where deregulation has improved productivity and lowered unit costs. For example, when stock brokerage fees were deregulated, rates dropped by 25 percent[13], and the overall consolidation and cost reduction were 30 percent in the sector (Jarrell, 1984).[14] While firms may have changed the services offered, a number of studies have shown that even after accounting for changes in service, cost reductions were significant.

The productivity gains secured by U.S. banks following partial deregulation of the banking and savings and loan sectors have also been significant. Jobs decreased more than 20 percent in the sector during the 1984-93 period, and productivity (as measured by revenue per employee) increased by more than 300 percent throughout the same period (Guasch and Spiller, 1997). At the same time, there was a serious problem with the monitoring of financial institutions during this period, which resulted in some major financial losses (White, 1991). The large losses stemmed in part from regulators not taking appropriate actions.

While the database outside the United States is less extensive, there is reason to believe that the gains from deregulation of many industries elsewhere could be substantial (see Table 4). For example, lifting price and entry restrictions on air travel in Europe could lead to substantial gains for consumers. Table 7 provides some price information for trips of similar length and demand characteristics. The table suggests that fares for trips are roughly twice as expensive in Europe as in the United States. And despite the higher fares, the profitability of many of the European companies is way below that of the U.S. carriers. Indeed, the European high-cost carriers, such as Iberia and Air France (both state owned), have survived until now only with government aid. Good, Röller, and Sickles (1993) argue that liberalization would lead to competition between international carriers and a convergence of cost structures. They estimate that, in 1986, if the European airline industry were as efficient as the U.S. airline industry they would have achieved cost savings of approximately US$4 billion (1986 dollars).

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[13] For orders in excess of 10,000 shares, rates fell in excess of 50 percent.

[14] Employment went from 260,000 in 1987 to 190,000 in 1990.

Table 7
Fare Comparison of Similar U.S. and European Routes

Route	*Miles*	*Fare*
Boston to New York	187	$153
London to Paris	211	$263
Washington to New York	216	$153
Houston to New Orleans	302	$89
Copenhagen to Oslo	311	$315
Dallas to Minneapolis	853	$435
Frankfurt to Madrid	887	$720

Source: Airfare Management Unit (1995, 1996) and Consulting Services Group (1995, 1996)

Table 8
The Effects of Too Much (Protective) Energy Regulation in the European Community

Country	*Cost*[a]	*Country*	*Cost*
Germany	12	France	7
Italy	10	Netherlands	7
Portugal	10	United States	7
Belgium	9	Greece	7
Spain	9	Denmark	6
Britain	8	Finland	6
Luxembourg	8	Norway	5
Ireland	7	Sweden	4

[a] Cost of electricity rounded to the nearest cent per kilowatt-hour.

Source: Electricity Association Services Ltd. (1996)

There are also significant opportunities for gains in deregulating electricity markets. Table 8 show electricity prices in Europe and the United States. To the extent these prices reflect incremental costs, there are likely to be significant gains from reducing entry barriers into different markets. For example, strict regulations in Germany require domestic companies to purchase electricity from regional producers, even though lower cost power is often available nearby. The extent of the potential gains for consumers is difficult to estimate, but in the United Kingdom, energy deregulation resulted in a 70 percent increase in productivity and an 18-21 percent reduction in franchise contract prices (Organization for Economic Cooperation and Development, 1996b).[15] The absence of similar deregulation in other European Union countries has led to firms paying over 50 percent more for their electricity than do their American counterparts. Moreover, the impact of higher energy prices on the overall economy can be quite significant (Navarro, 1996).[16]

Developing Countries

The evidence of the adverse impact of economic regulation on productivity and efficiency can serve as a lesson for developing countries. Lower productivity in regulated industries translates into higher costs for products and inputs produced domestically, thus reducing a country's ability to pursue a successful export-led growth strategy. The precise impact of regulation on developing country economies is difficult to estimate in many cases. Yet, data from the developed world and a few studies in developing countries suggest that the potential welfare gains from regulatory reform could be quite significant.

For countries that have deregulated the efficiency gains have been quite significant. For example, deregulation of entry into the long distance telephone market in Chile has cut rates by 50 percent, making them close to U.S. rates (Guasch and Spiller, 1997). Allowing for private sector participation in the telecommunications sector has cut waiting time for installation of new lines from a minimum of two years to a matter of weeks in Latin American countries. Similarly, in the port sector, the opening of the port terminals in Buenos Aires to competition has led to an 80 percent reduction of the fees. Also, the opening of stevedoring operations to multiple parties in the port of Montevideo has increased productivity by 300 percent.[17] All those results were achieved within a year of deregulation (Guasch, 1996).

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[15] Franchise contract prices from generators to distributing companies have fallen by 21 percent in real terms and those to direct industrial and commercial consumers by 18 percent in real terms.

[16] For example, a 30 percent increase in electricity prices tends to raise the price of goods such as paper and pulp, metals, chemicals and glass by roughly 2.5 percent.

[17] Comparable measures in the port of Guayaquil, Ecuador have decreased costs by 60 percent and increased productivity by 55 percent.

A study of Argentina, summarized in Table 9, assesses the welfare cost of regulations and other government interventions in the 1980s (Fundacion de Investigaciones Economicas Latinoamericanas, 1991). The total costs of regulation and state intervention amount to over US$4 billion per year (1990 dollars), and this is only for the selective listed interventions. While the measure of costs for different activities differ somewhat (e.g., efficiency costs, additional cost to consumers, and subsidy cost), the overall total suggests that the cost of government intervention is significant.

It would be useful to assemble data on regulatory costs in other developing countries that is comparable to that assembled for Argentina. Yet, there is no shortage of specific cases where economic regulation has had adverse consequences. For example, Uruguayan firms and consumers are paying an implicit tax of at least 30 percent for water, phone and electricity (Estache, 1996). This implicit tax exceeds that of other countries in Mercosur, thus hindering the competitiveness of Uruguayan products vis a vis those of other Mercosur countries.[18] In Brazil, economic regulation has also reduced efficiency. For example, although trucking costs are almost three times as high as rail, rail transport has only a 12 percent share of relatively short trips and a negligible 3 percent share in the longer haul interregional market. The absence of an inverse relationship between cost and market share is to a large extent attributable to inefficient regulation. Additional anecdotal evidence of regulation and of its impact in developing countries is quite ample, as shown in Boxes 3 and 4.

The costs of various kinds of process regulation can also be substantial in developing countries, due to inefficient bureaucracies and high levels of corruption. For example, customs administration in many countries tends to be plagued by inefficiency and corruption, imposing a high cost to traded goods.[19] Surveys in a number of developing countries indicates that, the proportion of time managers spend in managing process regulation, ranges between 10-30 percent of their time and imputed costs on produced goods or services due to process regulation, are in the 5-15 percent range (World Bank, 1997).

The available evidence underscores the significant gains that developing countries can secure by further deregulating their economies and reducing the costs of process regulation. Estimates of those gains vary form country to country, but are a least a few percentage points of GDP (Chisari, Estache and Romero, 1996; Guasch and Spiller 1997).

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[18] Mercosur is a free trade area for Argentina, Bolivia, Brazil, Chile, Paraguay and Uruguay.

[19] According to the Nigeria Manufacturers' Association, permission to clear goods in that country has to go through 27 stages and the process takes 5-8 weeks (Nigeria Manufacturers Association, 1996). These numbers are not uncommon in others developing countries.

Table 9

Examples of the Costs of Regulation in Argentina[a]
(in Millions of 1991 US Dollars)

	Period	*Average Annual Cost*
Financial System		
$ High reserve requirements and subsidized credit by the central bank	1987	1,000
$ Inflation taxes on checking accounts	1983-1987	670
Fuel price controls	1977-1987	350
Health Services		
$ Extra costs from double affiliation	1986	150
$ Idle capacity in public hospitals	1987	172
Fishing export subsidies	1986-1987	12
Efficiency costs from domestic consumption restrictions in cattle markets	1984	104
Efficiency costs of the special fund for tobacco	1987	30
Air transport regulations	1988	75
Restrictions on rail transport of cement, wine and grain	1987	95
Truck transport		
$ Costs of road deterioration	1987	100
$ Costs of provincial regulations in the transport of grains	1987	30
Port restrictions on price and entry	1987	90
Regulations imposed on business	1965-1987	1,200
Regulations on employment in the public sector	1987	120

[a] The costs of regulation presented in this table measure different concepts, such as efficiency losses in the economy, cost premiums to consumers, tax reductions and subsidies. Thus, it might not be technically correct to total them.

Source: Fundacion de Investigaciones Economicas Latinoamericanas (1991)

Box 3
Montevideo Taxicab Market

Entry restrictions in the taxicab market in Montevideo, have induced a market price of a taxicab license in 1990 of some US$60,000 (in 1990 dollars). While lower than the US$125,000 price in New York, lower Uruguayan per capita income means that the market value of the license as a proportion of per capita income is more than four times higher in Montevideo than in New York. The regulation of the taxicab market has led to a scarcity of taxicabs-reflected in difficulty in hailing taxicabs in the downtown area and in long waits when requested by telephone, in high costs borne by consumers, and in capture and wasteful rent-seeking activity by the taxi-owners association.

Source: Guasch and Spiller (1997)

Box 4
Municipal Regulation in Peru

In one municipality, companies are required by law to fumigate their factories once every year. The municipality has licensed only one firm as the official fumigator. While its prices are double that of other fumigation companies and its service is very poor, it is the only fumigator that can issue a certificate of compliance with the regulations.

Source: Guasch and Spiller (1997)

V. Conclusions

In this concluding section, we provide a brief summary of our understanding of the benefits and costs of regulation. In addition, we offer some policy recommendations aimed at developing countries, but which also have relevance to developed countries.

The review of the literature on the benefits and costs demonstrates that it is possible to systematically explore the costs and benefits of regulatory activity using standard economic analysis. Moreover, this analysis can serve as a useful aid to policy makers (Arrow et al., 1996). It also showed that regulation can have a significant adverse impact on economic growth and welfare. Specifically, regulation aimed at controlling prices and entry into markets that would otherwise be workably competitive is likely to reduce the average standard of living. In addition, process regulation that is unnecessary can impose a significant cost on the economy. Nonetheless, social regulations may have significant net benefits for the average consumer. At the same time, these regulations may not meet goals in an effective manner and in some cases may result in a net decline in living standards. This underscores the importance of doing economic analysis that will enhance the quality of regulations.

While this paper has focused on the economic impact of regulations on the average individual or the entire economy, it is important to recognize that regulations may be needed in some cases to achieve other social goals. Indeed, some regulations may be desirable from a social point of view, even if they have an adverse impact on economic growth. For example, providing medical assistance and food for society's poor may not increase economic growth, but may be the correct policy for social and moral reasons. Similarly, helping to reduce discrimination may or may not increase economic growth, but it is a correct policy in principle. Even when such policies are justified for other reasons, their economic impact should be assessed so they can be implemented in the most effective manner.

Compared with budgets, regulations receive relatively little scrutiny. This is partly because politicians wish to hide the cost of regulation from citizens, and partly because it is more difficult to estimate the costs and benefits of regulation. Information on the economic impacts of different approaches to regulation needs to be improved in order to enhance public decision-making. Fortunately, several countries are beginning to place more emphasis on developing a better information base on the costs and benefits of regulation (Organization for Economic Cooperation and Development, 1995).[20]

[20] Analyses, such as those contained in Organization for Economic Cooperation and Development (1995), can be helpful in assessing the strengths and weaknesses of different administrative approaches to regulation.

There are several policies developing countries might consider adopting to improve their general approach to regulation. The recommendations here are purposely general. In that spirit, the first important point to recognize is that effective policies will differ across countries. The appropriate regulatory tool and framework will depend on several factors, including bureaucratic expertise, resource availability, political constraints and economic impacts.

There is a general need, however, to enhance the capability for evaluating regulation at local and national levels. This need is illustrated by the absence of even rudimentary data in several developed and developing countries on the impacts of regulation. Even rough calculations of regulatory costs, such as the one completed for Canada, can be quite beneficial in developing a reform strategy. Countries should attempt to develop a "regulatory budget" that would show the economic impacts of regulations. This budget could be published along with the government's fiscal budget. Such a capability will take time to develop.

Several jurisdictions, including some in developing countries, are putting procedures in place that would require a benefit-cost analysis for significant regulations. We believe this will have a constructive impact on public policy by providing better information and holding government officials and political leaders more accountable. In the short term, it is important for agencies charged with administering regulations to begin assembling crude cost and benefit data. For example, an agency could specify the rationale for a proposed regulation, the likely direct and indirect costs, a qualitative description of benefits, an assessment of other alternatives, including the status quo, and an explanation of why other alternatives were not selected if they are likely to be better for the average citizen.

Such analyses should not be overly burdensome. For "small" regulations, no analysis may be necessary. For regulations having potentially "large" economic impacts, more resources should be devoted to evaluation. Ideally, such analyses should be both prospective and retrospective, so that analysts can learn how to improve their impact assessments. To get the process started, however, the emphasis should be on developing an information management system that is low-cost and implementable. It is extremely important to get front-line agencies involved in the process, so that they become more sensitive to the economy-wide impacts of their proposals.

As administrative capabilities evolve, large regulations and regulatory reforms should be subjected to a more thorough cost-benefit analysis. These analyses should be an important factor in decision making. In the case of economic regulation, the burden of proof should be on those that wish to maintain it, since the case for most economic regulation is weak in terms of economic efficiency. In the case of social regulation, flexibility should be encouraged so that consumers and producers are able to innovate in response to regulations. Thus, for example, performance standards for meeting a pollution goal are generally preferred to standards that dictate the use of a particular technology. Of course, the amount of flexibility in a regulatory policy should be based, in part, on the ability of the administrative agency to effectively implement the policy (Hartman and Wheeler, 1995).

While economic analysis can be helpful, its limitations need to be recognized. As noted earlier, the costs and benefits of regulatory policies are often quite uncertain. This uncertainty stems, in part, from a lack of analysis of specific policies. An important part, however, stems from a fundamental inability to predict how regulations will actually affect behavior. Regulations often have unexpected and perverse consequences (Ackerman and Hassler, 1981). Thus, when regulating one should proceed with extreme care and err on the side of less regulation, particularly when considering economic regulation.

Where there is no clear economic rationale for a regulatory policy, these policies should be removed. There are many policies involving licensing and price or quota intervention in developed and developing countries that do not serve the public interest (Huber and Thorne, 1997; Guasch and Spiller, 1997). Examples include applications for license and license renewals where the government's primary function is to transfer political favors to their preferred constituencies. Removal of such barriers may not be simple in many cases, and may involve making resource transfers to politically powerful constituencies.

A great deal more thought needs to be given to the design of regulatory frameworks. In some instances, even where deregulation is justified, partial deregulation may not lead to an improvement over the status quo. For example, removing price restrictions but retaining entry barriers could lead to inefficient pricing. Full deregulation can lead to problems with monopoly, unless great care is taken in managing the transition to a deregulated environment is accomplished. The point here is that the strategy for regulatory reform is critical to the effectiveness of the reform.

Another serious design issue relates to the bureaucratic problem of "tunnel vision," or the tendency of a single mission agency, such as health, education or the environment, to only consider its mandate. If an agency only considers its mandate, it will naturally tend to overstate the benefits of its program and understate the costs. As noted above, one way to address this problem is to require the agency to develop more data on the costs of specific regulatory proposals. A second is to limit the agency's mandate. Others include sunset requirements that would limit an agency's authority to a fixed time period, unless renewed by a legislature; and having a central agency review and approve or disapprove proposed regulations. Such an agency should be designed so that it has some independence, and so that it is primarily concerned with the economy-wide impacts of regulations.

Finally, there is a natural tendency for regulators to write regulations that are unduly complicated. This complexity allows bureaucrats and lawyers to have more power. It also makes it difficult for average people to understand the implications of regulations. It is important to make regulations more transparent because greater transparency is likely to reduce corruption. Moreover, careful scrutiny of regulation, content and constant benefits would diminish the likelihood of political capture by interest groups. Greater transparency is likely to increase the perceived legitimacy of the system. The move toward greater transparency will only occur as people begin to appreciate some of the hidden costs of regulation.

In a few instances, developing countries have begun to realize the benefits of reforming economic regulation. These is clearly great potential in many other developed and developing countries. Still, in the area of social regulation, much remains to be done in most developing countries. Yet, it is beginning to appear on the policy agenda, if not from domestic pressure, then from interest groups in developed countries. Thus as developing countries begin to address those issues, they need to think carefully about designing effective and efficient regulatory approaches given their resource constraints.

The overall lesson is not that regulation is generally undesirable, but that it often has undesirable economic consequences. Moreover, these impacts result partly from political forces that lead to certain kinds of wealth redistribution (Stigler, 1971). While not denying such forces, we believe they can be mitigated by more sharply evaluating the consequences and tradeoffs involved in regulating before a regulatory policy is set in stone.

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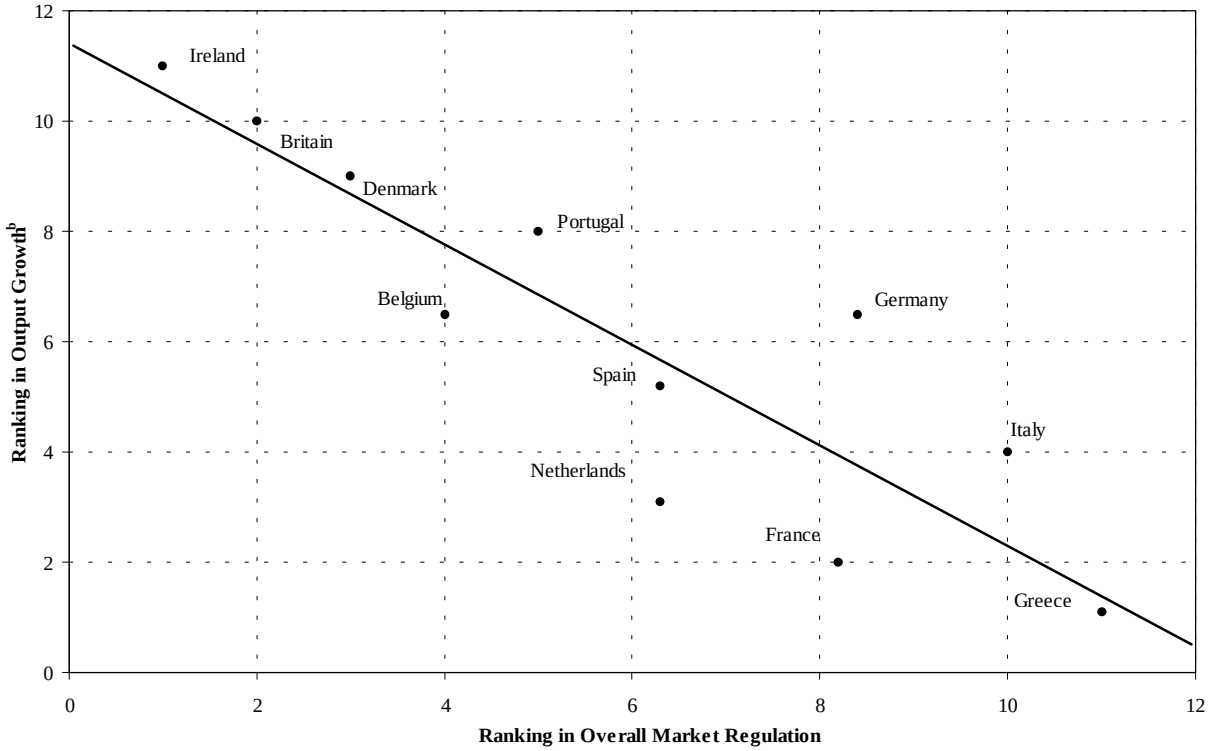
FIGURE 1
Output Growth[a] and Market Regulation



[a] Real growth per person, annual average 1981-93

[b] Real output growth in the market sector, per capita 15-64, annual average growth 1981-93. Ranking by increasing growth rate (1=lowest growth). The linear regression is also shown.

FIGURE 2
Distribution of Net Benefits of Fifty-four U.S. Regulations, 1990 to Mid-1995
(in Billions of 1994 Dollars)