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10 Deregulation as a Source of Growth in Mexico

Arturo M. Fernández

10.1 Economic Institutions

Economic institutions, like technology, constitute key factors in determining the level of output society may attain with a given amount of resources.

Economic institutions provide the environment in which transactions take place and therefore play a key role in the development of markets and specialization. In fact, one of the main functions of economic institutions is to reduce transaction costs. One fundamental factor in the definition of economic institutions is the legal framework. Legal considerations range from constitutional provisions, which establish the right of private ownership over goods and assets, to the freedom of employment and industry, and of course the definition of the regulatory power of Congress and other branches of government.

The legal framework affects the efficiency of production factors in that (1) they define the certainty by which economic agents are able to appropriate net flows from their economic activity, (2) they help determine the conditions for entry and competition in the various industries, and (3) they contribute to the development, or at times even to the existence, of some markets.

In developing countries, institutional problems can take on great importance or may even become obstacles to development.

One very clear task of development policy is to improve the quality of institutions under their responsibility, as well as the legal framework governing economic activity.

Many regulations have arisen in response to real or perceived problems. Often regulations are introduced for consistency with other regulations (an extension of the second-best argument). On other occasions, they are the result of

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pressure exerted by interest groups or mere copies of the regulations adopted by other nations. It must also be recognized that the interests of the bureaucracies or publicly run enterprises have often been the moving force behind regulations that have openly sought to protect these entities from competition.

In many countries, economic reforms have led to evaluations and reviews of existing regulations. In Mexico, this process, together with macroeconomic stabilization, privatization, and other institutional reforms, has been a pillar of the economic program aimed at modernizing the country. The Mexican privatization process has been linked to the process of deregulation, and in fact has served as a balance against the mere goal of maximizing revenues from privatization.

Several specific cases show that the nationalization of industries or the government acquisition of private businesses has been associated with the failure of private industries—a failure closely linked to undue or excessively onerous regulations. Among the reasons for the failure of the Mexican sugar industry were price controls and restrictions on land tenure; the telephone industry was also burdened by discretionary tariff controls and other types of restrictions and obligations.

The privatization process must be linked to the revision of all regulatory aspects, so that the resulting privatized industries can develop in an appropriate and competitive environment.

The economic deregulation program in Mexico was conceived as a means of improving the quality of regulations. Involved in the process was the elimination of those that inhibited competition, created monopolies or oligopolies, impeded the participation of the private sector, or simply generated unnecessary costs. To improve the quality of regulations, it has also been necessary to introduce rules that, for example, create conditions under which private parties could participate in the construction and operation of both infrastructure and some public services that have traditionally been the responsibility of the government. The purpose of this paper is to show with specific evidence that improvement in the quality of regulation is a factor of growth.

10.2 A Brief Diagnosis of the Regulatory Framework

This section contains a brief summary of the most important characteristics of the regulatory framework in Mexico. The sources listed as references at the end of this chapter provided the information on which this section is based.

A large part of Mexico's regulations are obsolescent or inconsistent *viz-à-vis* trade liberalization and new technologies. Many regulations were introduced to face, at a cost, economic issues linked specifically to a small economy relatively isolated from foreign competition. Under these conditions, the size of certain markets may only allow one or two firms to operate, or companies

may not be able to take full advantage of economies of scale.¹ That is, the technology available and the relatively small size of the market generate problems typical of a natural monopoly (as happened in Mexico in automobiles, steel, petrochemicals, glass, etc.). In addition, these circumstances can lead to actual or potential conflicts involved in bilateral and exclusive economic relationships that discourage investment or that have to be avoided through vertical integration. The hypothesis is that small closed economies face substantially higher transaction costs than open economies. For example, what happens in the exclusive and unavoidable relationships among five automobile manufacturers, one glass producer, and two steel producers? In fact, the complex structure of regulations applied in Mexico to the automobile industry was designed to cope with these coordination and bilateral monopoly problems. Therefore, it can be argued that small closed economies, facing high transaction costs, have a higher demand for institutions and regulations to cope with their inherent "market failures." In the case of Mexico, the opening of the economy demanded less regulations.

Government intervention to try to solve these problems has ended up introducing other distortions ("regulation failures"), such as entry barriers, which will be commented on in section 10.3, price controls, market segmentation, controls on technology transfers, and others.

By the way, more regulations also mean better opportunities for rent-seeking activities. The Mexican experience also shows cases where, even though the initial regulation was acceptable, it eventually became the booty of interest groups.

In this context, the traditional treatment used to evaluate the advantages of opening an economy to foreign competition does not measure all the gains in efficiency. It provides only a very abstract analysis of the gains stemming from the better allocation of resources; it fails to penetrate into the details that actually give rise to the high costs and distortions linked to the accompanying regulations. These gains can be more fully understood from some of the Mexican experiences described in this paper.

Substantial barriers to entry and generalized barriers to competition have been introduced under the rationale of industrial policy or public service regulation. In the case of industrial policy, controls have been on entry and competition in order to administer industries with the assumed or real kinds of natural monopoly problems described above. Such control was easily enforced through import permits for inputs and capital goods, through explicit entry regulations, or through legal recourse on behalf of the public interest.

Regarding the legal Mexican doctrine of public service, the laws establish the existence of this condition and provide regulatory power over these activi-

1. These industries were not able to exploit economies of scale through exports, since the inefficiencies caused by a closed economy did not allow them to be competitive.

ties. Under this doctrine, the basic responsibility for rendering public services lies with the government. It may, however, use its discretion in granting concessions to third parties to render these services, ensuring their reliability, regularity, and obligatory availability, all at equitable rates. This legal doctrine was developed to regulate natural monopolies, but unfortunately it has been used to regulate industries that hardly bear up to this criterion—since neither the doctrine nor the legislation imposes objective conditions for defining the concept of public service. Under this guise, regulations have been imposed on trucking, interstate busing, airlines, ports, longshoremen's services, and even the production and distribution of tortillas.

The regulatory framework has not promoted an efficient division of labor between the public and the private sectors. The absence of rules to guide the decisions of government and private parties has kept the latter from participating in some important infrastructure sectors, for example, ports and highways, and certain public services, such as the distribution of drinking water. The size of the public sector and its financing requirements are intimately linked to the regulatory framework. In the process of stabilization, it was found that the sources of public expenditures had to be reviewed very carefully. In doing so, it was discovered that an important share of the public sector budget and government programs and regulations responded to regulations that in one way or another impeded the participation of the private sector or that were simply established for the purpose of administering those programs and regulations. Public sector spending is only the tip of the iceberg; sustaining it is the regulatory structure.

The phenomenon of an underground economy can be explained by several factors, but in many cases it is the direct result of the regulatory framework governing a sector.

This brief characterization summarizes many of the regulatory problems existing in Mexico up to 1988. It is also worth mentioning that many of the regulations, as well as their costs, were not openly pointed out or even recognized as causes of problems of efficiency or productivity. They were considered normal. However, foreign investors had always pointed to the high cost of doing business in Mexico, and when the veil of protection was lifted, Mexican producers discovered that their structures and levels of certain costs became obstacles to their productivity and competitiveness.

In reviewing the existing regulations, emphasis was put on the nontradable sectors, since they have repercussions on the productivity of the economy as a whole and trade liberalization did not substantially change their conditions for competitiveness.

Lack of space imposes a trade-off between the extent of my analysis of the deregulation program in Mexico and the number of cases presented. It is more interesting to have more examples and discover the major possibilities for enhancing growth in many specific sectors. It is not possible to talk even briefly about all cases. In three years, more than forty-five legal instruments (including

laws and regulations) were changed. Neither is it possible to go into other factors that have played important roles in increasing the efficiency of the Mexican economy. Among these were the policy to eliminate price controls that had affected 198 generic products including 260,000 presentations, the in-depth reforms on land tenure that allow more than 60% of all land in Mexico to change from a communal system to private property; the regulatory changes accompanying the privatization of TELMEX—the national telephone company—that increased its market value from \$3 billion dollars in 1988 to \$25 billion in 1992; or the deregulation of the automobile industries, which fostered an increase in production from 277,000 to 720,000 units between 1987 and 1991.

10.3 Some Examples of Regulatory Changes

10.3.1 Trucking

The accident of geography that made Mexico a primarily mountainous country, lacking in internal navigational waterways and having in general high transportation costs, has created throughout the country's history an obstacle to the economic integration and development of the country.

Trucking is the most important means of merchandise transport in Mexico. Trucks move 75% of all cargo, adding up to approximately 100 billion tons-kilometer. In contrast, railroads move only 15% of the total.

The regulatory framework for trucking in effect until 1988 was introduced fifty-two years ago under the legal doctrine of public service, and under the rationale that this service must make use of general communications networks, specifically the federal highways. The purpose of the regulations was to ensure that the service would be regular and reliable, would encourage investment, and would be rendered at reasonable rates.

At that time, the highways were very unsafe and in bad condition. Scarce and deficient service of transportation had prevented economic integration among cities that were not already served by the railroads. Furthermore, Mexican industry was insisting on the need to count on regular highway transport services.

The trucking industry generated direct and evident costs to the economy, since tariffs were higher than those that would exist under competition. But other, less obvious costs were also generated through underutilized capacity and effects on inventories and productive processes.

Diagnosis

In Mexico prior to 1988, it was almost impossible to become a trucker. The law considered trucking a public service, meaning that it should be available to any user that asks for it, and identified two ways of providing public trucking services: regular and specialized cargo.

Regular cargo was available from franchises that allowed a trucker to transport any type of product, but only on certain routes. There were nine main routes in the country. Established concessionaires had, by law, preference if any new concessions were to be granted.

Although the law established that a person could not hold franchises for more than five trucks, in practice some concessionaires controlled large fleets of 300–500 trucks through name lenders.

The law also established that all truckers on the same route providing the same type of service should form a company. This meant that, if a trucker was lucky enough to get a concession, he still had to be accepted in one of the established companies. This was enforced through the *carta de porte*, the official transportation contract, which had to be perforated by the Ministry of Transportation (SCT). The SCT would give perforated *cartas de porte* only to the established companies.

Regular cargo was handled by 1,495 companies with 72,000 vehicles.

The law also allowed a second way of providing trucking services: specialized cargo, through permits. These permits allowed a trucker to transport only one type of good, on any federal highway. There were sixteen specific categories of permits, the main one being for agricultural products, which represented 40% of all loads in Mexico.

Permits were not easy to obtain, either. Established interest groups for each category controlled the granting of permits.

Specialized cargo was transported by 1,355 companies, with 78,000 vehicles. Figure 10.1 summarizes the main characteristics of these regulations.

In practice, trucking fleets were allowed to grow through the issuance of “temporary permits,” which eventually would be regarded as permanent.

Furthermore, there were restrictions for loading and unloading in certain cities. This meant that if you had a concession for the route Mexico-Monterrey-Laredo, probably you were allowed to unload in Laredo but not to reload.

In the midseventies, cargo centers were created. In some cities, especially at ports and borders, cargo centers evolved as controllers of the cargo and as a means of sustaining the power of the concessionaires. Use of the cargo centers was mandatory. These were owned by the established concessionaires, who charged a fee for their services. The fee ranged from 5% to 25%, depending on whether you were a member. Some cargo centers applied a queuing system for both shippers and truckers that did not allow for direct negotiation between the two parties. In other cities, such as Monterrey, if you were not affiliated with the cargo center, you simply could not load.

This was enforced by the highway patrol, who was in charge of checking whether the *carta de porte*, was sealed. If it was not, you had to go back.

In summary, the legal framework structured a sector characterized by two segmented oligopolies: one organized by routes for regular cargo and the other organized by products for specialized cargo on any route.

The entry restrictions were:

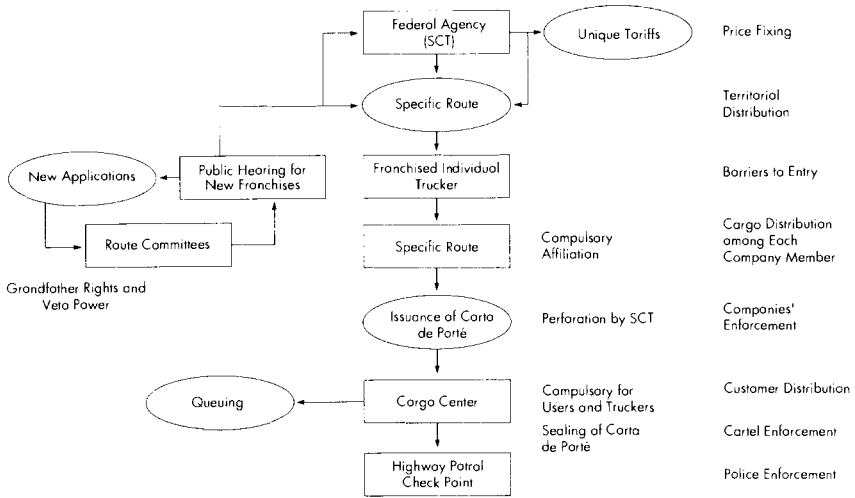


Fig. 10.1 Trucking regulation in Mexico: A textbook case for a cartel

1. Obtaining a permit for a concession from SCT. The process included consulting the route committees, made up of the established concessionaires. The process was slow and, in general, biased against those not already belonging to the established group. There was a well-organized black market for license plates, and their price was well above the official cost of obtaining them.

2. Affiliation with a company. The costs of affiliation were equivalent to 10% of gross revenue.

3. Restrictions on loading and unloading.

4. Mandatory use of the cargo centers.

Barriers to mobility among markets included:

1. Division of routes and the distinction between regular cargo and specialized cargo. This limited competition by dividing the market by territory and by product.

2. Fixed routes. This generated underutilized capacity from the usual directional cargo unbalances (point A does not have the same amount of cargo as point B). Also, for certain goods, especially agricultural products, demand changes by season. Fixed routes do not allow trucking to respond to regional changes in demand, which often translates into a lack of service.

3. Prohibiting private carriers from transporting third parties' cargo. This generated costs through empty back haulages and underutilized capacity, as private companies usually have one-way transportation needs.

There were also barriers to competition in each market (route).

1. The franchises specified the restrictions for loading and unloading in a route. Therefore, although some truckers did have franchises on high-priced routes, they had loading restrictions in certain cities on the route.

2. Allocation of cargo by queuing (a kind of random allocation) did not permit the user to negotiate directly with the trucker. This did not provide incentives for higher-quality service and made it impossible to establish long-term relationships between users and truckers.

Effects on the Economy

This structure affected the economy in a number of ways.

Trucking services were unreliable, inflexible, insufficient, and of low quality.

Trucking services rates were 10–50% higher (depending on the route) than they would have been in a competitive market. Although official rate schedules were established for the entire country, truckers had many opportunities to charge above these tariffs, for example, by charging for a full truckload when only half the truck was filled, or by delaying arrival. In practice, rates were higher than the official rates. There was also evidence of price discrimination by charging different rates for different commodities.

As an example of the high rates, to move something thirty kilometers from the city to the port of Tampico, you paid US\$4.50 to \$6 per ton. In the United States, from Long Beach to Los Angeles (the same distance) the cost is US\$3.00 to \$3.50 per ton.

Companies were forced to keep “just in case” inventories—because they could not count on reliable shipping schedules—instead of the inventories required for “just in time” processes. Some companies even had to close whole production lines because the inputs had not arrived on schedule.

Private companies had incentives to get their own trucks, with the consequent empty back haulage and underutilized capacity.

The *maquiladora* industry preferred to rely on inputs from just across the border and to locate close to them, because if located farther south, they could not maintain zero inventories.

As trucking demand increased, a large informal sector grew; some speak of forty to sixty thousand truckers. The informal sector included those who, having one type of permit, were supplying a different service, renting out plates, and so forth.

The regulatory framework generated a monopolistic sector that imposed huge welfare costs to the economy, not only because of the constrained supply of services but also because of arrangements to enforce the cartel.

The established concessionaires who controlled companies and cargo centers obtained an average annual rate of return on investment of 37%, plus charges to small truckers for affiliation with the company and with the cargo centers. These truckers used to say that they were able to recover the full value of the truck in two to three years.

Regular cargo concessionaires had annual monopoly rents of \$450 million, specialized cargo permit holders, \$82 million, amounting to a total of \$532 million in annual monopoly rents.

The Economics of Deregulation

There is no evidence that a system of cross-subsidies existed in Mexico. Concessionaires were not obliged to service a low-traffic route in exchange for the right to exploit a high-traffic route.

In fact, low-traffic routes applied higher effective tariffs and provided less frequent service. Truckers in high-traffic routes were not obliged to service low-traffic routes.

On the cost side, the trucking industry has a structure that allows it to function perfectly well in a competitive environment. Variable costs represent 70% of total cost, and capital (the vehicles) is flexible enough to be reallocated in different markets and places. Therefore, the main objective of trucking deregulation was to promote a more competitive structure that would allow greater diversity of tariffs, consistent with the quality of the service. The challenge was to establish a legal framework that set clear rules for a competitive structure.

After long negotiations, on July 6, 1989, the new regulations were issued. The main points were

1. Freedom of transit through all federal highways.
2. Freedom to transport any load (except highly toxic and explosive products).
3. Elimination of all restrictions on loading and unloading, including ports, borders, and railway stations.
4. Maximum tariffs instead of fixed tariffs, which allowed free negotiation between users and truckers. In January 1990, tariffs were liberalized.
5. Elimination of the queuing system in cargo centers, and freedom for both users and truckers to use the cargo center.
6. Permission to private carriers to transport other parties' cargo under pre-determined contracts, acting as contract carriers.
7. Opening, simplification, and decentralization of the process of granting permits.
8. Elimination of the compulsory 25% surcharge on empty back haulage, except in the case of exclusive hiring, and elimination of the 15% surcharge for imports.
9. Regularization of all the informal truckers, called the "pirates."
10. Elimination of the perforation of *cartas de porte*. Instead, the Ministry of Finance issued rules on the format of the *carta de porte*.

Results

The results of the new regulations included transference to the rest of the economy on the order of \$1 billion a year, resulting from lower rates and increased supply due to increased competition; a decrease in underutilized capacity; and the elimination of monopolistic rents.

The total number of permits issued in the six months after deregulation was

32,000, representing a 21% increase in the total formal trucking power. As of March 1992, more than 95,000 new permits had been issued.

The average effective tariffs fell 25%. On some routes rates have fallen up to 50%, in real terms, over the last two years. In a very few places rates have increased by 10%, mainly in the southern part of the country.

Other effects were elimination of monopolistic rents, net efficiency gains for the economy of \$600 million annually, and higher quality of service. Private companies now subcontract trucking services instead of transporting their own cargo.

Domestic production of trucks soared as a result of deregulation: the rate of growth of domestic production was 32.7% in 1989, in 1990 it was 13.8%, and in 1991 it was 22.8%.

Before I end this section on trucking deregulation, I would like to say a few words about the political economy context.

The political clout of the trucking industry had been significant since the late fifties. The truckers managed to avoid paying income and value-added taxes, and for many years, they paid only 40% of the international price of diesel. Trucking and passenger companies joined the Mexican Chamber of Federal Transportation Services. They were also very well represented in Congress, having one senator and four congressmen.

In the case of trucking, about fifteen families controlled the whole industry, even when there were a few thousand individual truckers. Most drivers could not join unions. Some of the most prominent truckers did not even own a truck, as their power came from the control and ownership of cargo centers. These families were able to organize a textbook-case cartel enforced by law and government officials.

Such unity and consensus were attained by the system's maintenance of territorial and cargo distribution of the market. This peaceful and profitable cartel was disturbed by the consequences of the government decision to open the economy to foreign trade and enter the General Agreement on Tariffs and Trade (GATT). In the past, the distribution of markets responded to the transportation flows generated under the import substitution strategies followed during thirty-five years. Opening the economy to trade induced a severe change in trade flows (exports tripled in five years) and brought substantial changes in the structure of cargo movements. Cargo increased substantially in the routes connected with international trade, that is, Mexico-Monterrey-Laredo, Mexico-Veracruz, and Manzanillo-Guadalajara, but decreased relatively in internal routes like Mexico-Guadalajara and Guadalajara-Monterrey.

These changes introduced conflict among the members of the trucking chamber. Deregulation came at the right time: truckers who were losing traffic, individual truckers who were being exploited by cargo centers, all users and truckers who were constrained to move agricultural products, supported the new regulations.

10.3.2 Multimodel Transport and Package Delivery Services

Multimodel transport (when merchandise requires more than one means of transportation—a situation primarily affecting freight packaged in containers) has been standardized across borders through international accords. Multimodal transport firms coordinate the different modes of transport to be used.

This service was regulated by government granting of public service concessions, assuming that the size of the market was too small to exploit economies of scale. The concessions were given only to two firms, one of which controlled all but one port.

The virtual monopoly existing for these services caused practically all users to bypass this service. Arrangements would usually be made whereby the monopoly would issue a waiver after receiving a payment of \$5 per container.

In July 1989, these activities were also deregulated. Under the new rules it was established, first of all, that there would be freedom to contract the services either through a multimodal firm or individually with each mode of transport. Thus the obligatory intermediary was eliminated, and those who did not provide a service would not survive in the business. In a short time, more than twenty new companies sprang up to compete with each other without restriction. For example, they would be free to use either Mexican or foreign ports.

While the cost of freight transport has gone down, even more important, the firms arising from this new environment are offering quality services that basically concentrate on serving the foreign trade sector. Between 1989 and 1990, the use of freight containers in Mexican ports increased from 269,000 to 325,000.

Because of these regulations and those of cargo transport (where cargo weighing less than three tons was liberated) and the jealous enforcement of the postal service monopoly, there were practically no package delivery services operating in Mexico. The government stopped impeding access to specialized companies, allowing the development of a new and aggressive industry that includes various Mexican consortia (associations between interstate busing companies and airlines) and international companies such as DHL, UPS, and so forth.

Such a regulatory change may appear trivial, but the benefits to the economy are incalculable. Previously, nearly all firms and even the government itself had to rely on armies of their own private messengers. Furthermore, these services are beginning to transform the way many goods are marketed. For example, many retailers (such as hardware, shoes, etc.) had to maintain large inventories to satisfy their clientele. Little by little they are developing central warehouses that maintain collective minor inventories and distribute through UPS or similar firms.

Cargo transport regulation, as well as that of multimodel transport, was hav-

ing grave effects on the economy. Most serious was the impact on foreign trade: in-bond assembly operations and exporters had to incur excessive costs in terms of transport and logistics. Curiously enough, the oligopolistic structure of the transport system had a greater impact on exports than imports. What is strange here is that production structures resulted in higher volumes of imports than exports flowing in and out of Mexico.

10.3.3 Ports

With the government takeover of the port of Veracruz and the release of new regulations on port maneuvers, May 31, 1991, marked the beginning of a new era of substantial improvements in the efficiency and productivity of the national port system.

There had been three basic problems with the Mexican port system. (1) The port of Veracruz was dominated by four unions that maintained high degrees of inefficiency, crime, and corruption in the port. (2) Most ports were administered by state-run firms that suffered serious efficiency problems. (3) The private sector could not invest in infrastructure to render public port and handling services.

The port of Veracruz is the largest, oldest, and most important port in the country. Four unions had physically divided the port: one handled loading and movements on board the ships, one handled the registry of cargo and unloading movement to the side of the ships, one controlled the movement of merchandise from the docks to the warehouses, and the fourth handled merchandise within the warehouse. To add insult to injury, the four unions had also formed a firm to carry out coordination services, and each entity charged individually for the same service.

Export companies from the cities of Puebla, Cordoba, and Orizaba, all located relatively close to Veracruz, preferred to take their merchandise 300 kilometers farther to the port of Tampico, or even 700 kilometers away to Brownsville, Texas.

Most union members did not do the work themselves, but rather subcontracted other workers. In a typical movement of containers, the longshoremen's union would charge \$2,000, but only \$100 went to the workers. Furthermore, charges would be added for the use of equipment. That is, union fees would add up to \$1,900, while direct payment to workers was only 7%. Part of the fee eventually reached the pocket of the worker, but most of it was diverted in the process.

In many parts of the world, port service operations are a big headache. Three fundamental economic problems are involved. The first is the variability of the demand for labor and the preference of most firms to hire temporary employees for the services. Such a situation often generates labor unrest and political mobilization. The second is the bilateral and almost exclusive relationship of workers with one firm (which in many cases is the major employer in a port), a situation favoring opportunistic behavior on both sides. The third is that port

operations are extremely capital-intensive and the long period of depreciation favors the monopolistic actions of the workers.

The government took over the port of Veracruz and issued two sets of regulations in June 1991. One is applicable to the entire country, and the other pertains specifically to Veracruz.

The Regulations on Stevedoring in Federal Port Zones established the free entry of commercial service firms; the elimination of arbitrary zones and services segmentation; facilities for subcontracting services between companies; and free determination of service rates.

Free entry was necessary to prevent the resurgence of monopolistic control over the ports, as well as to inhibit unduly onerous labor contracts. The requirement that the companies be organized as commercial entities was necessary to keep the unions from rendering the services directly. The possibility of subcontracting is important in reducing the variability of labor demand in every company. Of course, workers kept the right to unionize in terms of the federal labor law, and they unionized to negotiate with the new stevedoring firms (a different union for each firm).

After the takeover, three new companies began to operate, each with a union. All are in competition with the others as well as with other potential entrants. The cost of service went down 30% on average, but more important, the quality and efficiency of service improved remarkably. From June 1991 to June 1992, the number of containers handled in the port increased by 47%.

As for private sector participation in port activity, the Law of Navigation and Maritime Trade was reformed to allow private parties to build and operate port installations and carry out maneuvers for public service. Prior to the reform, the law allowed private firms to operate their own installations only for their own merchandise. The main objectives of this constraint had been to keep state-run firms from having competition and to protect the interests of the unions. Public firms needed this protection because they were very inefficient and had excess capacity.

Some mining, cement, and petrochemical companies established their own costly installations, but even these were underutilized. For example, in the port of Altamira, a consortium of four petrochemical companies had a \$20 million chemical terminal that was extremely underutilized. After the legislative change, this company began to offer services to other companies that had been importing chemical products by truck from Houston at very high cost.

In summary, the reforms on port services have resulted in cost reductions and improved port installations. Now the government is proposing that port infrastructure be privatized. Such a move would imply serious challenges to regulators. Measures would have to be taken to avoid monopolization of certain ports where competition is not economically viable, even in the medium term.

10.3.4 Interstate Busing and Tourist Transport

Interstate busing and tourism transport were regulated by the same legislation as the trucking industry. For interstate busing, the country was divided among the companies. Entry was practically impossible for anyone who had to subject himself to the route committees. The control of busing rates and the approval of only first- and second-class service kept more exclusive services from competing with the airlines.

In May 1990, new regulations were issued for interstate passenger services, which move 90% of all interstate passenger traffic. The new regulations eliminate territorial divisions and allow free entry into the industry without being subject to rate schedules. They establish only entry and exit rules. Any company can choose its routes, but once it does so, it has to remain committed to those predetermined routes with their predetermined chosen schedules and frequencies. To change or leave these routes, the company has to give thirty-days' notice. These entry and exit rules provide greater stability and reliability to the service, while contestability is maintained.

The regulations also control creation of and adherence to service classification standards.

Deregulation brought about new services, greater competition, and an investment boom. Real bus fares went up because they had been subject to exaggerated controls. For example, the fare for the eighty-kilometer trip between Mexico City and Cuernavaca was only \$2.

As a result of deregulation, 8,345 new permits were issued.

Tourist transport was also subject to concessions. One company managed to acquire all of the permits, and the government refused to issue more. But this company did not actually render transportation services. Rather, it rented permits to independent bus companies, who would pay between 15% and 25% of gross revenues for the privilege. Service was expensive and of low quality, and there was little investment. The companies providing the services never knew when they would fall out of the good graces of the monopoly.

In March 1990, new regulations eliminated entry barriers into the activity and liberated fares. In only a few months, many new companies sprung up, with 4,225 buses. Fares went down between 10% and 20%, and service improved substantially.

10.3.5 Airlines

Until 1987, there had been two large Mexican trunk airlines whose stock was held mostly by the government. These companies had divided the market into exclusive routes, charter services were greatly restricted, and the competition for international flights was highly regulated with strict divisions of passengers.

These two airlines were privatized, and a gradual deregulation process was

initiated. These efforts resulted in the rise of various commuter carriers, the liberalization of international charter flights, and open competition for international flights, as long as there was reciprocity for Mexico.

The most important step, however, took place in July 1991, when airfares were liberated and entry restrictions were lifted for trunk carriers. This measure has resulted in lowered fares on those routes, in some cases, such as the Mexico-Tijuana route, as much as 50%; enormous growth of a third Mexican airline; and a significant reduction in the market share of the largest airline. The number of passengers on domestic flights has increased dramatically—making a 12.7% jump in 1991 and a 7.5% increase during 1992, in the middle of a recession.

Government control of the hubs has been a decisive factor for contestability and therefore competition. Now the government is planning to sell the airports, but there is still a great deal of debate about how to do it so that the control of the hubs does not lead to the control of the airway market. There has also been a merger wave in the airline market. This wave began before deregulation.

10.3.6 Controls on Technology Transfers

In 1973, the Mexican Congress passed a law on the control of technology transfers and acquisition of patents and trademarks. The regulations contained in the law had been promoted by the nonaligned countries movement and recommended by the Andean Pact.

The objectives behind the law were to prevent outflows of foreign exchange for technology transfer contracts, patents, or trademarks; to promote the development of domestic technology; to improve the country's terms of trade by reducing royalties; to prevent some monopolistic practices; and to protect national identity.

Some businessmen welcomed these regulations as an opportunity to improve contracting conditions, since each contract had to be approved by the Ministry of Trade. The cost of red tape and lawyers' fees per single contract often went up to \$10,000. Some five hundred basically unqualified bureaucrats were in charge of issuing opinions on complex technology or cybernetics contracts. In practice, these regulations were used to selectively reduce competition and prevent "overproduction" or the displacement of established firms. These arguments must be analyzed in the context of a small closed economy, where the complex regulatory scheme had achieved, for example, the peaceful coexistence of two steel companies. A new patent for one would mean that the other would be at a disadvantage, and might even have to close. These regulations were also used to create monopolies. For example, only one company was making "tetra-pack" paper milk bottles, and the government didn't allow any other company to acquire the patent, reasoning that the country should not pay twice for the same patent.

There is no question that these regulations both impeded the development

of franchises, an effective mechanism for modernizing trade and services, and inhibited technological advancement. In the long run, they were also responsible for increasing royalties.

In June 1991, the 1973 law was repealed and the bureaucracy disbanded. In only a few months, the country experienced a boom in terms of franchise contracts (more than two hundred), patents, and technology transfers. Some evidence shows that the average percentage of royalties also decreased. This last result should not be surprising. Fierce competition among franchisers of different companies and patent and technology salesmen has led to a drop in the royalties that were previously protected by effective entry barriers.

10.3.7 Electrical Energy

The Mexican government holds the monopoly on the production and distribution of electricity to the public. The regulations in this area were designed to impede almost any deviation from the rule. With very few exceptions, self- or cogeneration was permitted only for one's own use. Some studies have shown the annual flow of electricity can be increased by 25% just by taking advantage of cogeneration technology.

In May 1991, the regulations were modified to permit industries to collectively self-generate their own electricity, setting forth clear rules for the sale of any surplus to the state-run electricity company.

Congress passed a bill to reform the current law, in order to permit the private production of electricity for its bulk sale to the state firm or for direct export.

The purpose behind all these reforms is to increase efficiency, reduce energy requirements, reduce government investment requirements, and take advantage of opportunities for energy export, especially to California.

As a result of the reforms, some sugar mills are generating their own electricity and selling any surplus. Some industrial parks are investing in self-generation schemes, and cogeneration projects are being developed at a very fast pace.

The privatization of the electricity company is not being considered at this time. Putting the electricity industry, mainly the distribution network, into private hands has so many regulatory complexities that the possibility has not stirred up much enthusiasm. How would network externalities be handled? How would demand be allocated? In addition to the constitutional change that would be required, there would be a large number of coordination and rate problems.

10.3.8 The Petrochemical Industry

The Mexican constitution reserves basic petrochemical activity to the government. The definition of petrochemicals, however, remains rather arbitrary. Apart from the continuous changes in technology, there are no chemical formulas that can be used to strictly define the activity.

The government has controlled the petroleum industry and a large part of the petrochemical industry since 1938. In the case of petrochemicals, the private sector was allowed to produce commodities only in the "secondary petrochemical sector," as well as "downstream products." In 1986, the production of fifty petrochemical inputs had been explicitly reserved for the state, including ethylene, propylene up to polyethylene, and other products that represented 78% of total production.

This regulatory scheme gave rise to two basic problems. First, the government had to finance costly petrochemical projects, and second, the scheme prevented the private sector from developing according to world standards. The arbitrary distinction between basic and secondary petrochemicals caused the artificial fragmentation of the productive processes. Private petrochemical firms had to buy inputs from Pemex that did not exist on the international market, where production is highly vertically integrated.

Such a situation gives rise to monopoly-bilateral problems, involving Pemex vis-à-vis its clients, not to mention those of a natural monopoly, since the private plants could not operate at optimal scales² and were designed to serve only the domestic market. To deal with these and related problems, the Mexican Petrochemical Commission was created and empowered to issue secondary chemical production permits, distribute the production volumes between Pemex and private firms, regulate installed capacity, and regulate the sale prices of Pemex's inputs, as well as those charged by private firms.

In 1988, Pemex's petrochemical investment demands amounted to \$3 billion. In August 1989 and August 1992, it was decided to liberate the petrochemical industry, eliminating permits and controls on production and capacity. Furthermore, import permits were eliminated on all products and inputs except natural gas. The government has even decided to sell off some of its petrochemical installations.

The industry is in a rapid restructuring process. Some plants will have to be relocated, while others will have to be closed. It will take some time to see all the benefits of petrochemical deregulation.

10.3.9 Customs Brokers

The Mexican customs law establishes that customs transactions must be undertaken by a custom broker. It is a regulated profession, established long ago, that aids the tax authorities in the task of enforcement. The entry restrictions generated rents, so that the agent would be discouraged from committing tax fraud. The weak surveillance and enforcement of the scheme and the large amount of contraband and corruption in customs transactions converted the scheme into one of feudal rents. A would-be broker had to take an examination to secure a customs patent (operating license). Only a few influential persons

2. For example, some polyethylene plants in Mexico have a scale of 100,000 tons annually, while the international scale is 250,000 tons.

managed to pass. There was no transparency to the process, and the selection was entirely arbitrary.

Until 1989, there were only 689 agents in the entire country, and each was allowed to service only one federal customs office. Agents' rates were fixed by law: 0.5% of the cost insurance and freight (CIF) value of imports and 0.25% of the value of exports. If any agent were to give a discount, his patent would be taken away. That is, they had a potential gross annual income of \$235 million dollars. Their responsibility was to fill out a tax form and hand it in at custom office. It was like an import-export tax, but collected privately.

The law also authorized customs representatives; a firm could solicit that one of its own employees act as a customs broker. Only 325 of these posts were authorized for two hundred firms, most of which were state-owned.

Reforms were implemented in December 1989 and in 1990 to deregulate the activity. The previous access scheme was replaced with a bonding mechanism. Firms are allowed to name customs representatives. The official rate was eliminated, and agents can work with more than one federal customs office.

The effects could be seen immediately. In less than a year, the number of agents doubled, a considerable number of firms appointed customs representatives, and fees plummeted. For example, Kimberly Clark de México had been spending close to \$350,000 per year in customs agent fees, and it was able to get its agent to reduce his charges to \$100,000.

10.3.10 Fishing

Socialist policies in the late thirties favored the protection and promotion of the cooperative movement. The system was promoted by reserving economic areas, especially areas such as public services and public infrastructure. One of the areas reserved during the seventies was fishing exploitation and farm fishing for certain high-priced marine species such as shrimp, lobster, abalone, oysters, and clams.

For example, the entire commercial shrimp fleet was expropriated and transferred to the cooperatives in 1981. By 1989, the ships were unseaworthy, and the production and export of shrimp plummeted as the capital stock was being consumed. While in 1980 34,170 tons of shrimp were exported, in 1991 this amount went down to 21,076 tons. The government transferred enormous quantities of credit through Banpesca, a government bank that went bankrupt when it was unable to obtain repayment on loans.

In the case of farm fishing, Mexico has an enviable potential: thousands of miles of tidelands, ponds and lagoons, and 450,000 hectares of prime waterfront that has no alternative use. This activity requires a great deal of capital and technology. The cooperatives had neither the interest nor the resources to exploit it. By 1989, there were no more than ten fishing farms in the entire country.

The cooperatives could not issue stock or secure bank credit, since it was illegal to mortgage the fishing concessions. Furthermore, the government had purchased a private consortia, Ocean Garden, from the ex-owners of the

shrimp industry based in San Diego, which distributed shrimp, lobster, and other products in the United States. Its growing inefficiency forced the company to pay the fishermen less than international market prices. Thus the cooperatives, to avoid paying back their loans and to receive higher prices, used to sell their catches on the high sea.

Another problem not yet solved with the cooperative legislation is that it provides disincentives for capital accumulation; as employees cannot be hired, each new collaborator becomes a partner without having to make any initial capital contribution. Any contribution required is taken out of his dividends.

In December 1989 and December 1991, the fishing law was reformed so that cooperatives would no longer have exclusivity. The private sector is investing and repairing the fishing fleet from scratch. It will be some years before the industry again becomes the source of wealth it was in the past.

10.3.11 Regulation of the Textile Industry

The textile industry was heavily regulated. Natural and petrochemical fibers, fabrics, and apparel were subject to import licenses.

From 1937 to 1953, several regulations were issued for the purpose of avoiding "destructive competition and undesired overproduction" (Decree to Regulate and Rationalize the Industry and Trade of Silk and Other Derivations, 1937 and 1938). These regulations were enacted to enable the industry to face some of the consequences of the Great Depression.

These regulations allowed the Ministry of Trade and Industry to control the installation of new factories, changes in installed capacity, and the imports of textile machinery and equipment. Also, exchange among fiber and fabric producers was regulated by establishing permits to buy and sell.

The whole structure of regulation tried to deal with the natural monopoly and bilateral monopoly issues affecting fibers and fabrics industries that can be typical of small closed economies, and with coordination problems that arise as a result of other distortions from price supports to agriculture.

The textile industry grew fast for several decades. With the passing of time, however, complex and well-organized cartels became more and more inefficient. Regulations allowed industries with inferior technologies (from the 1930s and 1940s) to survive and to profit by being protected from new companies. In fact, the market was distributed to allow modern plants to service the market growth.

The opening of the economy since 1985 has disturbed this peaceful setting. Many companies have had to close, and the survivors asked the government to dismantle the entire regulatory structure. In January 1991, all regulations were eliminated.

10.3.12 Two Anachronist Regulations

To complete this review of selected cases, I would like to mention two humorous cases of anachronistic regulations.

Incorporating a company in Mexico used to take about six months. A public

notary wrote the deed that was signed by the parties involved. A federal judge had to review the deed and write an evaluation authorizing the incorporation. Finally, the entire set of papers was sent to the attorney general's office for further evaluation and authorization to include the deed in the Public Property Registry.

It seems absurd, but this legal procedure may still prevail in countries that follow the Napoleonic Code. Its origin appears to be kings' and states' fears that a limited-liability company might be able to grow and become more powerful than they were, by issuing stock indefinitely.

In Mexico this cumbersome legal procedure was eliminated in December 1991.

Another amusing regulation was the definition of beaches and waterfronts as state property (*La Ley de Bienes Nacionales*); twenty meters of the waterfront was the inalienable property of the state.

This regulation impeded investments and introduced risk to investment in tourist facilities like hotels and marinas. If a private investor built a marina on his own land, as soon as the water flooded in, the land, water, and twenty meters around became government property. Investors had to get a concession for the exploitation of government resources for a maximum of twenty years and pay rent for it.

This anachronistic regulation came from colonial legislation that required such property to be maintained to defend the country from foreign enemies. Twenty meters was the distance required for the maneuvers of a horse pulling a cannon. This regulation was changed in August 1991.

10.4 Conclusions

Examples of some of the most representative deregulation experiences have been presented. From them several lessons can be learned.

Small closed economies face higher transaction costs than open economies. So they develop costly institutions and regulations to deal with issues that arise from small markets and unexploited economies of scale, bilateral monopoly conflicts, indivisibilities, exclusive and bilateral contracts in key industries, and inconsistencies within the regulatory framework as a whole. Such regulations sooner or later become the booty of rent seekers who are able to organize and enforce expensive and inefficient cartels. They go from being solutions for "market failures" to being "regulation failures."

In Mexico, trade liberalization became the economic and political driving force to eliminate distortions and costly regulations and to foster competition. Trade liberalization demands as a complement a deep review of the regulatory framework.

Stabilization programs can be more successful if accompanied by trade liberalization that allows less regulation and as a consequence less government spending.

Privatization efforts should be linked to prior adjustments to the regulatory framework. This ensures that privatized companies are able to develop in a competitive environment without regulations that impede their productivity and growth.

Trade liberalization efforts should be linked to deregulation or better regulation of nontradable sectors (like transportation, telecommunications, etc.), since they have a considerable effect on the productivity of the whole economy.

Deregulation efforts require considerable research about the nature of such regulations, in order to provide viable and efficient policy options.

In some cases, the benefits from deregulation arise in the very short run, mainly in industries where fixed costs are not considerable. In others, they arise in a longer period after a painful adjustment in which capital is reallocated.

Deregulation can enhance growth, as shown in this paper. (1) New opportunities are open for private investment that allows the most efficient exploitation and allocation of resources. (2) Costly regulations are no longer necessary to cope with "market failures" inherent to small closed economies. (3) Cartels are destroyed, output expanded, and costly arrangements necessary for their enforcement are eliminated. (4) Better rules allow for a better division of labor between the private and the public sector and therefore better economic performance. (5) The underground economy induced by regulations becomes open and formal, and its entrepreneurial drive can take advantage of market and legal institutions. (6) Regulation risks, arising from bureaucratic discretionality, are either reduced or eliminated, bringing higher expected rates of return to investment and access to capital markets that are not willing to bear unforeseeable risk. (7) Less government intervention means that fewer resources are required to manage regulations, and more resources are freed for investment.

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Comment on Chapters 9 and 10 Jonathan Gruber

Arnold Harberger and Arturo Fernández have both written very interesting papers on the government's role in developing economies. Reflecting my relative expertise, I will spend most of my time discussing the Harberger paper on taxation. At the end, I will offer a few thoughts on the Fernández paper as well.

I found Harberger's paper to be an impressive survey of issues in taxation for developing countries. I will highlight three key points made by the author, then suggest one direction for future empirical research in this area.

The first section of the paper discusses tax evasion, and the author offers some evidence suggesting that compliance fell in Argentina in the 1950s as tax rates rose. I found this one of the most interesting points of the paper, given the debate over tax rates and revenues that has dominated the United States

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for the last fifteen years. If we think about it, there is one clear reason why rising tax rates would lead to higher revenues, which is the direct intention, but at least two reasons why rising rates lead to lower revenues. The first is compliance: higher rates lead to lower compliance, which leads to lower revenues. The second one has been the focus of the most attention in the United States, and is commonly called the “Laffer-curve effect”: higher rates lead to lower effort by earners, which leads to lower income and tax revenues.

Unfortunately, it is very difficult to separate these two effects with the type of data used by Harberger. What we would like to know is, if revenues are falling as rates rise, how much is due to evasion and how much is due to reduced effort? In the United States, data from taxpayer audits are currently being used to address the first part of this question. To the extent that such data can be collected by tax authorities in developing countries, it would be interesting to investigate this question further as well.

The fact that most attention in the United States has focused on the Laffer-curve effect is indicative of the difference in the magnitude of evasion that goes on in the United States and in developing countries. In the United States, the “tax gap,” the difference between what would be expected in revenues with no evasion and what is collected, was estimated at 13% of revenues in the mid-1980s. On the other hand, in Brazil, only about one in ten individuals with earnings actually pays income tax at all.

What can account for the massive difference in the propensity to evade taxes? One problem is very high tax rates, as discussed above. However, the top income tax rates in developing countries today are not very much higher than the 70% rate that prevailed in the United States as recently as 1980. Thus, while there may be some increased evasion from higher rates, my hunch is this is a second-order problem, and that lowering rates will not massively increase compliance.

The more important problem appears to be lack of enforcement. There are two instruments at the government’s disposal for increasing enforcement: higher penalties for noncompliance, and expenditures on enforcement personnel and technologies. Harberger appears to favor the former strategy. However, at least two important reasons explain why there may be a “penalty Laffer curve,” whereby less severe penalties are enforced more often and raise more revenues on net. First, when penalties are very steep, enforcement officials are hesitant to enforce them at all. Second, as penalties grow, the incentive to bribe the enforcers to avoid the penalty grows as well. It therefore may be more efficient to devote increased resources to enforcement, rather than just raising the penalties, even if those resources have some shadow value in the government’s budget constraint.

Another important contribution of this paper is its discussion of how policymakers should think about setting boundaries for nonuniform commodity taxes. The author suggests two rules for setting these boundaries. First, we should minimize the extent of *intergroup substitutability*. The more homoge-

neous commodities are within tax groups, and the more distinct they are across tax groups, the less deadweight loss there will be from substitution between groups. For example, in section 9.5 the author points out that we should not blindly group goods by their industry type, that is, calling refrigerators a necessity and jewelry a luxury. Rather, we should think harder about substitutability, and group expensive refrigerators and expensive jewelry together and cheap refrigerators and cheap jewelry together. That is, if commodity taxes are to be nonlinear, a more sensible basis for the nonlinearity may be price rather than industry of production.

Second, we should minimize the extent of *substitution in conversion*, which arises from making highly taxed goods look like lower taxed goods. For example, a tax on cars but not on motorcycles in Indonesia led to the advent of the eight-person motorcycle. In this case, the possibility of making a taxed good look like a nontaxed one allows for more substitution and thus more deadweight loss. The rule here would seem to be to choose immutable properties of goods as boundaries for setting tax differences.

These are both very important and sensible rules, but there may be cases where they contradict each other. Take, for example, the case of taxing boats. The first rule would imply that we should not tax all boats equally just because they are produced by the boat industry, but we should tax yachts at the rate that we tax other luxuries, and dinghies at a lower rate. Yet when the United States tried to implement a yacht tax, which was levied on all boats that cost more than \$100,000, firms responded by selling individuals dinghies for \$95,000, and then selling them the mast for another \$50,000 and the motor for \$10,000 more.

This, of course, is just an example of the type of substitution in conversion discussed by the author. However, this sort of transfer pricing problem is unavoidable once you tie a nonlinear tax to the price of a good. Thus, while using price as a group definition may minimize substitution across groups, it may also allow excessive opportunities for substitution in conversion to avoid the nonlinearities in the tax schedule. These two goals may therefore contradict each other, and we need to trade off these two considerations in designing the optimal boundaries.

My third point relates to the paper's focus on the optimality of uniform commodity taxes and tariffs. A well-known result from the optimal commodity tax literature is that uniform commodity taxes are optimal only under quite stringent theoretical conditions. However, the author presents some interesting arguments for uniformity in developing countries, which may counteract the theoretical presumption against it. He notes that uniformity may limit the possibilities for corruption by customs officials, since such corruption would now involve not just reclassification of goods, but "outright flouting of the law" such as letting goods pass through untaxed. Furthermore, uniformity of protection of industries can lead to increased investment in the country, due to a lack of fear of future capricious government policies.

These both strike me as very important points, and worthy of empirical analysis. For example, one could ask what happens to the level of revenues collected by tariffs and taxes as their *variance* is reduced, for a given overall level of tariffs or taxes. What does reduced variance of tariffs do to investment in the country, holding other features of the investment climate constant? For this latter point, it would also be interesting to investigate the time series pattern of tariffs and investment: is it uniform tariffs that reassure investors, or the stability of tariffs over a number of years, regardless of their level?

The other argument for uniform taxation, which is made in section 9.7, is the author's refutation of the common argument that the Ramsey optimal tax model suggests the use of progressive consumption taxation. The traditional motivation for this argument is that, in the Ramsey model, our goal is to achieve an equal compensated reduction in demand for all goods. However, leisure is an untaxed good. Thus, the efficient policy will be to tax goods that are complements to leisure. Since we normally presume that luxuries are complements to leisure, then it will be optimal to tax luxuries.

The author claims, in response, that it is wrong to think of luxuries as complements to leisure. He reaches this conclusion by considering the example of a forced work reduction, which leaves the individual with less money income but no lower utility (since the increased leisure is valued at her wage). He then assumes that the extra leisure will not lead to higher demand for luxury goods, but that the lower money income will lead to reduced demand for luxuries. Thus, he concludes that luxury goods are substitutes for, not complements to, leisure.

This conclusion, however, may derive from the structure of the example. Since this is a discussion about optimal taxation, I will change the example somewhat, to one where the government increases the tax on the individual's wage by a small amount, rather than simply forcing her to work less. In that case, she will choose more leisure, but have lower money income, as in the author's example. However, we also have to consider what is done with the money that is raised by the tax. Normally, public finance economists consider Musgravian "differential incidence," and assume that the money is returned to the individual as a lump sum. In that case, there *is no money income effect* of the type pointed out by the author, so that consumption of luxuries does not fall as leisure rises.

The key point is that, since the author does not consider a tax, but rather a work rule, no revenues are raised, so he can ignore what is done with the revenues. In reality, revenues are almost always raised by a tax, and the income effect will depend on what is done with that money. We therefore cannot say, in general, that luxuries will be substitutes for leisure.

I now turn briefly to Arturo Fernández's paper on deregulation in Mexico. This paper provides a very interesting catalog of the regulatory restrictions that were, in the author's opinion, choking the Mexican economy until the late 1980s. His basic point is an important one: regulations that are necessary in a

small closed economy, due to monopoly power in certain sectors, are no longer necessary once international trade has introduced an element of competition. Thus, in Mexico, trade liberalization became the driving force to eliminate these costly regulations. And he documents the impressive gains to the Mexican economy from their elimination.

I have a hard time arguing with the efficiency arguments made by the author. Mexican reform during the Salinas regime should be a model for other developing nations as they attempt to rid themselves of government impediments to the functioning of their economies. However, it is worthwhile to pause and consider the distributional consequences of deregulatory policies. The regulated sectors, as the author discusses, gave rise to large monopolistic rents. Presumably, these accrued to relatively few wealthy individuals, so that deregulation could be justified not only on efficiency but on equity grounds also. However, much recent research in the context of the United States has suggested that monopolistic and oligopolistic rents may accrue to other groups as well.

For example, work by Larry Summers and Larry Katz of Harvard has demonstrated that the excess rents earned by many industries in the United States appear to accrue, to some extent, to the workers in those industries, rather than purely to capital.¹ Similarly, much of the work studying airline deregulation has focused on safety considerations. If the airlines were spending some of their excess rents on safety before deregulation, then the advent of competition may have been associated with an increase in fatalities. This can lower the estimated welfare gains from deregulation, which are generally measured in terms of price alone. Finally, in my own work, I have focused on the effects of competition among U.S. hospitals on their provision of charity care to the poor. Hospitals are a highly regulated sector in some states, and large rents were being earned until the late 1980s. Since then, however, private insurers have begun to shop more diligently among hospitals on the basis of price, putting pressure on these excess rents. However, the reduced rents are not simply a transfer from the hospitals to the private payers. Some of these funds were used to provide charity care to the uninsured poor, for whom the hospital is the only source of care, and who do not pay much of their bills. In fact, I find that for every dollar in reduced private revenues received by hospitals, they reduced their care to the uninsured by over 50 cents.

Returning to the Mexican context, my point is that a complete analysis of deregulation requires not only an assessment of what happened to prices and quantities, but also the consequences of reduced monopoly rents. For example, what has happened to trucking and airline safety? The author claims that trucking firms did not use their excess revenues from high-volume routes to subsidi-

1. Of course, as Sebastian Edwards correctly notes, workers in the regulated sector in Mexico are also a group away from which we may want to distribute, toward the "lower class" of workers in other sectors.

dize low-volume ones. One way to assess whether this is true is to ask what effect competition has had on the services received by low-volume trucking routes. Are there now regions of the country that are not receiving service? Similar questions could be asked about low-density bus routes after deregulation.

Of course, in a world of costless transfers, many of these points would be moot. The efficiency gains from deregulation could simply be spent to compensate any losers in a distributional sense; for example, the government could subsidize the new private bus companies to serve the low-density routes. However, thinking about this in the U.S. hospital context for a moment points out the difficulty with this proposition. That is, the government would somehow have to define the price gains to private payers, and then tax away part of those gains to provide increased care to the poor. Even under a Democratic administration, such a policy seems unlikely. Is it any more likely in Mexico that the increased rents that accrue to bus travelers along crowded routes will be taxed away to fund bus service along very low density routes?

I should conclude by noting that this point is essentially a very minor one that should not be construed as decrying the drastic reduction in regulatory barriers to economic activity in Mexico. Rather, I am simply noting that deregulation may create some losers among disadvantaged groups as well as the wealthy, and it may be important for the government to use a portion of the rise in social surplus to compensate those groups.

Comment on Chapter 10 Andrés Velasco

The tales told by Arturo Fernández are a splendid example of how and where economists can do good in the course of economic development. Free of the disagreements over models and sequencing that trouble macroeconomic reforms, microeconomic deregulation is an area where efficiency gains, as Fernández documents, are readily identifiable, substantial, and fairly easily achieved. Moreover, many of the reforms are Pareto improving; when they are not, it is hard to sympathize with the losers: former monopoly rent holders who collected fat fees for performing activities whose social value was zero or negative.

My brief comments focus on some of the problems that may arise in the process of deregulation and on some tasks still ahead for Mexico—drawing to some extent on the experience of Chile, the other country in the hemisphere to have pursued wide-ranging microeconomic reform.

One problem, mentioned by Fernández but which may well deserve additional emphasis, is the potential conflict between the requirements of privatiza-

tion and those of successful deregulation. Financially strapped governments, whether in Latin America or eastern Europe, face strong incentives to maximize the revenues associated with privatization; they are also compelled to carry out privatization as quickly as possible, in order to send a strong signal about the depth and irreversibility of the announced reforms. But both of these pressures conspire against a successful deregulation drive. The need to maximize sale prices may induce regulators to assure buyers of a privileged regulatory situation, at least transitorily. The need to sell quickly may leave insufficient time to ensure that the business environment in which the newly private firms will operate is competitive and transparent. Both points have great practical relevance, as suggested by the recent experience of countries throughout the region. State-owned unnatural monopolies are socially undesirable; privately owned ones are no less so.

A second problem is that, in the drive to eliminate the gross distortions created by government meddling, reformers may overlook other kinds of market failure that become painfully evident once deregulation sets in. An example should help drive the point home. In the 1960s and early 1970s, the transport system in Chile's large cities was either state-owned or heavily regulated by the state. Many of the inefficiencies chronicled by Fernández were present; bus services suffered from short supply and low quality. The military government went for wholesale privatization and deregulation. Practically anyone who wanted to become a bus owner/driver could do so. The policy may have at first seemed sound, but the results were disastrous. The effects of two obvious yet neglected externalities—congestion and pollution—were soon felt. The number of buses operating in Santiago went from two thousand to over twelve thousand in less than a decade. Congestion and air pollution levels today rival those of Mexico City, and several studies blame the phenomenon on the excess number and poor maintenance of buses. To make matters worse, bus owners have become cartelized, and the increase in supply has not manifested itself in higher quality or lower real prices. Until recently, the existing anticollusion agencies have been unwilling and unable to tackle the problem.

The moral of the story is simple. Governments in countries such as Chile and Mexico have gone far in dismantling the obvious, government-created distortions. Now the really hard task begins for the regulators. The emerging market-based economies of the region must be supported by modern, technically minded, and agile state agencies, which, with honorable exceptions, are nowhere to be seen. A privatized electricity sector, as Fernández points out and the experience of Chile confirms, is filled with regulatory riddles, which existing bureaucracies are ill-equipped to deal with. The same is true of other fast-growing and newly private sectors. Privatized social security systems can soon have assets that account for a large share of GDP; the potential consequences of mismanagement of this large pool of savings are not trivial, and the activities of pension funds must be adequately watched. Elsewhere in banking and finance, long-dormant government agencies are suddenly being asked to

supervise complex transactions in foreign exchange and derivatives. OECD country regulators have a hard time keeping track of and regulating such transactions, many of which are off balance sheet; the same and worse is bound to be true of their counterparts in Latin America or eastern Europe. In telecommunications, new markets in cable television, data transmission, cellular phones, and other innovative products urgently demand appropriate regulatory frameworks.

With the retrenchment of the state and the rapid disappearance of price and interest rate controls, marketing boards, planning apparatuses, and other devices typical of the 1950s and 1960s, whole bureaucracies (and sometimes ministers themselves) have been left without much of a job to do. The most obvious response has been to send them back to the labor market, where they may perhaps find employment with a positive marginal product. Some of them, however, may have to be retained and retrained. The need to develop a modern and deeply reformed state apparatus is still the biggest challenge facing countries such as Mexico and Chile.

Finally, a comment of a more technical nature. The title of the paper stresses that deregulation may be a source of growth in Mexico and elsewhere. Yet one must be careful to delimit the scope of this claim. In the language of recent growth theory, we must distinguish between level and rate effects. The policies described by Fernández are certainly efficiency-enhancing. But not all of them may permanently increase the private return to capital and therefore the growth rate, as required by the models of Romer, Lucas, Rebelo, and others. The removal of a *de facto* export tax (to the extent that it acted as a tax on the income of exporters) should raise the rate of return on that sector and therefore stimulate investment and growth. Other policies, such as removing artificial barriers to the supply of trucking services, should only have a once-and-for-all upward effect on that sector's supply.

But whether of the level or rate-of-growth variety, it is likely that many of the positive effects have not yet materialized in Mexico. Some observers have recently been puzzled by Mexico's apparent inability to grow at rates above 3–3.5% per annum on a sustained basis. One possible answer is that many of the microeconomic reforms are only a couple of years old—a fact that is bound to strike any reader of the paper. By contrast, many of Chile's microreforms have been in place for a decade or more. If this hypothesis is right, we may expect even further benefits from the remarkable string of policy changes chronicled by Arturo Fernández.

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How to Stabilize

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