A comparison of public enterprise with regulated private enterprise shows that the efficiencies of privatization stem from the insulation it brings from arbitrary political and self-serving influences. The critical insulation springs from the costliness of interventions when there is a regulatory compact in place that protects private property from expropriation while it also corrects for market failures. That same insulation means that public enterprise is a better form of organization for activities that call for a response to public interest exigencies which cannot be specified in advance or reliably adjudicated after the fact. The analysis emphasizes that an appropriate regulatory compact requires institutional support. International organizations that seek to implement privatization should consider promoting credible regulatory commitment by requiring countries to execute explicit regulatory compacts and by bringing to bear the weight of their continuing relationship as a means of motivating the countries to conform to such strictures.

Since the early 1980s there has been a dramatic spread of appreciation of the social benefits of private enterprise. National leaders have been outspoken on the need to foster private initiative in the interests of productivity and growth and have been taking substantive steps to move economic activities to the private sector. More than eighty countries have launched privatization initiatives, and 6,800 state-owned enterprises have been privatized since 1980 (Kikeri, Nellis, and Shirley 1992). Hoped-for events on the horizon in Central and Eastern Europe, the former U.S.S.R., and China may render the progress to
date toward private enterprise largely a prelude and harbinger of massive movements to come.

The World Bank has been a leading force in this movement. In the past decade 182 Bank operations have supported privatization in 67 countries (Kikeri, Nellis, and Shirley 1992). The widely articulated rationales for the movement toward privatization have generally focused on perceptions of waste, lethargy, inefficiency, and poor quality of output in the operations of state-run enterprises, as contrasted with expectations of dynamism, cost-effectiveness, high quality, and creative productivity in the operations of private enterprises. At the same time there appears to be a countervailing reluctance to spin activities out of direct public control, a reluctance linked both to the protection of status quo benefits and to concern over the ability of private enterprise to respond to and serve the public interest.

Experience and analysis have taught key lessons about the relationship between the structure of an economy and the ability of privatization to satisfy its goals and expectations. (For an excellent exposition of this topic, see Guislain 1992.) The first lesson is that in order to be effective, the divestiture of state-owned enterprises requires a suitable set of institutions, a suitable legal system, and a strategy that is tailored to the country's circumstances. The second is that achieving desirable performance requires a market-friendly institutional framework. The third lesson is the importance of a microeconomic structure that is open to competition. And the fourth is that in cases where the privatized enterprise provides infrastructure services that are natural monopolies there must be an effective system of regulation to curb the potential abuse of monopoly power. (See Ordover and Pittman 1992 for a powerful articulation of the view that in emerging market economies privatization of infrastructure supply is desirable even if regulation is ineffective.)

In addition to the four institutional categories just described, there is another that is essential to the success of privatization and that drives the difference between public and regulated private enterprises—the government's ability to confine its influence over the privatized firm. That is, the government must commit itself to laissez-faire or to a limited and predefined regulatory mechanism. Even where the other four categories of institutional prerequisites are in place, if the government does not have the capacity to tie its own hands and insulate the firm from arbitrary intervention, the expected benefits of privatization are unlikely to be realized.

This commitment to maintain an anonymous and arm's-length relationship is a critical component of a market-friendly economic environment. Efficient systems of taxation and financial disclosure, environmental and consumer protection, enforcement of contracts and protection of intellectual property, and labor and antitrust regulations will apply to all firms in relatively similar ways. To be sure, if the government fails to commit itself to an anonymous and circumscribed system of taxation and, for example, arbitrarily confiscates business proceeds, private enterprise cannot function effectively. When viewed against the backdrop of gen-
erally applicable and uniform codes that describe government-business relationships, however, such arbitrary behavior will be relatively visible and distinguishable from the ordinary course of affairs. In contrast, where there is an ongoing system of regulation that is applied to a particular firm because, for instance, it is a monopoly supplier of infrastructure services, it will be much more difficult to distinguish arbitrary interventions from the ordinary workings of the announced idiosyncratic regulatory relationship.

It may be the case that the government cannot commit itself to a confined regulatory mechanism. If institutions cannot be found to solve this commitment problem, the country may not be able to improve on the inadequate performance of public enterprises in critical infrastructure sectors. As a consequence, the performance of the regulated private enterprise may be worse than that of the public enterprise from the perspective of the public interest. The next section argues that many of the disparate rationales for privatization reduce to one: that the privatized enterprise, albeit regulated, is more insulated than the counterpart public enterprise from arbitrary government intervention. Subsequent sections offer a theoretical analysis of the relative efficiency of public and regulated private enterprises, under two assumptions: first, that the government can commit itself to an optimal regulatory mechanism, and second, that the government is unable to make such a commitment. In the latter case, the paper suggests a possible role for international organizations in providing the necessary commitment to a regulatory regime.

Privatization as Insulation

If an archetypical economist were asked why, in one word, society would benefit from the privatization of state-owned enterprises, the answer would probably be “efficiency.” It is widely accepted that government enterprises are managed to achieve a variety of objectives that relate to the complexities of politics, while private enterprises are largely managed to earn profits, and cost efficiency and market responsiveness are important to that pursuit. The more competitive the markets in which the private enterprise operates, the more it is compelled by its objectives of profits and survival to operate efficiently.

But this response does not answer two fundamental questions. First, why do the authorities not make public enterprises equally efficient by offering managers the same financial incentives as their private sector counterparts? Second, since all private enterprises are subject to a variety of regulations, how is it that the authorities are able to devise efficient regulations for the private sector while those that apply to public enterprises are so poorly constructed? To quote Bos (1993): “A priori, it is not clear why the state, failing to run the firms well as owner, should now suddenly have become an efficient regulator.”

The empirical answer to the first question seems to be that such public sector reform just doesn’t work. Robinson (1992) uses the example of electricity supply in Great Britain to make this point.

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Despite good intentions ... it proved impossible to have “arm’s-length” relationships between the nationalized corporations and government. Instead, governments of both major parties found irresistible the temptation to interfere with the decisions of state-owned industries so that, in practice, the corporations had little control over pricing and investment decisions.

In another instance (according to a 1989 World Bank report) Brazil, in the interest of eliminating operational inefficiency, adopted a system whereby state-owned enterprises had to compete with private corporations under the same conditions. The government, however, proved incapable of abiding by its own rules and instead provided the enterprises with financial support. A similar point is made by Hemming and Mansoor (1988), who are skeptical that government can be persuaded to interfere less than in the past.

The answer to the second question is that political reality is inevitably injected into regulation, to some extent, when the magnitude of the effect and the route that it takes are dependent on the details of the regulatory structure and process. Most directly, regulators are often political actors themselves or serve at the pleasure of those in political office. At the opposite extreme are regulators who are appointed for long and secure terms and who are not subject to active oversight from political bodies. Robinson (1992) stated that “an independent regulatory body is capable of providing the industry with a much clearer set of ground rules, which avoids much of the confusion between commercial and political objectives associated with nationalization.” However, Noll, in his 1989 survey The Politics of Regulation, concludes that “the absence of direct political oversight—with public hearings, explicit directions through legislation or executive order, and occasionally punishment of agency miscreants—does not imply a lack of political control and an opportunity for runaway bureaucracy.”

From these perspectives, the answers of the archetypical economist are not incorrect, just a bit superficial. The efficiency gains from privatization stem from the fact that state-owned enterprises are subject to politicized directives while private enterprises enjoy a degree of insulation. Stated this way, it is clear that the efficiency comparison turns, first, on the presumed inefficiency of the politicized directives and, second, on whether regulation indeed offers the presumed greater insulation.

Public Enterprise versus Private Enterprise with Committed Regulation

The performance of public and regulated private enterprises is analyzed here by comparing models of these two different forms of organization in a common setting, focusing on differences in information and incentives.

In a public enterprise, the tasks of responding to the profitability or cost conditions facing the organization and determining the effect of the organiza-
tion's activities on the public are the responsibility of an appointed official. The enterprise's sphere of activity is directed toward maximizing that official's objective function. In contrast, the private enterprise is controlled by a private manager whose objective is maximization of profit. The organization's profit levels and consequent choices of activity levels are affected by a mechanism established by the regulator, who has access to the information concerning the public impact of the enterprise's activities but has no direct knowledge of profitability or cost conditions. The regulator of the private enterprise has the same objective function as that of the official who heads the public enterprise.

To establish a normative framework, we postulate the presence of a framer, a public-spirited agent who must choose whether the economic activity is to be public or private and who sets up the governance structure for the chosen form. The framer has an objective function that tends to be different than that of the public manager or the regulator, and the framer has no direct access to the private information concerning their common objective function, demand and cost conditions, and the public impact of the enterprise's activities. The analysis is thus cast in the following terms: what is the optimal form of ownership and control, and how does this choice depend on various features of the economic environment? The framer recognizes that political forces will influence subsequent public sector and regulatory decisions, but his or her power is confined to setting up the organizational structure that will best serve the public interest.

The Model of Public Enterprise

The official in charge of the public enterprise receives private noncontractible information, $\theta$, regarding the technology of production. A distinction need not be drawn between marketed and nonmarketed outputs of production; both are encompassed in the reduced-form profit function $\pi(x, \theta)$, where $x$ denotes the enterprise's action or activity level. The $\pi$ function incorporates the cost of the investments needed for the enterprise to operate. The impact on the governmental treasury of the enterprise's choice of action is simply $\pi$. The random variable $\theta$ is defined so that profits are increasing in its level. While $\theta$ is initially unknown at the time when the framer must choose between public and private enterprise, the framer has a prior density of $f(\theta)$ on the interval between $\theta_0$ and $\theta_1$.

The notion of "action," symbolized by $x$, is very general, encompassing such examples as output, quality, location, and employment. However, for analytic tractability, $x$ is taken to be one-dimensional. An important assumption is that the marginal return to increasing the activity level is higher when the profitability parameter $\theta$ is higher; that is, $\pi_{x\theta} > 0$, where subscripts denote partial derivatives. Thus, other things being equal, efficiency requires higher levels of activity when costs are lower.

By virtue of his or her position in the public sector, the government official also observes information, $\phi$, that bears on the external social benefits generated by the enterprise's operations. The external social benefits (or costs, if negative)
associated with action \( x \) are given by \( S(x, \phi) \). There are numerous examples of such benefits or costs: consumer surplus of those utilizing the enterprise’s output; worker surplus generated by employment in the enterprise; environmental damages caused by a manufacturing facility; spillover effects of a major factory on related industries or on overall regional development; national security benefits associated with the operation of a defense facility; or the effect of the telephone system on national cohesion. The expression \( S(x, \phi) \) represents anything that affects the public interest without also appearing in the enterprise’s profits.

The first decision is whether to make the investment required to operate the enterprise. If the investment is made, the next step is to decide what level of \( x \) to direct the enterprise to implement. For simplicity, we model the investment decision as a discrete yes or no choice, and we further assume that the investment is always warranted under the objectives of the framer and the government official. The overall social welfare function that the framer seeks to maximize is given by

\[
W = S(x, \phi) + k\pi(x, \theta),
\]

the external benefits from the enterprise’s activities plus the enterprise’s profits, with a magnification factor applied to the net contribution made by the enterprise to the public treasury. This magnification factor, \( k \geq 1 \), equals the marginal social cost of raising public funds, including any distortions caused by the taxes required to finance public sector operations.

The government official also has a similar, but possibly different, objective function given by

\[
V^{M} = W + \alpha f(x, \epsilon).
\]

The expression \( f(x, \epsilon) \) represents the official’s private agenda, or whatever divergences arise between the objectives of a public official who is subject to political pressure and the genuine long-run public interest. The variable \( \alpha \) parameterizes the extent of the divergence between the official’s objectives and those of the framer—either the saliency of the private agenda or the power of political forces that impel divergence of decisions from the long-run public interest. The variable \( \epsilon \), which is observable only by the official, captures the idiosyncratic nature of the hidden private or political agenda that cannot be foreseen by the framer or observed by others. (Formally, the expected value of \( J(x, \epsilon) \) with respect to the prior on \( \epsilon \) is assumed to be 0.) The key point is that because the framer cannot know who will be appointed or what his or her private aims will be, it is impossible systematically to counteract a private agenda. Given that the government official’s private goals are not publicly observable, the framer cannot charge a third party, such as the court, with the responsibility of penalizing the official for pursuing his or her private agenda.

The Model of Regulated Private Enterprise

The model of regulated private enterprise captures the same underlying economic and informational environment as that just described, while incorporating a fully articulated treatment of the relationship between the enterprise and its regulator. The public official, now playing the role of a regulator, observes the public interest impact variable, \( \phi \), and the private agenda variable, \( \epsilon \). As before,
the party who will be operating the enterprise, in this case the private manager, observes the private information about profitability, \( \theta \).

The private investment decision is necessarily more complex than the public investment decision described above. It is still a simple yes or no decision, and it is assumed that the outcome of the decision is commonly observable. The added complexity arises because in order to attract private investment, the regulator must commit to a regulatory mechanism that offers the expectation of at least a competitive rate of return on the private firm's sunk capital, whether physical investment or the purchase of assets previously owned by the public sector. So, in the case of private enterprise, a regulatory contract must be specified prior to the investment decision.

We model regulatory schemes as follows, on the assumption that the actions of the regulated firm are commonly observable. (For a discussion of the generality of such schemes, see Caillaud, Guesnerie, and Tirole 1988; Baron 1989; Laffont 1992.) The regulator commits to provide the schedule \( T(x) \), specifying that if the firm chooses action \( x \), it will receive the money transfer \( T(x) \) from the treasury. If \( T \) is positive for the applicable value of \( x \), it will constitute a payment to the firm; if negative, it can be interpreted as a tax, a penalty, or a franchise fee.

In response to the announced regulatory incentive scheme, \( T(x) \), the private firm first chooses whether to commit its funds to the requisite investment. It is modeled to do so if and only if the investment brings the firm nonnegative expected profits, where the expectation is based on the \( T(x) \) schedule, the firm's information or priors on the profitability variable \( \theta \), and the firm's anticipations of its corresponding choices of activity level, \( x \). Second, after it has made its investment, and possibly after more private information about \( \theta \) has been revealed to the firm's private manager, the private manager chooses what level of \( x \) to implement. This choice is made to maximize the total profit of the firm, inclusive of the regulatory transfer.

With anticipation of the schedule's impact on the investment and activity decisions of the private enterprise, the regulator chooses to commit to the schedule \( T(x) = T(x; \phi, \epsilon) \) when the regulator knows the public interest variable \( \phi \) and the private agenda variable \( \epsilon \). This choice maximizes the expected value of the regulator's objective function \( V^M \), where the expectation is taken over the prior distribution on the enterprise's profitability variable, \( \theta \). The maximization presumes that the firm will select the level of \( x \) that maximizes its total profit, in light of the firm's knowledge of \( \theta \) and of the entire \( T \) schedule. The maximization is constrained by the need to provide the enterprise with nonnegative expected total profits in order to induce the needed investment by the enterprise.\(^2\)

If the regulator will not learn about the public interest and private agenda variables until after the time that the investment commitment must be made by the private enterprise, a more complex (and more realistic) process must be followed. Here the regulator commits, before the time of the private investment decision, to the menu of schedules \( T(x; \phi, \epsilon) \), for each relevant \((\phi, \epsilon)\), promising
to choose one from the menu at the later date when the values of $\phi$ and $\epsilon$ will become known to the regulator. This commitment is sufficient to induce the private investment, since each schedule on the menu provides nonnegative expected profits for the private enterprise. Once $(\phi, \epsilon)$ is learned by the regulator, the corresponding $T(x; \phi, \epsilon)$ will be selected from the menu, since it is the best schedule on the menu for the regulator under those conditions.\(^3\)

The framer's evaluation of these scenarios is given by

$$W = S(x, \phi) + \pi(x, \theta) - (k - 1)T(x; \phi, \epsilon)$$

since $\pi(x, \theta) + T(x; \phi, \epsilon)$ is the enterprise's total profit and the drain on the treasury is $T(x; \phi, \epsilon)$.\(^4\)

### Circumstances with Equivalence

Several circumstances can be identified in which the performances of public and regulated private enterprise are equivalent. Here the regulator exerts sufficient indirect control over the private enterprise to achieve the same results as would the official with direct control of a public enterprise. Under these circumstances the framer is indifferent between public and private enterprise. Identifying such circumstances in the abstract is important for recognizing the key characteristics that make the organizational forms perform differently in reality.\(^5\)

In one such instance, there is no private information about the profitability variable, $\theta$, before the private investment decision must be made; perhaps this information is revealed only through the physical process of investment or once the private owners have taken possession of the newly privatized public assets. In contrast, private information concerning public impacts, $\phi$, and the private agenda, $\epsilon$, is known to the regulator when commitment must be made to the regulatory mechanism, before the time of the investment decision. Then it is optimal for the regulator to pay the firm according to the schedule

$$T^*(x; \phi, \epsilon) = (1/k)[S(x, \phi) + \alpha f(x, \epsilon)] + G(\phi, \epsilon)$$

where $G(\phi, \epsilon)$ is independent of the activity level $x$ and is set as small as possible consistent with inducing the firm to make the required investment.\(^6\)

The mechanism operates by causing the firm to internalize the objectives of the regulator, inasmuch as the firm's total profit of $\pi + T$ takes on a positive linear relationship to the regulator's objective function. As a result, when the firm does learn its private information, it is motivated to make the same choice of activity level that the informed official would direct the public enterprise to choose. Because the firm knows no more than the regulator about $\theta$ before the investment is made, the firm can be induced to invest while being held to zero expected profit. Hence, with this mechanism, the regulator induces the same actions and achieves the same expected payoff as does the official under public enterprise.

Another set of circumstances in which equivalence holds is characterized by private information concerning $\theta$, $\epsilon$, and $\phi$ that is revealed only after the invest-
ment commitment must be made. Here the regulator commits to the menu of payment schedules given by $T^*(x; \phi, \epsilon)$, as defined above, with the understanding that the regulator will choose a particular schedule from this menu after the investment decision is made and the private information is revealed to its recipients, but still before the activity level must be chosen by the firm. The firm is motivated to invest, and the regulator is motivated to choose the $T^*$ from the menu that corresponds to the revealed values of $\phi$ and $\epsilon$. The outcome is again internalization of the regulator's objectives by the firm, and the same choices of activity levels and the same expected drain on the treasury that would be the result of public enterprise.

The third case of equivalence is characterized by $k = 1$, so that transfers from the treasury are not a matter of concern to the framer, the regulator, or the government official. Here, before the investment decision, the firm knows its value of $\theta$ and the regulator is aware of that fact but does not know the pertinent value of $\theta$. Hence, to ensure that the investment will be made, the regulator must commit to a payment schedule or to a menu of schedules that provides nonnegative profit for all levels of $\theta \geq \theta_0$. Since $k = 1$, the regulator is not adverse to adding enough funds to any payment schedule to ensure its profitability. Consequently, it is optimal for the objectives of the regulator to offer the firm the above internalization schedules $T^*$, but with a different portion $G$ that is here sufficiently large to guarantee the firm nonnegative profit even if its profitability level $\theta$ is as small as $\theta_0$. The outcome is that the regulated private firm chooses the same activity levels that the public enterprise would choose but that the drain on the treasury caused by regulation is greater than that caused by public enterprise. However, since in this case the drain is not a matter of concern, the framer would find no difference between the performance of public and private forms of organization.

In light of these sets of abstract circumstances in which equivalence holds, to understand the differences between public and regulated private enterprises it is necessary to consider an environment in which there is noncontractible private information about profitability prior to the investment decision and in which there is concern about the drain on the treasury ($k > 1$).

**Comparative Performance**

Information rents, which are a necessary feature of an optimal regulatory mechanism when the firm has superior information about its profitability before the time of the investment decision, drive the differences between public and regulated private enterprise. Since the firm must be paid enough to cover its costs when the firm knows that its profitability is minimal, the payments will necessarily yield the firm more than it needs to cover its costs when profitability is higher.

The more costly (or the larger) the activity level sought by the regulator, the greater will be the concomitant level of information rent paid to the firm. To see
this intuitively, let $x(0)$, $x(1)$, and $x(2)$ be the respective activity levels sought by
the regulator for the circumstances that the profitability variable has its lowest
level $\theta(0)$, a higher level of $\theta(1)$, and a still higher level of $\theta(2)$. To induce
investment where $\theta(0)$ prevails, $T[x(0)]$ must be big enough to make $T + \pi$
nonnegative in this circumstance. Where, instead, $\theta(1)$ prevails, the firm can
earn a positive profit of $\pi[x(0), \theta(1)] - \pi[x(0), \theta(0)]$ by choosing the activity
level that the regulator intended for $\theta(0)$. Thus, to induce the firm to choose $x(1)$
here, the regulator must make $T[x(1)]$ big enough to offer a greater rent. Fur-
ther, where $\theta(2)$ prevails, the firm can earn still more profit by choosing $x(1)$. To induce the firm to select $x(2)$ instead, $T[x(2)]$ must offer yet more rent to the
firm.

This intuitive argument indicates why the increments in the optimal $T(x)$
schedule cover the incremental costs to the firm of the higher activity levels, plus
increments to the information rents earned by the firm. As a consequence, the
information rents not only decrease the regulator’s payoff, since $k > 1$, but they
also present the regulator with higher marginal costs to his objective function of
obtaining various levels of activity. These marginal costs include a component of
incremental information rents that are absent from the considerations of the
official who chooses the activity levels of the public enterprise directly.

Three critical comparisons emerge. First, the government official achieves a
greater value of their common objective function than does the regulator. Al-
though the full comparison is more complex, the payout of information rents
alone suffices to explain this comparison. Second, the regulator chooses to
induce less costly (here, lower) levels of activity for the regulated private enter-
prise than those chosen directly by the official for the public enterprise. This
follows as a result of the higher marginal costs perceived by the regulator. And
third, the activity levels that result from regulation are less responsive to changes
in the objective function of the regulator and official than the activity levels
chosen for the public enterprise. That is, when the marginal value of their
activity levels is altered by changes in the public interest ($\phi$) or private agenda ($\epsilon$)
variables, the equilibrium levels of $x$ change less under regulation than they do
under direct public control.\textsuperscript{11}

The foundations are finally in place for analyzing the differences between
public and regulated private enterprise from the normative perspective of the
framer. As a starting point, if the objectives of the regulator and the official
coincided perfectly with those of the framer, so that $\alpha = 0$, the framer would
prefer the public enterprise for two reasons. First, it avoids the drain on the
treasury associated with the information rents that arise under regulation. Sec-
ond, outcomes respond to realizations of the public interest random variable
with full efficiency.

As the saliency ($\alpha$) of the private agendas of the official and the regulator
grows, the evaluation by the framer of both forms of organization falls, since
outcomes will be chosen that deviate from those that would be optimal for the
framer’s public interest objective function. The framer’s evaluation of the out-
comes of public enterprise falls faster with respect to $\alpha$ than does the framer's evaluation of the outcomes of regulated private enterprise. The reason is that the equilibrium activity levels under the latter form of organization show less response to the increasingly salient private agenda of the regulator and the official. At some level of $\alpha$, the framer prefers the regulated private form of organization over the public enterprise. This critical level is smaller, the smaller is the variance in $\phi$, and the larger is the variance in $e$.

**The Insulation Question Revisited**

It has emerged from the analysis that privatization insulates an enterprise from political influences that lead to inefficiency. As compared with public enterprise, the regulated private enterprise is relatively unresponsive to the noncontractible influences of its regulator, and when these influences largely spring from a politicized or self-serving private agenda, this unresponsiveness works for the public interest.

The insulation arises from the fact that in order to attract the requisite sunk investment by private capital, privatization intrinsically requires an institutional framework that works to protect private property—that commits the process of regulation or governmental intervention to a mechanism which promises non-negative expected financial returns. Privatization also intrinsically creates a separation between governmental regulators and the productive enterprise, making it likely, if not inevitable, that the enterprise possesses private information about its costs and potential profitability, both before and after irreversible investment decisions must be made.

The combination of respect for private property and separation of private information implies, as a matter of economic logic, that it is relatively expensive for the government, or its appointed regulators, to alter the activities of the enterprise in reaction to noncontractible influences. Such alterations can be bought, but at a distinctly higher price than incremental cost, which would be the applicable price for a directly controlled public enterprise. It is the higher price of influence that underlies the insulation resulting from privatization.

While insulation from inefficient political and self-serving influences may be the prime fundamental benefit of privatization, the corresponding unresponsiveness to nonmarket public interest exigencies may render regulated private enterprise the wrong organizational form for some activities. For example, the desirable maintenance of order in a prison is rife with unpredictable-and noncontractible exigencies that strongly influence the external benefits and costs of the various custodial and enforcement activities. As such, the analysis suggests that public enterprise would be the superior form of organization for this job. In contrast, although the operation of hotels may have an external public interest impact that arises from regional development strategies, to the extent that the impact is predictable or is based on contractible information, it does not provide a valid rationale for the public enterprise form of organization.
Public and Regulated Private Enterprises under Nondiscretionary Governance

In the models of public and regulated private enterprise analyzed above, the government official is accorded complete discretion by the framer to direct the activities of the public enterprise, and the regulator is accorded complete discretion by the framer to establish the regulatory mechanism. In view of the presumption that the objectives of both officials may deviate from the objectives of the framer, it is worthwhile considering forms of nondiscretionary governance that limit the officials to implementing the directions of the framer (perhaps as detailed in enabling legislation).

Nondiscretionary regulation of a private enterprise requires that the framer mandate specific regulatory mechanisms that are contingent on only contractible information. Thus the applicable mechanism cannot be influenced by either private information about the public interest, \( \phi \), or private information about the regulator's private agenda, \( \epsilon \). The comparison for the framer between discretionary and nondiscretionary regulation entails a tradeoff between the distortions induced by the regulator's private agenda and the ability of regulation to respond to noncontractible information on variations in the public interest benefits from the enterprise's activities.

Nondiscretionary control of a public enterprise requires that the framer mandate specific actions for the enterprise that are contingent on only contractible information. The applicable choices cannot be influenced by private information on costs or profitability, \( \theta \), in addition to the independence of the choices from \( \phi \) and \( \epsilon \), because the private nature of all these categories of information makes it infeasible to accord the government official discretion to react to \( \theta \) without also according discretion to react to \( \phi \) and \( \epsilon \) as well. The outside observer cannot discern the difference.

Hence a significant advantage of nondiscretionary regulation of private enterprise over nondiscretionary management of public enterprise is the ability of the former to yield outcomes that are responsive to private information about costs and profitability. This advantage is linked to the fact that a regulator of private enterprise can be more effectively monitored—and thus more effectively constrained—by the framer because the regulator does not have access to the private information on costs and profitability that is possessed by the government official. With less private information, the regulator is less able to disguise his or her pursuit of a private agenda.

This general effect favoring privatization arises from its intrinsic separation of information on cost and profitability from the power to influence activities for the sake of noncontractible public effects and private agendas. As a result of this separation, the framer can better restrain the influence of the private agenda on the interventions of the regulator of the private enterprise.

In the most dramatic form of this effect, optimal nondiscretionary regulation is no regulation at all. Here, private enterprise with a commitment of laissez-
faire from the framer yields optimal results from the framer’s perspective. In contrast, in this case discretionary regulation or public management would yield lower net social benefits as a result of the influence of the private agenda on the activities of the enterprise, and nondiscretionary public management would yield lower net social benefits as a result of the unresponsiveness of the enterprise’s activities to cost and profitability conditions.

**Government Commitment to Privatization**

Government commitment plays several explicit and implicit roles in the scenario involving regulated private enterprise. First, and most directly, the regulator made a commitment, before the firm committed capital, to use a particular regulatory mechanism (or to select later from an announced menu of mechanisms). These mechanisms all promised nonnegative expected returns. Of course, the regulator could achieve a higher level of his or her objective function by reneging on the announcement after the private investment is sunk and utilizing a mechanism that promises nonnegative returns on only the unsunk portions of the enterprise’s costs. If the private firm had anticipated that the regulator would renege, it would not have been willing to sink any costs, and privatization would not occur. (On this point, see Vickers and Yarrow 1988.) In this sense, privatization requires institutional protection against blatant expropriation or reneging on a regulatory commitment.

Second, it was presumed that the regulator would select or implement the mechanisms faithful to any contingencies on contractible information that were stipulated by the framer (that is, mandated by enabling legislation). Here the regulator would prefer to use a mechanism that reflected his or her own objectives. Such an adjustment might be difficult and costly to stop where the legislated contingencies were imperfectly clear.

The anticipation of such difficulties would not deter the firm from investing so long as the adjusted mechanism provided nonnegative expected private returns. But the inability of institutions to hold the regulator to the mandated mechanism would vitiate the desirable properties of nondiscretionary regulation. With foreknowledge, the framer would be unlikely to alter the decision to privatize because nondiscretionary public management would likely be infeasible as well and because the framer would likely prefer discretionary regulation to discretionary public management for the same reasons that drove the preference for nondiscretionary regulation (that is, the desire to insulate the enterprise from the official’s private agenda).

Third, and most subtly, commitment is important in extending the analysis beyond its unrealistic static confines. In particular, the private enterprise faces many periods during which it must choose activity levels and is affected by regulatory mechanisms. The extension of the one-period analysis to this domain is considerably more complex and depends sensitively on the intertemporal correlations of the informational random variables. (See Baron 1989 and Laf-
font 1992 for overviews of the known results.) For the case in which each period’s cost variable for the enterprise has the same realization, the standard result (attributed to Baron and Besanko 1984b) is that the dynamic optimum requires commitment to repetition of the optimal one-period mechanism.

A regulator who cannot commit for more than one period at a time will be impelled to use the information about the firm’s costs that was gleaned in prior periods to improve his or her outcome in the period to come. Aware of the workings of this ratchet effect that compresses information rents over time, the firm requires correspondingly greater rents in the early periods and reveals more private information over time. Although the firm never fully reveals its private information if it is drawn from a continuum, the information may be revealed if it is drawn from a discrete set of possibilities (see Laffont and Tirole 1988). Here, as the extent of the asymmetric information and the corresponding flow of information rents diminish over time, the outcomes move closer to those that the regulator would choose in the absence of information and control barriers. However, the parties involved in the regulatory relationship have incentives to create the ability to commit to mechanisms over time, and if so, the optimum is stationary repetition of the static optimal mechanism.

In summary, the capacity for dynamic commitment to a regulatory mechanism is a necessary prerequisite for effective privatization. Without commitment, alteration in the regulatory regime can have the same effect as outright expropriation of sunk investment, and the aware private sector will not support privatization. Moreover, it would appear that without commitment to the dynamic regulatory regime, the insulation that regulation provides from arbitrary politicized or self-serving directives may weaken over time. With dynamic commitment, private property and private information are simultaneously protected, making effective privatization both feasible and desirable.

Perhaps international organizations that advise and finance privatization programs can take on the complementary role of promoting credible regulatory commitment. The organization might require the adoption of an explicit regulatory compact and assume the role of cosigner to the agreement. Where the legal system of the country does not have the capacity to adjudicate disputes over the compact, the organization might provide that service.

The organization’s power to enforce conformance to its findings would arise from its continuing financial relationship with the country. In the same way that such a continuing relationship impels borrowers to eschew deliberate and opportunistic default, the relationships might create the incentives for adherence to explicit regulatory compacts and to the overriding principle of protection of privatized property.

Notes

1. In the United States the federal court system serves as a guarantor of limits on regulatory discretion over private enterprises. Frequent litigation is brought in this venue by parties affected by regulation who
claim that an independent regulatory agency has exercised its power “unreasonably” or has engaged in
“arbitrary and capricious actions.” The U.S. Supreme Court has interpreted the constitution (most
notably in Federal Power Commission et al. v. Hope Natural Gas Co., 1944) as protecting from regulation
the right of regulated utilities to earn a “fair rate of return” on “used and useful” assets employed in
regulated activities. The resulting litigation is protracted, complex, and expensive. In part, the disputes
are difficult to resolve because the legislation that provides independent regulatory agencies with their
powers is deliberately vague. More specific regulatory compacts would likely be more readily
adjudicated.

2. In general, the regulator has an endogenous decision concerning whether to induce investment in the
various states of nature. However, for simplicity, it is assumed here that the regulator will find it
preferable to induce investment in all relevant states of nature.

3. The analysis would be far more complex here if the desirability of the investment to the regulator
depended on the revealed values of $\phi$ and $\epsilon$ or if the firm had more options than just whether or not to
invest a set amount.

4. To see that this specification of social welfare is consistent with the one used under public enterprise,
suppose that the regulator could perfectly capture the firm’s profits for each realization of $\theta$ with a
franchise fee equal to its profits, making $T = -C$. Substituting this value of $T$ into $W$ in the equation
returns the framer’s objective function under public enterprise, namely $S + k\theta$.

5. Sappington and Stiglitz (1987) use the same approach in an analytic setting without private informa-
tion about public impacts and without a private agenda for the public official.

6. This internalization procedure was inspired by Loeb and Magat (1979), who were the first to show
that a firm with private information about costs could be motivated with a schedule of transfer payments
to produce optimally for social welfare, and by Sappington and Stiglitz (1987), who argued that other
features of the environment must underlie choices between private and public enterprise, since the Loeb-
Magat mechanism could make the two equivalent where it is applicable.

7. Here we need to assume that $\theta$ is stochastically independent of $\phi$ and $\epsilon$, and we are relying on the
assumption that the regulator and the firm share common priors on the random variables.

8. This proposition is an adaptation of the results derived in a somewhat different context by d’Aspre-
mont and Gerard-Varet (1979) and explicated and applied by Pratt and Zeckhauser (1987).

9. Even under these conditions, equivalence still emerges in two additional environments. First, if the
regulator can partially observe the firm’s private information (that is, can observe a variable that is
correlated with the firm’s information), if there is no limit to the penalties that the regulator can impose
on the firm, and if the firm is risk neutral, then, as Baron and Besanko (1984a) show, the information
problem between the regulator and the firm is not essential (see Riordan and Sappington 1988). Second,
if two identical firms with knowledge of $\theta$ compete to win the franchise of becoming the regulated
enterprise, then, as Sappington and Stiglitz (1987) point out, the regulator need surrender no rents, and
equivalence again holds. In proceeding, we assume that ex post auditing and penalties alone are insuffi-
cient to impel truthful revelation of private information and that competition for the franchise is
imperfect.

10. The seminal development of models of regulation with information rents is due to Baron and
Myerson (1982). For comprehensive discussions, see Caillaud, Guesnerie, and Tirole (1988); Baron

11. This comparison requires the additional structure on the model that is termed the “normal case” by
Shapiro and Willig (1990): (a) $\pi_{xy\theta} \geq 0$, and (b) the nonnegativity of the third partial derivative with
respect to $x$ of $S + \phi + k\theta$. Stipulation (a) follows, for example, if $\theta$ is a cost parameter and $C(x, \theta) = c
+ m(\theta)m(x)$, where $m’ < 0$ and $m” \cdot 0$. Stipulation (b) holds in a conventional quadratic model, or, if $x$were output, with convex inverse demand, convex marginal revenue, and concave marginal cost
functions.

12. Analytically, this case arises when $k = 1$, or when $\theta$ is revealed after the investment decision, and
when the revenues provided by the market to the firm equal the gross social benefits of the firm’s
activities—for example, if $x$ represents the firm’s output sold in a perfectly competitive market. Then the
optimal $T$ schedule represents a lump-sum transfer (of possibly $0$). Furthermore, the framer would
 impose optimal Pigouvian taxes to correct any externalities the marginal impacts of which were assessed
from contractible information.
References


The effects of ownership on allocative (social) and internal (private) efficiency are prevalent themes in the literature on privatization. It is widely accepted that changes in ownership influence enterprise behavior by altering managerial incentives. How these changes in incentives work to favor private and social efficiency depends on a complex set of variables, such as the degree of managerial discretion, the ability of shareholders to express their goals, and the capacity of owners to coerce (or to provide incentives to) managers so that they strive for efficiency. Other types of controls on managerial discretion are also important, including the level of competition in the product market, the effectiveness of the regulatory system, and the evaluation of the firm's performance by capital and financial markets.

Economists tend to agree about the benefits of privatization in sectors in which competition already exists, or in which it is reasonably easy to promote in the short run, as through trade liberalization. But the debate about the benefits of privatizing natural monopolies or enterprises where important externalities are present is far from over.

Professor Willig stresses the requirements that must be met if privatization is to accomplish the goal of enhancing efficiency: a set of institutions and a legal system that guarantee transparency and fairness; a market-friendly institutional framework; a clear policy commitment to promote and protect a competitive environment; and finally, in sectors in which competition is minimal, an effective system of regulation to control the exercise of market power by the privatized firm. In addition, the author includes another element: insulation from arbitrary government intervention. This last condition applies both to competitive markets and to sectors in which competition is naturally weak. Insulation

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from arbitrary government intervention in competitive markets can be achieved
by applying standard codes and conventions that promote competition and
efficiency and include antitrust legislation and regulations on taxation, intellec-
tual property, and labor relations. Where competition is weak and markets
show a natural monopoly structure, it is important to establish a regulatory
body to guarantee that public interest objectives are met.

Willig provides an elegant framework to show that regulators of private enter-
prises are less able to act in a way that is contrary to the public interest than
high-ranking officials in publicly owned enterprises. When the individual or
political agendas of public officials are important, he argues, regulated private
firms may be better insulated from these pressures. The truth of this observation
is quite obvious in Venezuela, for example, where the ownership of the electric
power industry is split between regulated private firms and state-owned enter-
prises. In practice, the level of efficiency is clearly higher in the private regulated
firms.

I would like to comment on two further issues that Willig did not explore:
some differences between public and private ownership that may affect the
opportunity set faced by each structure of control, and some complexities that
make regulatory schemes ambiguous.

Public or Private Enterprise?
The paper assumes that both public and private firms face the same opportunity
set and that the relevant decisionmaker chooses a different point in that oppor-
tunity set. In real life, however, the opportunity sets are different, and that
difference is often a relevant part of the decision to privatize. Take, for example,
the assumption that both types of firms face the same profit function. The public
firm is managed by an official who optimizes a particular objective function that
includes—beside the overall social welfare—his private agenda or any diver-
gences arising between those objectives (perhaps as a result of political pressure)
and the long-run public interest. This divergence may incorporate the fact that a
political appointee may not have the same long-run interests as shareholders.
This may explain why in some state-owned enterprises in Venezuela generous
labor contract clauses have been signed that provide full pensions to employees
after only fourteen years of service.

The problem here is that once such concessions are granted, the firm will no
longer be able to achieve the same profit function since its internal incentive
structure will be quite different from that of a private firm. This distinction is
especially valid if we take the production function as a dynamic one that changes
through time with endogenous productivity changes. The framer posited by
Willig would have to incorporate this conflict of interest into his choice of
structure.

Ownership brings additional problems. Although the paper assumes that
firms face the same set of prices for their inputs, they face very different capital
costs. Suppose the government faces rationing in credit markets while private companies do not. The opportunities facing the private firm will then be vastly different from those encountered by the public firm. For example, Venezuela's telephone company, CANTV, was limited to only $50 million a year for capital expenditures before it was privatized; it now invests $650 million annually.

There are also differences between the production functions of the two types of firm. If the private firm is a subsidiary of a larger international corporation, it may have access to private information, technologies, patents, and other know-how that make it more efficient. Similar production functions do not incorporate the large technological gap that usually exists between public and private enterprises. Overcoming this gap is one of the arguments in favor of privatization.

It may also be that the agency problems facing the public enterprise are more severe than those facing the private firm. If we take a more complex view of the firm as a nexus of treaties—to use Williamson's term—the chief executive of the state enterprise will also face a principal-agent problem with the government agency involved, but without the support from the stock market and the financial market that help in the case of private firms. Hence the task of governance in the public firm may be much more difficult.

The model does not explain a common regularity: publicly owned utilities tend to be heavily dependent on explicit or implicit capital transfers from the government. When such a firm is having difficulties, the government cannot close it down. Because it is much harder to gain agreement on outright subsidies, a more common practice is to disguise the transfers between the government and its firms. In some cases the framer may decide to privatize in order to take control of the budget—another example of the governance problem.

As the paper points out, inefficient and costly regulations may be imposed on public firms to ensure that they exercise effective control of taxpayers' money. Procurement and bidding processes, for example, may be much more convoluted because they are usually defined by government regulation and are not firm-specific. Often, potential contractors have a hand in designing these procedures (which translates into higher transaction costs), while in private firms only the company's interests are represented. In sum, public firms are quite different animals from private firms; all these issues figure in the government's calculations regarding whether to keep a company in the public sector or to allow it to be privatized.

Precommitment and Regulatory Requirements

The paper specifies the precommitment requirements that are essential for an efficient private sector response to privatization but neglects certain other aspects of the regulatory problem. For example, there is clearly a tradeoff between constant rules that make the environment predictable for the investor and flexible discretionary regulations that can be adapted to unanticipated tech-
nological change. An acceptable regulatory framework may prove to be inferior over time. In the case of the telecommunications industry it has become possible to allow firms to compete in the provision of international calls and data transmission services. But existing regulations specify a monopoly provider for these activities. Here, adapting the regulation may be socially beneficial, but to the extent that it requires additional discretion by the regulator, it may allow more room to push a private agenda and may make the investment climate more uncertain.

By the same token, the model does not consider the possibility that the regulator may be captured by the firm. Although the private agenda of the regulator is incorporated in the model, it is not correlated with the private agenda of the firm. Capture theory suggests that this interaction is important and that, while it makes the environment friendlier to the investor, it may carry important social costs.

A final word on commitment: countries may have incentives to play fair when they are in a relatively long privatization process and are playing a repeated game. In that context, reneging once on a commitment may be very costly and may affect many other potential investors in the future. Hence, reputational criteria may be important in assuring compliance.

Willig points out that privatization provides insulation from political pressure and is one more reason that justifies privatization. By relaxing the assumptions of his model, I have tried to point out some criteria that may also affect the decision to go private.

Reference

Drawing on his original work with Carl Shapiro, Robert Willig has given us one of the rare substantive discussions addressing the comparison between public firms and regulated private firms. This question is particularly apt in the case of a severe natural monopoly (by which I mean a monopoly whose fixed costs are so high that the option of duplicating them to benefit from yardstick competition is not available).

The comparison is not an easy one because any imperfection in government management of a public firm reappears as an imperfection in government regulation of a private firm. Sappington and Stiglitz (1987), as well as Shapiro and Willig (1990), explain that in a complete contracting framework the two institutions are equivalent. To quote Shapiro and Willig, "The form of ownership matters only if there is some private noncontractible information." Any theoretical difference thus depends on incomplete contracting.

Let me first say that I would have appreciated an empirical evaluation of the gains from privatization for regulated firms, especially at a meeting hosted by an institution that has widely supported it. Willig offers no personal statement favoring one form or another, and rightly so. First, such empirical facts should be carefully separated according to the quality of the democratic institutions concerned. In the case of old democratic countries such as England or France, there is no clear empirical evidence on the superiority of either form of ownership, especially when we are interested in the quality of such long-run decisions as investments. The empirical evidence is either nonexistent or mixed; some public firms do badly, others do well.

I would like to challenge two of the paper's assumptions. The first is that the government is better informed about an enterprise's costs if it is a public enterprise than if it is a private firm. This is a crucial and debatable assumption,
despite its commonsense flavor, for two reasons. First, the analysis suppresses the role of the manager of the public firm—the person who has direct access to the firm's information and whose objectives are different from those of the official in charge (particularly if the official has a private agenda, as assumed here). The manager's objectives may be purely private, but then again they may be purely public, as civil servants all over the world like to claim.

The second reason is that the political structure becomes highly relevant for this question. In France during the 1980s, for example, the Finance Ministry, which served as the regulator of newly nationalized firms, claimed that it was less informed about the firms when they were in the state sector than when they were privately owned. Formerly these firms were required to provide information to the government to justify continuing subsidies; now, however, the directors of the newly private firms could bypass the ministry because of their political connections and could go straight to the president.

Once the nature of the principal-agent problem in the public firm is recognized, we can see that the government's information will be different in the two contexts. In the public enterprise the government may have better direct access to information. If the private regulated firm, however, is quoted on the stock market, the information reflected in the market price will be available. (See Laffont and Tirole 1991 for a discussion of dual control by regulators and stockholders.) I would say, therefore, that we need more empirical evidence of the hypothesis that the government is better informed when firms are public than when they are private.

The second assumption in the Willig paper is that the official in charge of the public enterprise has a private agenda (a nondebateable hypothesis) and that it is impossible for the framer—or the constitution—to systematically counteract such an agenda. Consider the case the paper describes as discretionary regulation. Good democratic institutions place strong limits on the government official's ability to pursue his or her own agenda. Clearly, the extent to which the official criteria deviate from social welfare will depend on the particular country's political and administrative institutional structure. For this reason, I consider this question of privatization more a matter of political science than of economics.

Willig explains that because of the informational rents that obtain in the case of the private firm, its activities (and therefore social welfare objectives) are less sensitive to the official's private agenda than are those of a public firm. If therefore, a minister has a large private agenda, a private firm may be preferable to a public firm.

I am not sure that I understand why the same results can be expected in the case of nondiscretionary governance. I believe that Willig fails to see the power of the revelation principle of incentive theory. If the framer was able to contract without limit with the government agency and with the chief executive of the firm—despite asymmetric information—the optimal contract would favor public ownership because in Willig's model private ownership puts more constraints on the regulator. Thus the presence of noncontractible information affects pri-
vate and public enterprises differently, as Shapiro and Willig rightly note. But, in addition, the difference is nontrivial only if the complexity of the contracts (or nondiscretionary regulations) is limited. In the by now familiar language of economists, the privatization discussion should be in the context of a world of incomplete contracting. This is indeed realistic but is delicate from a theoretical point of view because the assumptions about the nature of incomplete contracts may seem quite ad hoc.

So far we have seen that incomplete contracting and asymmetric information in the case of private firms can be better than incomplete contracting without asymmetric information in the case of a public firm. As the paper notes, incomplete information may prevent a nonbenevolent official from pursuing a private agenda.

Note that all the analysis has been carried out so far in a static model in which commitment problems are apparently ignored. This is surprising, given Willig's statement that an essential factor in the success of privatization is "the government's ability to . . . commit itself to laissez-faire or to a limited and predefined regulatory mechanism." He argues that the framer must be able to commit to regulatory institutions that protect private firms from expropriation. But note again that once agency relationships are introduced in the public sector, similar issues of expropriation appear. It may even be argued that managers of public firms may fear expropriation of their specific investments in public firms more than managers of private firms because there is a greater congruence of managers' and stockholders' interests in private firms.

It is thus necessary to pursue the analysis in a dynamic context with the same emphasis on asymmetric information and incomplete contracting shown in Shapiro and Willig (1990). Technical difficulties, such as the ratchet effect generated by dynamic strategic behavior under incomplete information, will affect the outcome. But limited commitment may then produce results similar to those described in the case of a nonbenevolent official. Indeed Riordan (1987) and Sappington (1987) have developed models in which the regulator wants to commit to procedures that rely on imperfect monitoring. The idea is that where no commitment has been made, imperfect knowledge about the firm's technology constitutes a credible promise not to extract the firm's rent (see the model of privatization in Schmidt 1990.)

As for relevance, we must ascertain the cost to public firms of the lack of capital market monitoring and the absence of financial takeovers, the meaning of the so-called soft budget constraints of public firms, the various risks of expropriation of managers' and stockholders' investments, and the differences in lobbying and corruption in the two institutions. Furthermore, we will have to recognize that a whole continuum of institutional forms is available beyond the extreme cases considered here. Then we will start to have an understanding of the various tradeoffs involved. Meanwhile, it is important to dissociate the legitimate demands for democratic reform from the much more tricky and debatable choice between public or private ownership of natural monopolies.
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Discussant Ana Julia Jatar had said in her paper that private firms were better insulated than public firms from political pressures and the private agendas of public officials. In Venezuela, she said, where electricity distribution is split between regulated private enterprises and public firms, the regulated private firms are clearly more efficient. Willig said he was eager to see her evidence.

Responding to discussant Jean-Jacques Laffont, Willig spoke more about the situation in which the framer, to more completely contain the private agenda of ministers or the regulators, gives them explicit directives on how they are to conduct themselves in office. The framer might, for example, effectively tie the hands of the regulators by specifying the entire regulatory mechanism, which the regulators then merely implement, rather than develop. Or the framer might dictate the actions the minister would permit the public enterprise to take. The minister knows technology, knows public impact, and knows his or her own private agenda; any of the three factors might lead to the same sets of actions. To circumvent the influence of the private agenda, the framer would also have to cut off the minister's responsiveness to public impacts and to technological information. And for Willig, who had some experience in bureaucracy, that was a resoundingly satisfying theoretical finding.

If one looks at government agencies or other large organizations, said Willig, one sees insanely frustrating, incredibly stupid, confining rules and regulations designed to promote equity and fair deployment of resources. For example, people cannot be promoted at the manager's discretion or because of their ability, and someone cannot be given a bigger office simply on the basis of need. In one's frustration, one might say, "This is stupid; if I ran the world, this wouldn't happen." It could well be, however, that these stupid rules are efficient adaptations to concerns about private agendas and private information.
than kill oneself with frustration, it might be more comfortable to say, "It's a lousy world, but it's optimal." Willig said he rather liked these results but would find it stimulating if someone else considered them wrong.

A participant from India asked how a country could ensure the public accountability of the regulators. Laffont responded that the capture issue exists for both public and private regulated firms; that is why the distinction is fine and difficult. What Willig meant, said Laffont, was that bureaucracy may be an expression of the fight against regulatory capture. Laffont had found that to combat corruption or capture, the rewards of corruption had to be decreased.

Following up on Laffont's comments, a participant from the Pakistan Institute of Technology observed that the benefits of privatization might be a function of the mode of privatization, particularly in developing countries. Privatization through the highest bidder may be difficult because of weak credit markets and may give rise to favors and political counterfavors. Privatization through stock markets entails less danger of insider trading, but stock markets are usually thin. In a situation of weak credit markets and thin stock markets, is it better to keep those enterprises public that might otherwise be profitably privatized? Laffont agreed that stock markets in developing countries often do not work well, and that has to be factored into the analysis. Jatar observed that in Venezuela privatization has been one of the main sources of foreign investment. Fifty percent of the foreign capital raised recently in Venezuela came from foreign investments in the newly privatized telephone company. The problem of the shallow stock market has to be faced, of course, but one reason Venezuela is seeking privatization is to attract foreign investment.

The frame in this model, continued Jatar, is like God deciding before Genesis whether the company should be public or private. When a country faces privatization, she said, it is because companies have already been public for a long time. They are probably being privatized because the government is broke and faces credit rationing. Shahid Husain (chair), who had been intimately involved in privatization in Latin America, agreed that it was necessary precisely because the state has broken down and faces insoluble fiscal problems. The issue, therefore, is not whether to privatize, but how. He hoped that on a future occasion there would be an opportunity to discuss the implications for governments faced with these problems. The solutions are not neat.

Jatar had stated earlier that public enterprises are more subject to credit rationing than private enterprises, said a participant from the European Investment Bank. But in Africa, where there has been some privatizing, most capital comes from external agencies, including the World Bank, and most of that goes to the public sector. In that context, the private sector is more subject to credit rationing than the public sector.

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Floor Discussion