POLITICIANS AND FIRMS*

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We present a model of bargaining between politicians and managers that explains many stylized facts about the behavior of state firms, their commercialization, and privatization. Subsidies to public enterprises and bribes from managers to politicians emerge naturally in the model. We use the model and several extensions to understand why commercialization and privatization might work, and what forces contribute to effective restructuring of public enterprises. We illustrate the model using examples from several countries.

I. INTRODUCTION

Economists traditionally view public enterprises as curing market failures [Atkinson and Stiglitz 1980]. Public enterprises are controlled by governments maximizing social welfare, and improve on the decisions of private enterprises when monopoly power or externalities introduce divergence between private and social objectives. Public enterprises are productively efficient, and charge prices that more accurately reflect social marginal costs.

This view of public enterprises is hard to square with a large body of empirical accounts of such firms, in market, socialist, and mixed economies (e.g., Vernon and Aharoni [1981] and Donahue [1989]). Observers of such enterprises stress two features inconsistent with the conventional view: public enterprises are highly inefficient, and their inefficiency is the result of political pressures from the politicians who control them. Examples abound. Most public enterprises are encouraged by politicians seeking votes to employ too many people. Thus, "operating costs at Europe's [state] airlines are 48% higher than at America's [private ones]," primarily because of excess employment [*The Economist*, February 5, 1994]. Some plants built by state companies, such as the Italian state-owned steel giant ILVA near Naples, never produce any goods and only put people on the payroll [*The Economist*, January 22, 1994]. Government agencies providing municipal services in the United States typically employ 20 to 30 percent more people for a given output level than do private contractors [Donahue 1989].

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The beneficiaries of the excess employment are often political supporters of the government, who value these jobs because they pay more than market wages. In Greece all employees and not just top managers of public enterprises turn over when an opposition party wins an election. In many American cities, such as Chicago, most city jobs are patronage jobs [Royko 1971]. Donahue [1989] presents evidence that government employees in local municipal services in the United States are both less productive than their private counterparts and better paid.

Excess employment and wages in public enterprises are not the only source of political benefits. Public enterprises in many cases produce goods desired by politicians rather than by consumers. For example, the decision to produce the Concorde rather than a jetliner with a broader market appeal was made by the French politicians despite the evidence that the demand for the Concorde would be low [Anastassopoulos 1981]. Credit Lyonnais, the giant French state bank, lost billions of dollars making dubious loans to the friends of the socialist party [*The Economist,* April 9, 1994]. Public enterprises are also frequently asked to locate their production in politically desirable rather than economically attractive regions. Thus, Italian state firms are told to build production facilities in the South, the bedrock of support of the ruling Christian Democrats [Martinelli 1981]. Renault, Airbus Industries, and Aeroports de Paris all chose locations that pleased politicians rather than locations that minimized costs [Anastassopoulos]. More generally, a substantial body of empirical evidence documents both the superior efficiency of private firms relative to comparable public firms [Lopes de Silanes 1993; Mueller 1989; Vining and Boardman 1992], and the improvement of efficiency after privatization [Kikeri, Nellis, and Shirley 1992; Megginson, Nash, and Van Randenborgh 1994]. The examples presented above suggest an explanation of this evidence, namely, that public enterprises pursue political goals.

Nor is it often the case that public enterprises cure market failures. Far from dealing with externalities from pollution, public enterprises are often the worst polluters, as the sad experiences of Russia, Romania, East Germany, and other countries of Eastern Europe illustrate [Grossman and Krueger 1992]. Some public enterprises charge prices significantly below marginal cost to win political support, as underpricing of railroad services in many European and Latin American countries and cheap food policies in Africa show [Bates 1981]. In the case of food pricing in Africa, the

beneficiaries are the relatively rich and politically active city dwellers, and the losers are the poor and politically inactive farmers [Bates]. Such pricing policies are strictly regressive, contrary to the view that public pricing redistributes income to the poor.

In this paper we continue the research started in Boycko, Shleifer, and Vishny [1993, 1994] and focus on political consider-ations to study both public enterprises and private enterprises subject to political influence. We describe a game between the public, the politicians, and the enterprise managers. We assume that, because the public is disorganized, politicians cater to interest groups, such as labor unions, rather than the median voter (see Olson [1965] and Stigler [1971]). We also assume that the relation-ship between politicians and managers is governed by incomplete contracts, so that residual rights of control rather than incentive contracts become the critical determinant of resource allocation (see Grossman and Hart [1986]). Under these assumptions we derive implications of bargaining between politicians and enter-prise managers over what enterprises do. In particular, we focus on the role of transfers between the public and private sector, including subsidies to enterprises and bribes to politicians.

An alternative approach to these issues is to focus on asymmet-ric information and incentive contracts. This approach has been pursued by Dewatripont and Maskin [1990], Schmidt [1990], Laffont and Tirole [1993], and Banerjee [1994]. We believe that several new and empirically valid insights can be derived by focusing on the distribution of control rights.

Section II of the paper presents a simple model of a firm that can deliver political benefits to politicians. We distinguish such firms based on who owns their cash flows (the Treasury or the private shareholders) and who has control rights over employment (the politician or the shareholders). Subsidies to firms from the Treasury, and bribes between managers and politicians emerge naturally in our model when politicians and managers bargain over the allocation of resources.

Section III solves the basic model. It begins with an irrelevance proposition: with full corruption the allocation of control rights and cash flow rights between managers and politicians does not affect either the efficiency of the firm or the transfers it receives. This result implies, in particular, that with full corruption, neither commercialization nor privatization matters. The irrelevance propo-sition raises the basic puzzle: how does private ownership make a difference? After all, politicians are interested in influencing both

private and public firms to deliver political benefits and can use subsidies to convince private firms to deliver these benefits. In principle, there is no magic line that separates firms from politicians once they are privatized.

Section III begins to address this puzzle by also discussing the case with no corruption. In this case we establish several empirically plausible results. First, managerial control leads to more efficient resource allocation than politician control. Second, corruption under plausible circumstances improves efficiency. Third, as long as politicians maintain control over firms through direct public control or regulation, privatizing cash flows reduces efficiency and increases corruption. Fourth, economic stabilization can promote restructuring through hardening budget constraints of all firms.

The assumption of limited corruption does not fully eliminate the counterintuitive irrelevance results. Even without bribes, the allocation of cash flow rights remains irrelevant once control is turned over to the manager. Thus, while corporatization matters without corruption, the puzzle of how privatization makes a difference remains. To address this puzzle, in Section IV we introduce a "decency" constraint that limits subsidies to profitable firms. We show that, for profitable manager-controlled firms, increasing the managers' cash flow rights reduces excess employment. That is, privatization and not just corporatization stimulates restructuring. The model implies that potentially profitable firms are the best candidates for privatization, because they restructure after privatization, whereas unprofitable firms continue providing political benefits in exchange for subsidies.

In Section V we ask what determines the government decision to relinquish control over enterprises or to privatize their cash flows. In our model, politicians never want to relinquish control over firms. They also do not like high management ownership of firms with significant managerial autonomy. However, politicians in control prefer private to public ownership of cash flows, since higher private ownership enables them to extract more from private shareholders through excess employment and bribes. To explain why some politicians give up control, we need to make taxpayers' interests more active, since politicians responsive to taxpayers are interested in privatization. The model sheds light on patterns of public and private ownership and control across countries.

Section VI concludes.

II. A MODEL

We begin with a very simple model that enables us to analyze political influence on firms. There are three players in this model: the Treasury, the politician, and the manager of the firm. We make the first player passive, while the second two bargain over the decisions of the firm. In this model, we do not distinguish between the manager and the shareholders of the firm, and assume that the manager serves the interests of shareholders.

Denote by L the unneeded employment of the firm, or employees in excess of what are needed to efficiently produce its output. Assume that these extra employees produce nothing. Let w be the wage of each of these employees. Presumably, w exceeds the (effort-adjusted) market wage since otherwise being a redundant worker is of no value to that worker and hence to the politician.

Suppose that the politician derives political benefits from excess employment L with a dollar value of $B(L)$. The excess employees may be union members, and the politician may want the support of the union. The employees may restrain from rioting if hired by the firm, or even offer their services in suppressing other rioters. We could more generally assume that the politician benefits both from excess employment and higher wages, and so write $B(L,w)$. In that model, the wage is endogenously determined. We could not obtain substantial additional insights from the more general model.[1]

We assume that the firm earns profits π before it hires any extra employees. Fraction α of this firm's cash flow is owned by the manager and outside shareholders (who are viewed here as the same), and fraction $(1 - \alpha)$ is owned by the Treasury. In a publicly owned firm, α is close to zero; whereas in a private firm, α is close to one. We treat α as a continuous variable rather than distinguish sharply between private and public firms.

In the game between the politician and the manager, the politician generally wants the firm to employ some extra people L since he derives political benefits $B(L)$ from excess employment. To persuade the manager to do that, the politician can subsidize the firm, i.e., make a transfer t from the Treasury to the firm. Such

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1. The relevant political variable need not even be employment. For example, politicians might benefit from low food prices charged to their constituents, as in the case of African dictators who keep down city dwellers' food prices to avoid riots [Bates 1981]. Even more generally, the political variable can be something socially good, such as low pollution, in which case the model can accommodate social welfare-maximizing politicians.

subsidies are extremely common, and often go under the name of "soft budget constraints" [Kornai 1979]. Since the Treasury owns some of the cash flows, it cares not about the gross transfer t to the firm, but the transfer net of the amount it gets back as a shareholder and net of its share of the spending on extra employment:

$$(1) \qquad T = t - (1 - \alpha)(t - wL) = \alpha t + (1 - \alpha)wL.$$

Since the Treasury owns $(1 - \alpha)$ shares, it gets back fraction $(1 - \alpha)$ of the transfer t as a shareholder, but must pay fraction $(1 - \alpha)$ of the excess wage bill in terms of forgone profits. For concreteness, note that in a purely public firm, with $\alpha = 0$, $T = wL$: the Treasury gets back its transfer but effectively pays for wL. In contrast, in a purely private firm, with $\alpha = 1$, the net transfer is equal to the gross transfer, since shareholders fully pay for wL. Note also that π does not enter the calculation of the net transfer T since the Treasury gets $(1 - \alpha)\pi$ with or without the subsidy T and extra employment L.

In general, the subsidy T is not costless to the politician, who has to overcome the objections of the ministry of finance, the Treasury, the Central Bank, or any other taxpayer voice in the government. Rather than model the Treasury or the finance minister explicitly, we simply assume in this model that the political cost to the politician of making the net transfer T is $C(T)$. We could alternatively forget the Treasury and simply interpret $C(T)$ as the political cost to the politician of raising tax revenue to provide subsidy T. In Section V we briefly discuss what happens if the Treasury is an active player. Importantly, $C(T)$ is generally smaller than T since the politician is spending the public's rather than his own money.[2] In medieval Europe, where the king owned the Treasury, and in some modern states, such as Marcos' Philippines and Mobutu's Zaire, this distinction between the resources of the Treasury and those of the politician might be invalid.

With the Treasury passive, the politician and the manager bargain over L and T. In general, we allow the manager to bribe the politician and vice versa. The bribe from the manager to the politician (positive or negative) is denoted by b. Corruption is an

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2. In asymmetric information models, it is usually assumed that $C(T) > T$ because the politician is benevolent and the deadweight loss of taxation keeps its cost above revenue. Here, the motivation is different: the politician is not benevolent, and the public is disorganized. As a result, the political cost of spending a dollar of public money to the politician is less than a dollar.

absolutely pervasive feature of the relationship between politicians and economic agents whose fortunes they affect, yet it remains at best a side issue in most economic models.[3] Since managers (and shareholders) pay the bribes out of their own pocket, the cost of bribe b is exactly b.

Under these assumptions, the utility function of the politician is given by

(2) $$Up = B(L) - C(T) + b;$$

i.e., the political benefits of excess employment net of the political cost of subsidies, plus the bribe. The utility function of the manager is given by

(3) $$U_m = \alpha(\pi + t - wL) - b = \alpha\pi + T - wL - b.$$

The manager's utility is given by his share of the net profits minus the bribe.[4] As the last expression in (3) shows, the manager can be thought of as owning α of the profits, getting the full net transfer, and then paying the full cost of excess employment and the bribe. When bribes cannot be paid, b is set identical to zero. We examine a Nash bargaining game between the politician and the manager with these utility functions.

While α describes the ownership of cash flows of the firm, we have not specified who has control rights over L and T. We assume throughout that the politician controls T, but that L can be controlled by either the politician or the manager. These control rights over L determine the threat points in the negotiation between the manager and the politician. The allocation of cash flow rights and of the control rights in our model also has an economic interpretation. In a conventional state firm, the politician controls L, and the cash flow is mostly owned by the Treasury (α is low). In a regulated firm, the politician still controls L (through regulation of L or of other decisions of the firm), but the manager and private shareholders have cash flow rights (α is close to 1). In a "corporatized" or "commercialized" firm, the control rights over L are turned over from the politician to the manager, yet the Treasury

3. Some studies of corruption include Becker and Stigler [1974], Rose-Ackerman [1978], Shleifer and Vishny [1992, 1993], Mauro [1993], and Banerjee [1994].

4. This specification breaks down when the manager owns no equity, i.e., when $\alpha = 0$, since then the manager has no interest in the cash flow of the firm. However, even if the manager's equity stake is literally zero, he can still divert more resources for personal consumption (cars, carpets, housing) in a more profitable firm, so he still cares about profits. For this reason, we can restrict attention to the cases where $\alpha > 0$ without loss of substantive generality.

retains ownership of the cash flows. Finally, in a truly private firm, the manager both controls L and owns the cash flow. This four-way classification is useful in the analysis that follows.

As we have specified the model, cash flow and control rights are completely separable. That is, the government can turn over control of the firm without getting rid of its cash flow rights, and, conversely, can get rid of cash flow rights without surrendering control. In market economies, equity usually combines both cash flow and control rights, often in the form of one share one vote. As a result, privatization simultaneously transfers cash flow and control rights from politicians to private agents. However, in principle, the two attributes of equity are separable: in Eastern Europe corporatization often takes place without privatization. In fact, some market socialists have advocated corporatization without privatization [Bardhan and Roemer 1992]. Finally, regulation after privatization can mean a transfer of cash flow rights without a transfer of control. For these reasons, we assume that cash flow and control rights can be allocated separately.

In our model, the fact that a firm is private does not mean that it is free of political influence and therefore sets $L = 0$. Indeed, the politician would try to convince the manager of even a private firm to hire extra workers in exchange for a positive transfer T. Many private firms in Europe and the United States get subsidies and tax breaks in exchange for hiring more people, or locating in particular areas. Similarly, the fact that a firm is public does not mean that the politicians try to make it as inefficient as possible, since managers can always bribe politicians in exchange for agreeing to somewhat lower excess employment. Because politicians in this model try to influence all firms through subsidies and bribes, and all firms try to influence politicians through bribes, corporatization or privatization does not self-evidently change resource allocation. Thus, the question that we are interested in is how do reallocations of cash flow and control rights change outcomes.

Before solving the model, we briefly discuss our notion of social efficiency. We assume that political benefits to politicians represent effective transfers from their political competitors; i.e., that the political benefits are not social benefits. If one politician gets to hire his political supporters, social welfare does not rise, but rather the politician gets the votes that another politician would have gotten instead. Thus, excess labor enters the social welfare function as $-\mu L$, where μ is the social opportunity cost of labor. Similarly, we assume that the political cost to the politician of a subsidy from the

Treasury is not its social cost, but that this transfer does have some positive net social cost, since the resources must be raised through distortionary taxes. We simply assume, therefore, that the social cost of the transfer T is σ. The social welfare function is thus $-\mu L - \sigma T$.

With this social welfare function, first-best efficiency dictates that $L = T = 0$: there is no excess employment or subsidies. However, our model follows Olson [1965] and others in assuming that the public is not organized and hence cannot get together to convince or bribe the politicians and managers to be efficient. As a result, politicians and managers can use public money to arrive at an outcome that is efficient between them, but is not the first best. We are not particularly interested in the deviations of the outcome in this model from first best. Rather, we are interested in how L and T depend on the allocation of cash flow and control rights.

III. Analysis

Threat Points and Joint Efficiency

To begin, we compute the before-bribes allocations where the manager and the politician, respectively, controls L. These allocations determine the threat points for the two control structures from which the manager and the politician can bargain to a different allocation either with or without using bribes.

When the *politician* has control rights over both T and L, he chooses L and T to maximize

$$(4) \qquad B(L) - C(T),$$

subject to the constraint that the manager be kept to his reservation utility of zero:

$$(5) \qquad \alpha\pi + T - wL \geq 0.$$

When the politician has control rights, he can force the manager to hire enough labor L to wipe out the firm's profits π and not just the transfers.

The first-order conditions to this problem are given by

$$(6) \qquad T = wL - \alpha\pi,$$

$$(7) \qquad B'(L) = wC'(T).$$

When the politician has control rights, he keeps the firm down to zero net profits, and uses the firm's cash flow to hire extra labor

until the marginal political benefit of doing so exactly offsets the marginal political cost of getting extra transfers from the Treasury to pay for it.

When the *manager* has control rights over L, the threat point is determined by the Nash equilibrium in which the manager and the politician noncooperatively choose L and T, respectively. Obviously, at this Nash equilibrium, $L = T = 0$.

Finally, we need to compute the "jointly efficient" outcome from the viewpoint of the manager and the politician with fully transferable utility, which is given by maximizing the combined utility of the manager and the politician:

$$(8) \qquad B(L) - C(T) + \alpha\pi + T - wL.$$

Solving this problem yields the following first-order conditions:

$$(9) \qquad\qquad B'(L) = w,$$

$$(10) \qquad\qquad C'(T) = 1.$$

At the jointly efficient point, the excess employment and transfer decisions are completely separable. First, the manager and the politician together raise the extra employment to the point where the marginal political benefit of an extra person is exactly equal to the marginal cost, which is his wage. They then suck the cash out of the Treasury until the marginal cost of getting an extra dollar is exactly equal to a dollar. At this efficient solution, the marginal political benefit of an extra employee is exactly offset by the marginal political cost of getting subsidies to pay his wage.

Figure I illustrates this basic model together with the threat points and the joint efficiency point. It depicts the set of points (L,T) at which $B'(L) = wC'(T)$ as well as the manager's individual rationality constraint. At the threat point with politician's control of L, the manager's individual rationality constraint binds. The threat point with manager's control of L has $L = T = 0$. Using this basic model, we next ask what happens when bargaining is allowed.

Equilibrium with Bribes

To compute the equilibrium when the manager and the politician are allowed to bribe each other, we examine the cases of politician and manager control separately. With politician control, the manager and the politician bargain from the politician control threat point given by equations (6) and (7). Denote by L_d and T_d the labor and transfer at the disagreement point. Then the politician's
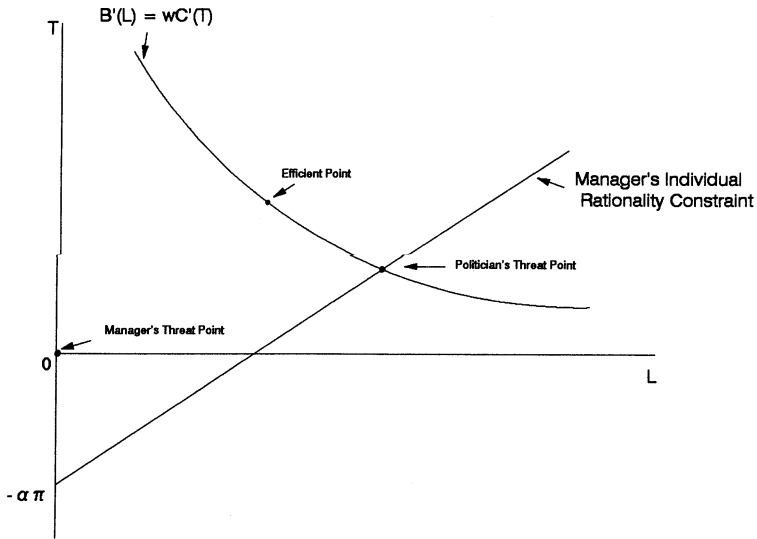
FIGURE I

incremental utility from bargaining is given by

(11) $\qquad B(L) - C(T) + b - [B(L_d) - C(T_d)],$

and the manager's incremental utility from bargaining is given by

(12) $\qquad \alpha\pi + T - wL - b,$

since the manager's disagreement utility is zero. The Nash bargaining solution maximizes the product of (11) and (12) over L, T, and b. The solution is given by $B'(L) = w$ and $C'(T) = 1$, i.e., the efficient outcome. The equilibrium bribe is given by

(13) $\quad b = 0.5\{[\alpha\pi + T - wL] - [B(L) - C(T) - B(L_d) + C(T_d)]\};$

i.e., the manager and the politician split the gains from trade.

  With manager control, the threat point utility of the manager is $\alpha\pi$, whereas the threat point utility of the politician is zero. Again, the outcome of Nash bargaining is the efficient point, while the bribe is given by

(14) $\qquad b = 0.5\{[T - wL] - [B(L) - C(T)]\}.$

These calculations can be summarized in our first result.

PROPOSITION 1. With bribes, the allocation of resources is indepen-
dent of either the allocation of cash flow rights α or the
allocation of control rights over L.

When bribes are allowed, the decisions on L and T are
governed by the joint desire of the manager and the politician to
maximize resources under their combined control and use them
efficiently. Thus, they extract cash from the Treasury until the
marginal political cost of the last dollar is equal to a dollar, and
employ extra labor until the marginal political benefit is just equal
to the wage. Having allocated resources efficiently, they use bribes
to divide the surplus.

This result is a variant of the (restricted) Coase theorem in our
model. Regardless of who has control and cash flow rights over L,
the politician and the manager internalize the full costs of making
inefficient decisions, and hence act as full owners. For example,
when the politician controls L, he effectively pays for higher L in
terms of lower bribes, and hence does not want to raise L above the
jointly efficient level (even when the firm's cash flows are privately
owned). Conversely, when the manager controls L, he effectively
pays for reducing L below the jointly efficient point in terms of
lower bribes, and so does not want to cut L below the jointly
efficient level (even when the firm's cash flows are publicly owned).
As always in the Coase theorem, with bargaining and side pay-
ments, each party acts as a full owner whether or not it is. Since the
public does not participate in the bargaining, the first-best outcome
with $L = T = 0$ does not obtain. Rather, bargaining with transfers
only leads to efficiency vis-à-vis the manager and the politician. The
allocation of control rights and cash flows can influence bribes, but
not the allocation of resources.

This result has a rather dramatic implication. It says that,
with full corruption, neither privatization nor commercialization
matters. Even with public ownership, if corruption is unrestricted,
on the margin, politicians are paying for inefficient decisions in the
form of lower bribes. With full corruption, public ownership is not a
problem. Proposition 1 thus formally raises the question we are
interested in: how do privatization and corporatization affect the
allocation of resources?

A second result concerning this equilibrium is given by

PROPOSITION 2. Under politician control, the equilibrium bribe is
increasing in α; under manager control, the equilibrium bribe
is independent of α.

The proof follows from equations (13) and (14). Intuitively, under politician control, a higher α raises the value of profits $\alpha\pi$ that the politician can extract from the manager, and therefore raises the politician's utility at the disagreement point. Since the final allocation is unchanged, the politician benefits from his higher disagreement utility through higher bribes. Under manager control, the manager gets $\alpha\pi$ regardless of whether he agrees with the politician, and hence the bribe is independent of α. The result with politician control might shed light on the large amount of corruption in countries like Italy or the Philippines, where firms are privately owned (α is high) and then pay enormous bribes to politicians who control them through regulation.

Equilibrium with no Bribes: Politician Control

The assumption of unrestricted corruption is not completely plausible. Part of the problem is that, in most countries, corruption is illegal, so taking bribes is costly to the politician. More importantly, corruption contracts are not enforceable in courts, and so the Coasian bargain between the manager and the politician might not be sustainable. Specifically, after receiving a bribe in return for agreeing to lower employment (or relaxation of some other regulation), the politician can come back and demand again that employment be raised. The manager cannot appeal to a court to enforce relief from political demands on the grounds that a bribe has been paid. Because corruption contracts are not enforceable in courts, the usefulness of corruption in moving to the jointly efficient outcome is limited.[5] For this reason, the case of limited corruption is of greater empirical relevance. In fact, we go further and assume that bribes cannot be paid at all. Again, we treat the cases of politician control and manager control separately.

In the case of politician control of both L and T, the manager and the politician cannot bargain to an allocation that is better for both of them without bribes. Hence the politician's threat point remains the no-bribes allocation even when bargaining is allowed.

The first question to ask is whether this threat point has a higher L and a lower T than the jointly efficient point? In the case shown in Figure I, when the politician controls L but cannot take bribes, he inefficiently extracts surplus by forcing too much excess employment on the firm and giving it too few transfers even when he does not value the employment too much. At this equilibrium,

5. A more detailed discussion of this issue is contained in Shleifer [1994].

$C'(T) < 1$, and $B'(L) < w$. When bribes are allowed, the politician extracts surplus more efficiently through bribes rather than through excess employment. As a result, L is lower and T is higher with bribes. To get this lower L and higher T, the manager bribes the politician, in the equilibrium with corruption.

However, it is also possible that the jointly efficient point has a higher L and a lower T than the no-bribes politician control equilibrium. This happens if the politician cares a lot about L, but the cost of transfers is also very high. To satisfy the manager's individual rationality constraint, the politician keeps both T and L low when bribes are forbidden. At this equilibrium, $B'(L) > w$, and $C'(T) > 1$: the politician is buying the L that he wants with very expensive T. Once bribes are allowed, the politician can use the cheaper bribes rather than the more expensive transfers to buy L. As a result, in the equilibrium with bribes, the politician bribes the manager to have a higher L and a lower T than in the no-bribes equilibrium, even though the politician has control rights over L. This result obtains when it is cheaper for the politician to pay for L with cash than with increased subsidies. This analysis can be summarized in our next result.

PROPOSITION 3. With politician control, the no-bribes equilibrium can have either a higher or a lower L than the equilibrium with bribes. When the no-bribes equilibrium has a higher L, the manager bribes the politician in the equilibrium with bribes. When the no-bribes equilibrium has a lower L, the politician bribes the manager in the equilibrium with bribes.

The second question we ask is what happens to the politician control no-bribes equilibrium when cash flows are transferred from the Treasury to the manager. This yields

PROPOSITION 4. With politician control, an increase in α leads to an increase in L and a cut in T.

The proof of this proposition can be inferred from Figure I, since an increase in α represents a downward shift of the manager's individual rationality constraint, and hence a rise in L and a reduction in T at the politician's threat point. Intuitively, an increase in α enables the politician to extract more from the manager, since at his threat point the politician can extract $\alpha\pi$. Since (with no bribes) the politician extracts surplus by raising L and reducing T, the proposition follows. This result is similar to

Proposition 2, where a higher α increased bribes rather than excess employment.

Proposition 4 has an important implication. It says that, in this model, a regulated private firm might have higher excess employment than a public firm. While in a public firm the politician needs to pay for excess employment through politically costly subsidies, in a regulated firm he can force the private sector to pay for the inefficiency. This result suggests that, without bribes, regulation might be an even greater problem than public ownership.

Together, Propositions 2 and 4 suggest the dangers of privatizing without deregulating. When the government maintains control over firms, privatizing cash flows simply enables politicians to extract more from the managers, in the form of either bribes or excess employment. This also implies that if the government wants to continue tight regulation over firms, it would not get much revenue from privatization. For privatization of cash flows to lead to restructuring, surrender of control by politicians to the managers and private shareholders is the first essential step.

Equilibrium with no Bribes: Manager Control

Next, we compute the no-bribes equilibrium under manager control of L. Since now the manager controls L and the politician controls T, they can bargain to a superior allocation by raising L and T simultaneously. Since the manager's disagreement utility is $\alpha\pi$, his incremental utility from bargaining is given by $(T - wL)$. Since the politician's disagreement utility is zero, his incremental utility from bargaining is given by $B(L) - C(T)$. The no-bribes Nash bargaining solution is given by

(15) $C'(T) = [B(L) - C(T)]/[T - wL]$,

(16) $B'(L) = w^*[B(L) - C(T)]/[T - wL]$.

Note that at this solution, we again have $B'(L) = wC'(T)$. Without bribes, the manager and the politician can agree to raise both L and T to make each of them better off.

We ask the same two questions here as we did for the case of politician control. First, where does the no-bribes manager control equilibrium lie relative to the jointly efficient point? As before, in one case, L is lower and T is higher in the no-bribes equilibrium than they are with bribes. When the manager cannot get bribes from the politician, he earns a return from his control of L through

too little excess employment and too many transfers. At this equilibrium, $B'(L) > w$, and $C'(T) > 1$. If the manager could collect bribes, he and the politician would bargain to a higher L and a lower T, and the politician would bribe the manager to get to this point. In this mirror image of the first case of politician control, the politician would buy more L through the more efficient corruption rather than the less efficient transfers.

However, with manager control, we can also have the second case in which L is higher and T is lower at the no bribes equilibrium than at the jointly efficient point. This would happen when $B(L)$ and $C(T)$ are both relatively low. The manager wants transfers T. When bribes are not allowed, he "buys" these transfers through a channel that is expensive to him and not that highly valued by the politician, i.e., excess employment. As a result, at the no-bribes equilibrium, $C'(T) < 1$, and $B'(L) < w$. With bribes, the manager can buy transfers more efficiently, and so can get more T with a lower L. In this equilibrium with bribes, the manager is bribing the politician to get the T that the politician controls, even though the manager controls L.

This analysis can be summarized in

PROPOSITION 5. With manager control, the no-bribes equilibrium can have either a higher or a lower L than the equilibrium with bribes. When the no-bribes equilibrium has a lower L, the politician bribes the manager in the equilibrium with bribes. When the no-bribes equilibrium has a higher L, the manager bribes the politician in the equilibrium with bribes.

The second question is what happens to the manager control no-bribes equilibrium when cash flows are transferred from the Treasury to the manager. Conditions (15) and (16) imply

PROPOSITION 6. With manager control, the allocation in the no-bribes equilibrium is independent of management owner-ship α.

Intuitively, the reason for this result is that the manager gets $\alpha\pi$ regardless of whether he agrees with the politician, and hence the bargaining solution is independent of α. Proposition 6 is a surprising result. Recall that we have pursued the no-bribes assumption to get away from the implausibility of the irrelevance result in Proposition 1. Indeed, without bribes, we have shown that L and T depend on whether the manager or the politician controls L. That is, corporatization matters (below we show how it matters).

However, Proposition 6 says that, without bribes, once control rights are turned over to the manager, giving him additional cash flow rights does not influence the allocation. While corporatization matters, privatizing cash flows afterwards has no incremental effect. Thus, the question of why *privatization* matters remains open, and motivates our analysis in Section IV. Before we get there, however, we present some comparative statics results of this model.

Comparative Statics

This subsection establishes four results that deal with the effects of (1) changing control rights (with no bribes), (2) corruption, (3) political competition, and (4) macroeconomic policy. These results are established in Propositions 7–10.

PROPOSITION 7. Holding α constant, with no bribes, L is lower, and T is higher under management control of L than under politician control of L.

The proof is straightforward. At both allocations, we have $B'(L) = wC'(T)$. The manager's indifference curves in Figure I are straight lines with the slope of w. Under politician control, the manager's utility is zero (hence the equilibrium lies on his individual rationality constraint, which has the intercept of $-\alpha\pi$). Under manager control, the manager's utility is at least $\alpha\pi$, and hence the equilibrium lies on an indifference curve above that with the intercept of zero. That is, under manager control, we must have a lower L and a higher T than under politician control. This result, incidentally, does not depend on which of the cases described in Propositions 3 and 5 obtains.

Proposition 7 is an important and intuitive result. It says that, when managers get control (without bribes), they partially restructure. At the same time, the budget constraint softens endogenously. When managers get control over L, they can extract higher transfers from the Treasury. Interestingly, this result may capture the experience of Russia, where the spontaneous turnover of control to enterprise managers during the late 1980s has led to an increase in subsidies. Of course, the assumption of no bribes is questionable for Russia.

More importantly, Proposition 7 shows the critical role of corporatization, i.e., the transfer of control from politicians to managers, in stimulating restructuring. Corporatization has frequently been advocated by Western economists interested in

Eastern Europe [Lipton and Sachs 1990; Sachs 1992; Shleifer and Vishny 1993], and has in fact been an integral part of all major privatization programs, including those in Poland, Czechoslovakia, and Russia. This model suggests formally why corporatization is so important for restructuring, but also shows why corporatization might make stabilization even more difficult.

The effects of corruption are also easy to establish.

PROPOSITION 8. Bribes from politicians to managers raise L and reduce T. Bribes from managers to politicians raise T and reduce L.

The proof of Proposition 8 follows from Propositions 3 and 5. The politician bribes the manager in two cases: one of manager control, and the other of politician control. In both of these cases, the effect of bribes is to raise L and to increase T. Similarly, the manager bribes the politician in two cases: one of politician control, and the other of manager control. In both of these cases the effect of bribes is to reduce L and to increase T. In all cases the party paying the bribe shifts the equilibrium toward more of what it wants, which is L in the case of the politician and T in the case of the manager. In particular, the effect of the more common bribes from managers to politicians is to promote restructuring and to raise the subsidies to the firm.

While it is common to observe direct payments to individual voters in return for political support, cash bribes from politicians to managers are less common. There are a couple of reasons for this. First, politicians always have some control rights over firms, such as the power to offer them government contracts and other favors, and hence always have some ability to make transfers to the firm and get kickbacks. Second, politicians and political parties might be cash constrained and hence unable to afford bribes. Third, getting political benefits from public enterprises that politicians control might be much cheaper than getting them from privately controlled enterprises. For all these reasons, politicians do not typically give cash bribes to managers. In fact, the common language meaning of corruption is private parties bribing government officials, not vice versa. In this sense, the effect of corruption in this model is to reduce L and raise T. That is, in our model, corruption as it is commonly understood promotes restructuring.

Under some plausible circumstances described below, reducing L and raising T is socially efficient. In this model, then, corruption increases efficiency. This result seems inconsistent with

the findings of Mauro [1993] that corruption in a cross section of countries is associated with both lower income and lower economic growth. The reason that corruption is good in this model is that it enables private agents to buy their way out of politically imposed inefficiencies. Corruption is only good because it undoes the detrimental effect of political control. Thus, it is true that private business is slower in Russia in part because corruption is so rampant, but this statement is misleading. What raises the costs of private business in Russia is political control of space, distribution, and other essential inputs. Conditional on this control, corruption reduces costs. Proposition 8 is thus very similar to Leff's [1964] argument that corruption is good because it reduces regulatory damage. One way to reconcile this argument with the evidence is to note that corruption goes hand in hand with the extent of political control, and hence the empirical observation that corruption is bad for growth simply reflects the fact that government regulation (omitted from the regression) is bad for growth.

Two additional results come from looking at changes in $B(L)$ and $C(T)$, which have very intuitive interpretations. $B(L)$ represents the degree of competition between politicians who compete in patronage. In a perfectly secure dictatorship, $B(L)$ is arbitrarily close to zero. But if politicians compete for votes by promising jobs and pork barrel projects, then competition for votes raises $B(L)$.

With respect to this kind of political competition, we can establish

PROPOSITION 9. With bribes, an increase in $B(L)$ raises L and keeps T constant. Without bribes, an increase in $B(L)$ raises both L and T regardless of who has control rights.

One interesting implication of this result with bribes is that, as $B(L)$ converges to zero, L converges to zero as well, and the model turns into a pure kickback model. The manager collects T from the Treasury and turns some of it over to the politician. Arguably, this case accurately describes dictators who perceive themselves to be safe, such as Marcos in the Philippines. When corruption is not allowed, an increase in $B(L)$ makes the politician willing to pay more for L. When he has control rights, he raises T to get more L while keeping the manager down to zero utility. When the manager has control rights, he extracts more T from the politician for the L he is willing to hire. With and without bribes, then, increased political competition in this model strictly reduces efficiency since it raises demand for politically motivated resource allocation.

This result on political competition should be interpreted carefully. Politicians can also compete with each other by promising a smaller government, or lower taxes. If this kind of competition is incorporated in the model, it will probably increase efficiency. We cannot claim in general, therefore, that political competition is bad for efficiency. At the same time, politicians do compete in some cases by making escalating promises of patronage employment and pork barrel projects. Proposition 9 shows that such competition reduces efficiency. These results have their counterparts in economic markets as well, where price competition raises efficiency but competition in other dimensions, such as advertising, might reduce efficiency.

In this model, $C(T)$ can be interpreted as the monetary policy stance. The higher is $C(T)$, the stronger is the Finance Ministry (or the Central Bank, or the taxpayers' voice in the government) relative to branch ministries and other politicians, and the more restricted is monetary policy. As $C(T)$ rises to infinity for a given T, subsidies are completely eliminated.

PROPOSITION 10. With bribes, when $C(T)$ rises, subsidies and bribes fall while L stays constant. Without bribes, as $C(T)$ rises, L and T fall regardless of who has control rights.

Interestingly, with bribes, as $C(T)$ rises to infinity, subsidies fall to zero, L stays constant, but bribes do not disappear. The politician and the manager simply exchange L for bribes. Conversely, when the monetary policy stance loosens, we again see no change in equilibrium L, but bribes rise. Perhaps one reason for increased corruption in Russia in the early 1990s is the loose monetary policy.

Without bribes, when credit policy becomes tighter, in equilibrium both T and L fall. That is, a harder monetary stance now both reduces subsidies and increases efficiency, consistent with the general intuition and perhaps the experience of Poland [Pinto, Belka, and Krajewski 1993]. In fact, as $C(T)$ rises to infinity, both L and T converge to zero. This result comes from the fact that tighter budget constraints lead to restructuring only if the bribe channel is closed and inefficiency rather than bribes must be cut.

Summary

This section has produced five principal results. First, the allocation of control and cash flow rights does not influence

resource allocation with full corruption. This result raises our main question: why do corporatization and privatization matter?

Second, privatization without commercialization, i.e., with continued heavy regulation of firms, may actually make things worse. Politicians continue to use their control of regulated firms to pursue political objectives, but it is now less costly for them to do so.

Third, without corruption, commercialization promotes restructuring even though it softens budget constraints. This result makes the case for mandatory corporatization in Eastern Europe.

Fourth, corruption stimulates restructuring by enabling managers to pay for reduced political control of their firms. This result is less of an endorsement of corruption than a further indictment of political control.

Fifth, stabilization has significant allocative benefits. It cuts subsidies and bribes with corruption, but also stimulates restructuring without it. Consistent with Boycko, Shleifer, and Vishny's [1993] analysis of the Russian privatization, stabilization and restructuring are intimately linked.

Throughout this section we have discussed the effect of different environments on the excess employment and subsidies to firms, rather than on "social efficiency." The social efficiency consequences of changes in L and T depend on the social welfare function. If the social cost of transfers σ is high relative to the social cost of excess labor μ, then changes that reduce L and raise T are a bad idea. Thus, giving managers control over L or allowing them to bribe politicians are efficiency-reducing policies. Conversely, if the social cost of transfers is low relative to the social cost of excess labor, then giving managers control or allowing them to bribe politicians is a sound policy.

In Russia and Eastern Europe we believe that the inefficiency of the former state enterprises is the more important social cost, so that policies reducing L are beneficial even if they raise T. If that assumption is granted, the principal results summarized above can be restated in terms of improved efficiency and not just restructuring. In particular, the turnover of control from politicians to the managers—commercialization—is not just conducive to restructuring but is also socially good. Similarly, corruption is likely to be beneficial. To be sure, this welfare interpretation is not general.

Although the analysis has delivered several plausible results, it implies that, even without bribes, once managers have control over L, giving them extra cash flow ownership does not change the

resource allocation. That is, privatization does not add much to corporatization. Of course, if we assumed that the only way to give managers control rights is by giving them cash flow rights as well, we would have established the benefits of privatization and corporatization simultaneously, but we have kept the two separate. Alternatively, if we expanded the model to include a reason to give managers performance incentives, management ownership would make a difference, but such a model would have trouble explaining why most cash flows need to be allocated to private investors, rather than just a small stake to the managers. In the next section we suggest one plausible change in the model that generates the result that privatization promotes restructuring.

IV. A MODEL WITH RESTRICTED SUBSIDIES

So far, we have assumed that subsidies to firms are unrestricted. This may be a valid assumption for money-losing firms, since the government can make the political claim that it is saving jobs by subsidizing them. But the assumption of unrestricted transfers does not seem plausible for profitable firms, where subsidies would enrich already wealthy shareholders. This may lead to a politically unacceptable scandal as voters see politicians enriching their friends. In this section we introduce an ad hoc but plausible "decency" constraint (DC) that disallows positive gross subsidies to highly profitable firms, and examine its consequences.

The simplest form of the decency constraint is

(17) $t > 0$ if and only if $\alpha\pi + T - wL < K$ for some constant K.

That is, the government cannot openly subsidize a firm if this provides its manager with a utility level above K. Since bribes are secret, the politician can certainly bribe the manager to give him a higher level of utility, but he cannot do so with transfers from the Treasury. Constraint (17) is shown in Figure II for the case of a profitable firm that has $\alpha\pi > K$; i.e., the manager, if left alone, has utility above the maximum he is allowed with transfers. When $L < (\alpha\pi - K)/(\alpha w)$, the maximum net transfer is $T = (1 - \alpha)wL$. The politician can only pay for the excess employment through the reduction of profits accruing to the Treasury. When $L > (\alpha\pi - K)/(\alpha w)$, the maximum net transfer is $T = wL + K - \alpha\pi$. For high enough L, the firm spends enough on excess employment that, on the margin, the politician can fully compensate the manager for extra workers. Note that as α converges to 0, the decency con-
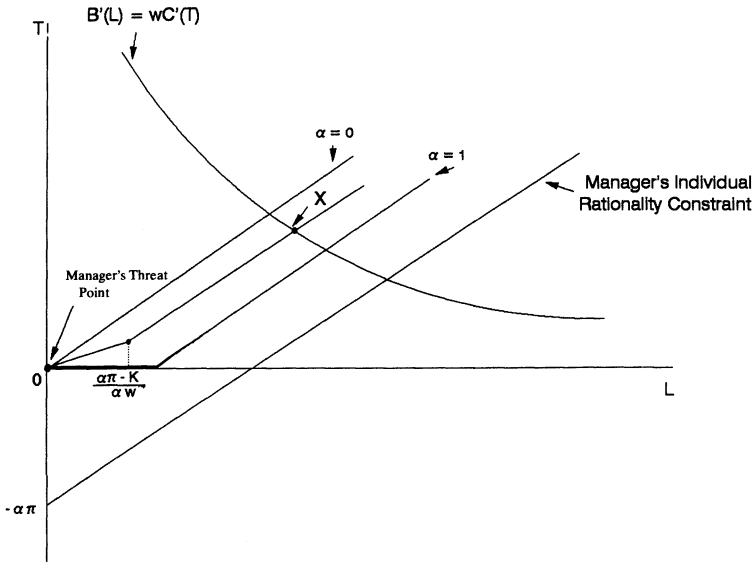
FIGURE II

straint converges to the manager's indifference curve through $L = T = 0$, whereas as α converges to 1, the first segment of the decency constraint converges to the L-axis.

The case of politician control of L is simple. The threat point remains as before at the intersection of the $B'(L) = wC'(T)$ curve with the manager's individual rationality constraint. Without bribes, this threat point remains as before the final allocation. The DC constraint is irrelevant with politician control and no bribes. With bribes, if the DC is not binding at the jointly efficient point, the politician and the manager just bargain to that point, as before. If the constraint is binding, the manager and the politician bargain to the intersection of the $B'(L) = wC'(T)$ curve and the DC (point X), which yields a higher L, a lower T, and a lower bribe than without the constraint. Note that for high enough $\alpha\pi$, the DC constraint is always binding.

Under manager control of L, the threat point as before is $L = T = 0$. When bribes are not allowed, and $\alpha\pi > K$, this threat point is the equilibrium allocation: the manager and the politician will not bargain to a higher L and T. The reason for this is that DC lies strictly below the manager's indifference curve through zero, and hence no combination of L and T satisfying DC will make the manager better off than he is at $L = T = 0$ (see Figure II). In sum,

PROPOSITION 11. With manager control, the decency constraint, $\alpha\pi > K$, and no bribes, the manager chooses zero excess employment.

Suppose now that bribes are allowed, and assume that the DC is binding at the jointly efficient point. For this case, we can establish

PROPOSITION 12. Suppose that bribes are allowed, the manager controls L, and the decency constraint with a particular K applies. Then for $\alpha\pi$ sufficiently high, the manager chooses a lower L than he does with $\alpha = 0$, and the firm collects no subsidies.[6]

Proposition 12 shows that under the decency constraint, profitable commercialized firms with high management ownership stop receiving subsidies and reduce L. These firms may still receive bribes from politicians in exchange for a positive L, so constraint (17) is not violated. In the general case where bribes are more expensive than transfers, this leads to a lower L than in the case without the decency constraint. Moreover, as we argued before, direct cash bribes from politicians to managers are uncommon. Proposition 12 then implies that a firm with either high profits, or high management ownership, or both, is likely to restructure under the decency constraint. Intuitively, managers of profitable firms who own many shares would rather take the profits than use them on inefficient overemployment and take the small transfers they can get. The decency constraint is thus one mechanism through which privatization can lead to substantial restructuring of profitable firms.

In contrast, for unprofitable firms the decency constraint does not bind, and hence private ownership does not encourage restructuring. It is politically easier to subsidize such firms, and hence they keep getting subsidies rather than restructure even when management ownership is high. These results accord well with the Russian experience. Consistent with the model, privatization of the very unprofitable firms results in continued subsidies, and very little restructuring. In contrast, the potentially profitable firms appear to begin laying off people, changing product lines and otherwise restructuring. From the viewpoint of restructuring, privatization of the "good" firms is the best strategy, in contrast to

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6. The proof is available in our Harvard University mimeo with the same title.

the conventional wisdom that the worst firms are the best candi-
dates for early privatization [Kikeri, Nellis, and Shirley 1992].

Propositions 11 and 12 also show the importance of significant
outsider ownership for privatization to lead to restructuring even if
firms are profitable. With trivial ownership the decency constraint
is just too weak, making it possible for politicians to use subsidies
to convince managers to stay inefficient. Propositions 11 and 12
thus deliver the result that high management ownership stimu-
lates restructuring, even when managers are already in control.[7]

V. PRIVATIZATION AND NATIONALIZATION

In this section we discuss the determinants of privatization
and nationalization. We begin with discussing the politicians'
interest in control. We then turn to their preferences vis-à-vis the
ownership of cash flow rights by the Treasury or private investors.
Finally, we abstract from the model and ask what would happen if
the Treasury were a more active player.

Perhaps the most obvious result in our model is

PROPOSITION 13. Politicians always prefer their own control over L
to that of the managers.

Politicians are better off when they have control rights—
whether through regulation of private firms or through nationaliza-
tion—because control gives them better bargaining opportunities.
As a result, control brings them both political benefits and bribes.
One conspicuous example of this interest in control is the national-
ization of money-losing firms, which might otherwise go bankrupt
and fire potential political supporters of the government. A money-
losing firm, which has a negative value to shareholders, can still
have a positive value to a politician who can get the votes of its
employees.

Of course, the greater the likelihood that politicians will
actually get the votes of people whose jobs are saved (the higher is
$B(L)$), the more likely they are to try to keep the firms afloat. Thus,
the Labor government in Britain, which almost automatically got

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7. An alternative model that yields this result is Boycko, Shleifer, and Vishny
[1994].
   Our earlier results still hold under the decency constraint. Management control
is still superior from the point of view of restructuring. Corruption (viewed as bribes
to politicians) still reduces L. With politician control, high management ownership
is still conducive to higher L and bribes. Finally, monetary stabilization still fosters
restructuring.

the votes and political contributions of union members, national-
ized many of the bankrupt industries in the sixties. And it was a
Democratic president in the United States, egged on by Midwest-
ern Democratic congressmen, who insisted on subsidizing Chrysler.
Interestingly, both politicians and the Treasury prefer nationaliza-
tion (i.e., getting both cash flow and control rights) to subsidizing
privately controlled money-losing firms. Control brings bribes, and
even without bribes, politicians get both a higher L and a lower T
when they have control rights. The lower T is also attractive to the
Treasury, which therefore would also support nationalization.

While nationalization of money-losing firms is most common,
politicians insist on controlling profitable firms as well. Indeed,
railroads, telephone, banking, and oil are always either publicly
owned, or at least publicly regulated, even though few of them are
natural monopolies. Unlike in a traditional model, where political
control of monopolies is justified on social welfare grounds, here
political control of monopolies results from politicians pursuing
their selfish objectives. Monopolies tend to be large, and hence
enable politicians to hire many political allies ($B(L)$ is larger). State
railroad and alcohol monopolies present opportunities for hiring
thousands of political allies. Monopolies also enable politicians to
control prices to pursue political ends. Finally, according to Section
IV, politicians like to get control or Treasury ownership of profit-
able firms precisely because such firms have a strong incentive to
restructure when outsiders have control and a large cash flow stake
(Propositions 11 and 12). To assure that these firms achieve
political objectives, politicians must control them.

While the model delivers an unambiguous prediction that
politicians want to control firms if they can, the question of
whether they want the cash flows to belong to the Treasury or to
private investors is more interesting. The answer depends on who
controls L.

PROPOSITION 14. Under the decency constraint, politicians prefer
    managers who control L to have a low ownership stake.

Recall that without the decency constraint, management
ownership of cash flows does not matter. With the decency
constraint, however, a higher α means a tougher decency con-
straint, and hence a greater likelihood that the manager does not
want subsidies and restructures instead. Higher management
ownership makes managers more difficult to seduce into staying
inefficient, and hence is unattractive to politicians. This result may

explain why politicians do not like to put managers of corporatized enterprises on incentive plans. Once managers get incentive contracts, convincing them to follow political objectives requires giving them a very high, even indecent, standard of living through exorbitant subsidies. Low management ownership, in contrast, makes it much easier for politicians to bargain with managers without making them too rich. Proposition 14 might thus explain the prevalence of low-powered incentives in commercialized firms that was stressed by Nellis [1988]. It might also explain why public procurement contracts often take a cost plus form. Since such contracts often deliver political benefits such as new high wage jobs, giving suppliers incentives for cost minimization only gets them to reduce these political benefits.

When politicians control firms, however, the result is just the reverse:

PROPOSITION 15. With or without bribes, politicians who have control of firms prefer higher private and lower Treasury ownership.

The reason that politicians prefer a higher α is that it implies a higher $\alpha\pi$ and hence a greater amount that politicians can extract from private shareholders when they have control. When corruption is feasible, politicians extract resources from managers by getting higher bribes. This may very well explain why politicians in Italy are happy with regulated private firms, from which they can extract large kickbacks. When corruption is not feasible, politicians can still extract more surplus with a higher α except now they do it through a higher L rather than higher bribes. Thus, politicians in Sweden have been happy with private ownership and heavy regulation of firms, since it has enabled them to force firms to deliver social services to employees. The ruling party benefited without much corruption. From the viewpoint of politicians, Treasury ownership of cash flows is a waste (except if it benefits them through an income effect), while private ownership of cash flows presents opportunities for resource extraction from the private sector through bribes or politically desired inefficiencies.

Our analysis raises a question: why have politicians in many countries failed to control all firms through regulation, even when they allow cash flows to be privately owned? Indeed, many countries in the last ten years have reduced government control of firms, and even privatized many of them [Kikeri, Nellis, and

Shirley 1992]. Why would rational politicians ever agree to privatization?

To get politicians to be interested in privatization, we must move away from the model and make the Treasury and the interests of taxpayers more active. The decision to privatize then becomes the outcome of competition between politicians who benefit from government spending (and bribes) and politicians who benefit from low taxes. We expect the Treasury to win out and privatize when political benefits of public control are low, and the desire of the Treasury to limit subsidies is high. This would happen when, presumably, $C(T)$ is high and $B(L)$ is low.

Indeed, privatization usually occurs when conservative governments, favored by taxpayers, replace leftist governments, favored by public employees (or democratic governments replace communist governments). For these new governments, $B(L)$ is relatively low, since employees of public companies rarely vote for them, and $C(T)$ is relatively high, because taxpayers do. Privatization was pursued by relatively conservative governments in, for example, Britain, France, and almost everywhere in Eastern Europe. In the United States municipal services are usually privatized under pressure from taxpayers [Donahue 1989]. When a government has a high $C(T)$ and a low $B(L)$, "spending" politicians do not resist privatization strenuously, and the Treasury favors it strongly, at least for potentially profitable firms which, according to our model with limited transfers, restructure as a result of privatization.

In addition, we expect a new government to privatize a state firm if it cannot significantly change this firm's decisions to address its own political goals, and to keep the firm public if the decisions of the firm can be radically changed. For example, the conservative governments in Britain and France did not expect the votes of the employees of state firms, and could not really change whom these firms employed. As a result, they privatized them. Conversely, the conservative government of Greece could change almost all employees of state firms (including air traffic controllers at the airports), reaping a much larger political benefit from keeping firms in state hands than the conservative governments in Britain and France ever could. Not surprisingly, there was not much talk of privatization in Greece even under conservatives, let alone socialists.

This discussion brings out an important determinant of whether politicians want firms to be private or public, namely their ability to get tangible political benefits out of public ownership. The

greater the independence of public firms from politicians, the less attractive is public ownership to politicians, and hence the less sustainable is public ownership in the long run. Recent movements of firms between public and private ownership in France illustrate this observation very clearly. Because France has an independent Civil Service, the ability of changing governments to radically change the policies of state firms is limited. Because of their constituency, French socialists care relatively more about the employment benefits of public ownership, and relatively less about the budget consequences, and hence they prefer public ownership of firms. Gaullists, on the other hand, unable to reap substantial political benefits from public ownership because of the entrenched socialist Civil Service, are inclined to privatize. Protection of state firms from aggressive political control, according to our model, makes them much likelier candidates for privatization. In particular, privatization is more likely to occur in countries with an independent Civil Service.

VI. CONCLUSION

This paper has examined the behavior of private and public enterprises in situations where politicians try to influence firms to pursue political objectives. When managers control firms, politicians use subsidies and bribes to convince them to pursue political objectives. When politicians control firms, managers use bribes to convince them not to push firms to pursue political objectives. In this context, we established that the allocation of control rights and cash flow rights does not influence resource allocation when corruption is costless and Treasury subsidies are equally costly across all firms. This conclusion raised the puzzle the paper attempted to answer: do corporatization and privatization matter and, if so, how do they work?

The paper approached these questions by showing how restrictions on corruption and subsidization lead to real effects of corporatization and privatization. We showed that corporatization raises the likelihood of restructuring when corruption is limited. We established that privatization of cash flows encourages restructuring when the government is limited in subsidizing profitable firms with rich private shareholders. This result implied that the potentially profitable firms are the best candidates for privatization, since they refuse to dissipate their profits on excess employment, whereas the hopeless firms continue getting subsidized.

Finally, we argued that privatization is more likely to be implemented when the reformers want to restrict government spending and cannot obtain large political benefits from public firms.

The main limitation of the models we discussed is that they simply posit objective functions for politicians rather than derive them from explicit models of the political process. While the benefit of this approach is, we believe, a realistic set of implications about the effects of political influence on firms, the results are not completely derived from "first principles." The next step in this research, then, is to model the political process explicitly, and to examine the new insights that emerge as a result.

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