The Institutional Foundations of Regulatory Commitment: A Comparative Analysis of Telecommunications Regulation

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In this article we use transaction cost economics to analyze the determinants of performance of privatized utilities in different political and social circumstances. Case studies are drawn from telecommunications regulation in Argentina, Chile, Jamaica, the Philippines and the United Kingdom. We explore how political institutions interact with regulatory processes and economic conditions in determining the potential for administrative expropriation or manipulation, and hence affect the sector's economic performance. We find that performance can be satisfactory with a wide range of regulatory procedures, as long as arbitrary administrative action can be restrained. We find also that regulatory credibility can be developed in unpropitious environments, that without such commitment long-term investment will not take place, that achieving such commitment may require inflexible regulatory regimes, that in some cases public ownership of utilities is the default mode of organization, and furthermore, that it may be the only feasible alternative

1. Introduction

This article provides a comparative assessment of the impact of core political and social institutions on telecommunications regulatory structures and utility performance outcomes in five countries: Argentina, Chile, Jamaica, the Philippines, and the United Kingdom.[1] Although in recent years institutional

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1. The country studies on which we base our analysis are part of the World Bank project "Institutions, Regulation and Economic Efficiency," funded in part by a grant from the World Bank Research Committee. Because of the nature of the grant, we did not include the U.S. as one of our cases. Although we make references to the U.S. in our analysis, applying our framework to the evolution of telecommunications regulation and performance in the U.S. is left for future research.

analyses have made major gains in accounting for the conduct of regulatory and other economic policies in the United States and elsewhere, the empirical assessment of some key hypotheses has been constrained by the fact that over long periods of time the U.S.'s core political institutions (institutions identified as key explanators of policy outcomes) have changed only slowly.[2] Cross-country comparative analyses are one way to release this constraint.

Utilities privatization and regulatory reform are increasingly billed as ways to improve service quality and to lower prices. Here we argue that such expectations may not always be attainable. In particular, looking at the problem of utilities regulation through the lens of transaction cost economics—with its microanalytical perspective, its emphasis on discriminating alignment and remediableness, and its view of regulation as a contracting problem—provides an understanding of the determinants of performance of privatized utilities in different political and social circumstances. Our objective is to highlight how political institutions interact with regulatory processes and economic conditions in exacerbating or ameliorating the potential for administrative expropriation or manipulation, and hence determining the economic performance of the sector.

We argue that the credibility and effectiveness of a regulatory framework—and hence its ability to facilitate private investment—varies with a country's political and social institutions. Further, we argue that performance can be satisfactory with a wide range of regulatory procedures, as long as three complementary mechanisms restraining arbitrary administrative action are all in place: (a) substantive restraints on the discretion of the regulator, (b) formal or informal constraints on changing the regulatory system, and (c) institutions that enforce the above formal—substantive or procedural—constraints. Our evidence suggests that regulatory commitment can indeed be developed in what appear to be problematic environments, that without such commitment long-term investment will not take place, that achieving such commitment may require inflexible regulatory regimes that go against prevailing academic views, that in some cases public ownership of utilities is the default mode of organization, and furthermore, that such ownership may be the only feasible alternative.

Political and social institutions not only affect the ability to restrain administrative action, but they also have an independent impact on the type of regulation that can be implemented, and hence on the appropriate balance between commitment and flexibility. For example, relatively efficient regulatory rules (e.g., price caps, incentive schemes, use of competition) usually require granting substantial discretion to the regulators. Thus, unless the country's institutions allow for the separation of arbitrariness from useful regulatory discretion, systems that grant too much administrative discretion

2. Several studies, however, have exploited the electoral changes and their repercussions on the composition of the U.S. Congress and the executive in undertaking those tests. See, for example, Weingast and Moran (1983) and Spiller and Gely (1992).

may not generate the high levels of investment and welfare expected from private-sector participation. Conversely, some countries have regulatory regimes that drastically limit the scope of regulatory flexibility. Although such regulatory regimes may look inefficient, they may in fact fit the institutional endowments of the countries in question, and may provide substantial incentives for investment.

Our analysis may be especially relevant for the design of regulatory policy in developing, newly industrializing, and previously socialist countries, where lack of economic development may be related to a generalized lack of administrative restraints.[3] But the results are also relevant in understanding the historical evolution of utilities regulation and ownership in developed countries. Indeed, as the analysis of the U.K. case highlights, restraining regulatory discretion seems to be behind the development of regulatory institutions in developed countries as well.[4]

A word of caution is in order, though. Our effort at comparative analysis has some important limitations. The need for detailed analyses of the political, social, and regulatory institutions of each country naturally limits the number of cases we are able to analyze.[5] Consequently, we do not offer formal statistical tests of our central propositions (such tests would require a methodology not feasible at this stage of our research) but instead provide an analytical framework and casual but systematically collected and researched evidence. While we believe that our results provide strong support to some core propositions aligned with the new institutionalism, the spirit of the paper is exploratory—as much an exercise in hypothesis formulation as in hypothesis testing.

2. The Analytical Framework

2.1 The Problem of Utilities

Three special features characterize utilities and provide the starting point for our analysis. First, most (but not all) utility services are characterized by important economies of scale and scope. Second, most utilities' assets are highly specific and non-redeployable (although the extent of sunk investments varies with the application and with technology). Third, utility services typically have a broad range of domestic users, usually overlapping the voting population of the country. Viewed through the lens of the new institutional economics, these characteristics create contracting problems that undercut the ability of ordinary market mechanisms to deliver first-best performance.[6]

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3. For an extremely interesting analysis of the role of central government discretion in determining incentives for private-sector investment, see Weingast (1993).

4. While the McNollgast approach does not say it in those words, this is indeed their main message concerning, for example, administrative procedures in the United States. See, for example, McCubbins, Noll, and Weingast (1987).

5. Multiple, distinct regulatory episodes within individual countries do, however, provide additional "degrees of freedom."

6. See, among others, North (1990), Williamson (1988), Goldberg (1976), and Barzel (1989).

Economies of scale and scope and highly specific assets imply that the number of providers of basic utility services is going to be relatively small. Because a large proportion of the utilities' assets are sunk, a utility will be willing to operate even if it cannot recover its sunk investments as long as it covers its operating costs.[7] Widespread domestic consumption implies that the pricing of utilities is always going to be political.[8] Furthermore, the whiff of monopoly (particularly when ownership is concentrated in foreign hands) increases the gains from political action.

The combination of significant investments in durable, specific assets with the high level of politicization of utilities has the following result: utilities are highly vulnerable to administrative expropriation of their vast quasi-rents. Administrative expropriation may take several forms. Although the easiest form of administrative expropriation is the setting of prices below long-run average costs, it may also take the form of specific requirements concerning investment, equipment purchases, or labor contract conditions that extract the company's quasi-rents. Where the threat of administrative expropriation is great, private investors will limit their exposure.[9] Thus, countries where administrative discretion is the norm may find that public ownership of utilities arises because the hazards of direct private investment are so great.[10]

Politics and technology strongly interact in shaping the potential for administrative expropriation. Sectors with very small sunk investments or with rapid asset depreciation will not be prime candidates for administrative expropriation.[11] Similarly, administrative expropriation may not be expected in the short run in countries or jurisdictions experiencing rapid growth in the demand for utilities services, as the costs of investment delays may limit the political gains from opportunistic behavior. In the longer run, however, the fight for control over the institutions of government, and the corresponding

7. Observe that financing requirements for sunk investments are not part of the operating costs. Inability to repay debt required to pay sunk investments will only bring the utility to bankruptcy, but it still will not be worth liquidating. Asset liquidation will take place only when operating revenues fall short of operating costs, where operating costs include a return on the nonspecific investments of the enterprise.

8. This does not mean that the pricing of other sectors, not characterized by large economies of scale and sunk investments, is not going to be political as well (e.g., bread prices in poor countries). What we mean is that the politicization of utilities' pricing, together with its asset characteristics, bring about unique problems.

9. Investors may limit their exposure by selecting technologies that—although they imply lower quality and higher operating costs—may require lower levels of specific investments (e.g., cellular rather than fixed-link telephony).

10. Observe, though, that public enterprises are also subject to the forms of administrative expropriation we are considering here. In this case, though, systematic underfunding will be the norm.

11. For example, setting the prices of bananas below their long-run average cost will have at most a one-year effect on banana prices. On the other hand, setting prices of water services below long-run average costs may imply a reduction in prices over quite a long period of time.

division of the spoils, will continuously expose the utilities to potential administrative or outright expropriation, even in rapidly growing economies.

2.2 Resolution of the Regulatory Problem: A Framework for Empirical Analysis

This section lays out a general framework for empirical, country-specific analysis of the extent to which the regulatory problems outlined above have been resolved, explains why the resolution took the form it did, and discusses the relation between regulatory outcomes and the performance of private utilities. Subsequent sections fill in the details.

2.2.1 Regulatory Design: Governance and Incentives.

In trying to understand different countries' abilities to commit to particular regulatory processes and institutions, we find it useful to look at regulation as a design problem. Regulatory design has two components: *regulatory governance* and *regulatory incentives*. We define the governance structure of a regulatory system as the mechanisms that societies use to constrain regulatory discretion and to resolve conflicts that arise in relation to these constraints.[12] The regulatory incentive structure comprises the rules governing utility pricing, cross- or direct subsidies, entry, interconnection, etc. In contrast to regulatory governance, the structure of regulatory incentives has been the central preoccupation of virtually all theoretical work on regulation. A main result of this study, though, is that such emphasis is inadequate. Although we find that regulatory incentives indeed affect performance, their impact (positive or negative) comes to the forefront only if regulatory governance has successfully been put into place.[13]

Both regulatory governance and incentives are choice variables in the hands of policy-makers. The choices, however, are constrained ones. Choices as to regulatory governance are constrained by the specific institutional endowment of the nation, which both determines the form and the severity of the regulatory problems and shapes the range of options available for resolving them. Choices as to regulatory incentives are also constrained by a nation's specific institutional endowment. Moreover, a nation's choice of the governance features of the regulatory system will have an independent effect on the type of regulatory incentives that are viable.

2.2.2 Institutional Endowment and Regulatory Governance.

Following North (1990) and others, we define the *institutional endowment* of a nation as comprising five elements. First, there are a country's legislative and executive

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12. Williamson would call such constraints on regulatory decision-making "contractual governance institutions" (see Williamson, 1985:35).

13. Commenting on the interaction among technology (institutions), governance, and price (regulatory detail), Williamson (1985:36) says: "[i]nasmuch as price and governance are linked, parties to a contract should not expect to have their cake (low price) and eat it too (no safeguard)." In other words, there is no "free institutional lunch."

institutions. These are the formal mechanisms (a) for appointing legislators and decision-makers and for making laws and regulations, apart from judicial decision-making; (b) for implementing these laws; and (c) that determine the relations between the legislature and the executive. Second are the country's judicial institutions. These comprise its formal mechanisms (a) for appointing judges and determining the internal structure of the judiciary and (b) for impartially resolving disputes among private parties, or between private parties and the state. Third are customs and other informal but broadly accepted norms that are generally understood to constrain the action of individuals or institutions. Fourth is the character of the contending social interests within a society and the balance between them, including the role of ideology. Finally, there are the administrative capabilities of the nation. Each of these elements is subject to change, and the determinants of each can also be the subject of study. In this analysis, though, we treat each of these elements as exogenous—as the institutional endowment of a particular nation. Here we highlight the first two, and comment on the remaining three whenever appropriate.

The form of a country's legislative and executive institutions influences the nature of its regulatory problems. The crucial issue is to what extent the structure and organization of these institutions impose constraints upon governmental action. The range of formal institutional mechanisms for restraining governmental authority includes the following: explicit separation of powers between legislative, executive, and judicial organs of government;[14] a written constitution that limits the legislative power of the executive and is enforced by the courts; two legislative houses elected under different voting rules;[15] an electoral system calibrated to produce either a proliferation of minority parties or a set of parties whose ability to impose discipline on their legislators is weak;[16] and a federal structure of power, with strong decentralization even to the local level.[17] Utility regulation is likely to be far more credible—and the regulatory problem less severe—in countries with political

14. For analysis of the role of separation of powers in diminishing the discretion of the executive, see Gely and Spiller (1990) and McCubbins, Noll, and Weingast (1987, 1989) and references therein.

15. Nonsimultaneous elections for the different branches of government tend to create natural political divisions and thus electoral checks and balances (see Jacobson, 1990). For an in-depth analysis of the determinants of the relative powers of the executive, see Shugart and Carey (1992).

16. Electoral rules also have important effects on the "effective number of parties" that will tend to result from elections and, thus, on the extent of governmental control over the legislative process. For example, it is widely perceived that proportional representation tends to generate a large number of parties, while first-past-the-post with relatively small district elections tends to create bipolar party configurations. This result has been called Duverger's Law in political science (see Duverger, 1954). More generally, see Taagepera and Shugart (1993). For analyses of how the structure of political parties depends on the nature of electoral rules (with applications to the U.K.), see Cain, Ferejohn, and Fiorina (1987) and Cox (1987).

17. On the role of federalism in reducing the potential for administrative discretion, see Weingast (1993) and references therein.

systems that constrain executive and legislative discretion. Note, however, that credibility is often achieved at the expense of flexibility. The same mechanisms that make it difficult to impose arbitrary changes in the rules may also make it difficult to enact sensible rules in the first place, or to efficiently adapt the rules in the face of changing circumstances. Thus, in countries with these types of political institutions, the introduction of reforms may have to await the occurrence of a drastic shock to the political system.

Legislative and executive institutions may also limit a country's regulatory governance options. In some parliamentary systems, for example, the executive has substantial control over both the legislative agenda and legislative outcomes.[18] In such countries, if legislative and executive powers alternate between political parties with substantially different interests, specific legislation need not constitute a viable safeguard against administrative discretion, as changes in the law could follow directly from a change in government.[19] Similarly, if the executive has strong legislative powers, administrative procedures and administrative law by themselves will not be able to constrain the executive, who will tend to predominate over the judiciary in the interpretation of laws. In this case, administrative procedures require some base other than administrative law.

A strong and independent judiciary could serve as the basis for limiting administrative discretion in several ways. For example, the prior development of a body of administrative law opens the governance option of constraining discretion through administrative procedures.[20] Also, a tradition of efficiently upholding contracts and property rights opens the governance option of con-

18. While parliamentary systems grant such powers in principle, whether they do so in practice depends upon the nature of electoral rules and the political party system. Parliamentary systems whose electoral rules bring about fragmented legislatures would not provide the executive—usually headed by a minority party with a coalition built on a very narrow set of specific common interests—with much scope for legislative initiative. By contrast, electoral rules that create strong two-party parliamentary systems—as well as some other kinds of nonparliamentary political institutions—would grant the executive large legislative powers. For an in-depth discussion of the difference between parliamentary and presidential systems, and the role of electoral rules in determining the relative power of the executive, see Shugart and Carey (1992).

19. In the U.K., regulatory frameworks have traditionally evolved through a series of acts of Parliament. For example, major gas regulation legislation was passed in 1847, 1859, 1870, 1871, 1873, and 1875. Similarly, water regulation legislation was passed in 1847, 1863, 1870, 1873, 1875, and 1887. Systematic regulation of electricity companies started in 1882, only four years after the inauguration of the first public demonstration of lighting by a public authority. The 1882 act was followed by major legislation in 1888, 1899, 1919, and 1922, culminating with the Electricity (Supply) Act of 1926, which created the Central Electricity Board. For discussions of the evolution of utility regulation in the U.K., see Dimock (1933), Hormell (1928), Keen (1925), Self and Watson (1952), and Spiller and Vogelsang (1993b).

20. This traditionally has been the way administrative discretion is restrained in the U.S., as regulatory statutes have tended to be quite vague. For an analysis of the choice of specificity of statutes, see Schwartz, Spiller, and Urbiztondo (1993). Observe, however, that administrative law may not develop in a system where the executive has strong control over the legislative process.

straining discretion through the use of formal regulatory contracts (licenses). This option is particularly valuable for countries where the executive has a strong hold over the legislative process. Further, a tradition of judicial independence and efficiency opens the governance option of using administrative tribunals to resolve conflicts between the government and the utility within the contours of the existing regulatory system. Finally, it provides assurances against governmental deviation from specific legislative or constitutional commitments that underpin the regulatory system. While there are no simple ways of measuring judicial strength, two features seem to us to be key determinants: the extent of perceived judicial corruption and whether the courts have a history of deciding against the government. A corrupt judiciary that attempts to be independent may easily find its corruption publicly disclosed, with a clampdown following.[21] Similarly, a judiciary that seldom decides against the government, even on contract disputes, cannot be interpreted to be strong.[22]

2.2.3 Institutional Endowments and Regulatory Incentives. If the regulatory incentive structure is to promote welfare, it should facilitate investment, allocatively efficient pricing, and the introduction of new services and technologies. Yet regulatory incentives cannot be implemented in an institutional vacuum. The country's institutional endowment, the character of distributive politics, and the nature of its regulatory governance structure all affect the potential for the successful design of regulatory incentives.

Consider first the constraints that the nation's institutional endowment imposes on the design of regulatory incentives. Administrative capabilities—the ability of the nation's professionals (e.g., academics, lawyers, bureaucrats) to handle complex regulatory concepts and processes in a relatively efficacious manner, without triggering excessive disputes and litigation—are of particular relevance. These capabilities will determine the potential for the successful implementation of complex regulatory designs. Thus, regulatory systems that call for complex implementation will be inadequate in nations with weak administrative capabilities.

As for the impact of distributive politics, it can constrain the extent of allocative efficiency that can be achieved by regulatory incentives. A major

21. While a corrupt judiciary may tend to side against the government on contract disputes (after all, government lawyers will have very little incentive to bribe judges, while such incentives clearly exist for private lawyers), on key issues a corrupt judiciary becomes an easy hostage to the government. Unexpected press disclosures may trigger widespread scandals, loss of legitimacy, and even calls for judicial reform and sanctions. Consider the following conclusion of a World Bank report on Bolivia: "In addition to being slow, courts are also perceived to be corrupt. In a 1991 survey of 226 litigants, 48 percent claimed to have made illegal payments to court personnel. Confidence in the courts is also weakened by the judiciary's perceived lack of independence. Judges' independence is compromised by a history of executive supremacy, the country's tradition of political patronage, and the procedures for the selection, promotion and discipline of judges" (World Bank, 1992:43).

22. This is a necessary but not a sufficient condition for strength.

feature of telecommunications distributive politics is the demand for cross-subsidization from businesses to residential users, which has translated in many countries into very high prices for long-distance or international calls. Unless eliminated, such cross-subsidization limits the potential for exploiting the advantages of competition.

Finally, and perhaps more important, the institutional realities of some countries may be such that resolution of the governance problems constrains the range of regulatory incentive options to third (or even fourth) best. In some countries, the only way to constrain administrative arbitrariness may be to almost totally withdraw administrative discretion. The resulting governance considerations would constrain the range of workable regulatory incentive designs to those that provide only limited flexibility. In telecommunications, where technological change is rapid, the cost of this reduction in regulatory flexibility is high—but so too is the cost of failing to adequately restrain discretion.

Yet, even given these constraints, the individual country studies suggest that in most cases there exists a broad range of discretion for policy-makers as to the design of regulatory governance and incentive structures. Indeed, utility performance appears to be best in countries that have achieved a good fit between their exogenous institutions and their regulatory governance and incentive designs, and worst in those instances where regulatory design proceeded without attention to the exogenous institutional realities. Furthermore, the quality of design of regulatory incentives emerges in the country studies as an independent influence on performance.[23]

2.3 A Decision Tree

The decision tree in Figure 1 summarizes the above discussion and sets the stage for analysis of the five countries in a way that highlights the impact of a country's exogenous institutional endowment on its regulatory design.[24] The heavier lines in the figure are branches represented by observations in our sample. Because our framework has implications for other institutional environments, we present the decision tree in its general formulation. We make four sets of distinctions.

The first distinction is between those countries that have domestic institutions capable of credibly refraining from arbitrary administrative action and those that do not. Our framework suggests that the existence of an independent judiciary with a reputation for impartiality, and whose decisions are enforced, is a necessary condition for making these credible commitments. As discussed further below, among the countries studied, Chile, Jamaica, and the

23. Indeed, it is possible (although we have no examples where this is the case) that an especially poorly designed regulatory incentive structure could in itself undermine the credibility of a regulatory system, even if the regulatory governance foundations appear firm.

24. The discussion that follows can be interpreted as either positive or normative. It is positive in that it predicts which combinations of background institutions and regulatory systems will lead to good performance and which will not. It is normative in that it suggests what kind of regulatory design will be credible given the background institutions of the country in question.

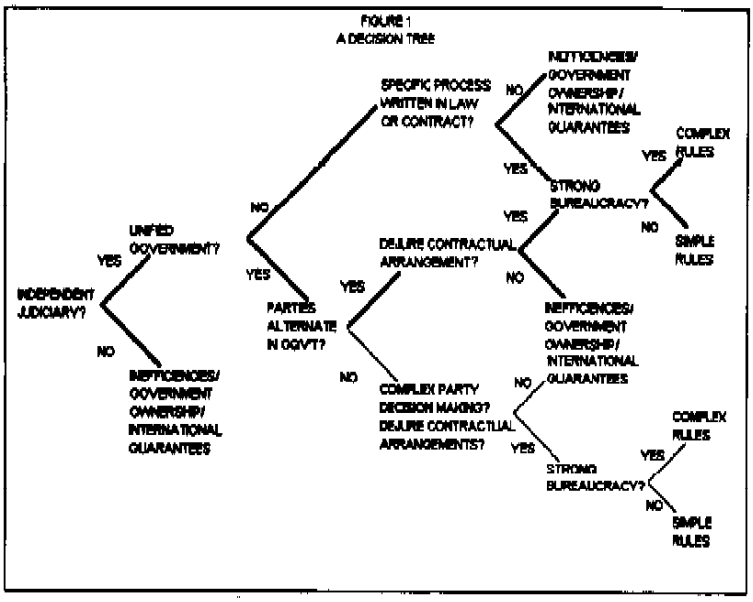

Figure 1. A decision tree model of a country's institutional endowments.

United Kingdom had in place a well-functioning judiciary, while Argentina and the Philippines did not. Countries lacking a well-functioning judiciary will face difficulties in the short term in developing a regulatory system capable of sustaining efficient levels of private participation and investment, and there is little reason for them to devote substantial scarce resources to such an effort. Instead, alternative mechanisms of securing commitment (like international guarantees) will be necessary.

Among countries capable of using regulation to secure commitment, the second distinction is between those countries whose electoral, legislative, and executive institutions are structured in a way that enables them to achieve credible regulatory commitments via legislation and those countries that can best achieve credible commitments by embedding their regulatory systems in the operating licenses of private companies. As we discuss below, legislation may provide regulatory credibility in political systems that do not generate unified governments, like presidential systems with multichamber legislatures, fragmented parties, and nonsimultaneous elections. For legislation to provide regulatory credibility, however, it should make specific the process by which regulatory decisions are to be taken. Otherwise, regulatory discretion will be unchecked. Legislation, however, does not provide credibility to regulatory policy in, for example, two-party parliamentary systems where parties alternate in government. In this case, regulatory credibility can be obtained by basing the regulatory process in contract law, rather than adminis-

trative law.[25] As will be seen, Chile falls into the former category (as does the United States), and Jamaica and the United Kingdom into the latter.

The third distinction, not depicted in Figure 1, is between countries that require specific, substantive rules to achieve credibility and countries that can use flexible regulatory processes and still restrain arbitrary action. In general, the potential for flexibility in design will be highest in two sets of countries. The first set comprises those whose exogenous institutional endowments include informal norms or bodies of administrative law that restrain the arbitrary use of governmental power even if explicit legal restraints are absent. The second set comprises those where an institutionalized process of argumentation and consensus formation sets de facto limits on the extent to which a private utility can be subjected to administrative expropriation. Among the countries studied, although neither Jamaica nor the U.K. can provide credibility through legislation, Jamaica falls into the category of countries requiring specific, substantive rules to achieve regulatory credibility, while the U.K. can achieve such credibility with a more flexible regulatory process. Chile, while able to use legislation as its regulatory instrument, also has the ability to achieve credibility with a more flexible regulatory framework.

Among countries that require very specific, substantive rules to achieve credibility, the fourth and final distinction in Figure 1 is between those countries that have strong administrative capabilities and those that do not. Countries with strong administrative capabilities can put in place a regulatory system based on specific, substantive rules that can both attract investment by restraining arbitrary action and promote efficiency and flexibility. Countries with weak capabilities may have to settle for less efficient rules for their regulatory system to work. Among the countries studied, Chile falls into the former category, and Jamaica the latter.

Viewed from a different perspective, the decision tree identifies three complementary sets of mechanisms to restrain arbitrary action. First are substantive restraints on regulatory discretion, which can take the form of either process regulation or specific, substantive rules (i.e., distinctions 3 and 4). Second are restraints on changing the regulatory system, of either the legislative or licensing variety (i.e., distinction 2). Finally, there are institutions, notably a judiciary, for enforcing both the substantive restraints and restraints on system changes (i.e., distinction 1). A central hypothesis to be explored in the comparative country analysis is that for private performance to be satisfactory all three mechanisms must be in place and they must be properly aligned with the specific character of a country's background institutions.

25. When electoral laws are designed to return the same party to power in every election, complex party decision-making may provide regulatory credibility, even in the absence of de jure contractual arrangements or very precise legislation. This seems to have been the Japanese example, until the 1993 elections. See Baron (1992) for an excellent discussion of how decision-making in Japan's Liberal Democratic Party (LDP) was structured so as to provide for a large number of veto points.

3. The Institutional Background of the Country Cases

This section describes the exogenous variables—the institutional background of each of the five countries.[26] Section 4 then provides the link between these and our endogenous variables—regulatory regimes and regulatory performance.

Table 1 provides a snapshot of the main institutional characteristics of Argentina, Chile, Jamaica, the Philippines, and the United Kingdom, and relates them to the potential for opportunistic government behavior. In exploratory research of the kind described here, there is an ever-present risk of ex post rationalization in interpreting the role of exogenous variables. To obviate this risk, we have tried as much as possible to anchor our depictions of the exogenous institutions of the five countries in prior scholarly writings. Further, we alert the reader wherever we push our interpretation of the behavior of a country's institutions beyond previous interpretations. We divide the countries into three groups: *traditional parliamentary systems* (Jamaica and the U.K.), the *archetypal presidential systems* (Chile), and *rent-seeking presidential systems* (Argentina and the Philippines). Each group has distinct implications for what type of regulatory regimes are workable.

3.1 Traditional Parliamentary Systems: Jamaica and the United Kingdom

Jamaica and the U.K. provide the observations for the Figure 1 branch that answers yes to the "unified government" question. The political systems of Jamaica and the U.K. are parliamentary, characterized by a strong judiciary and electoral rules that tend to generate two strong parties.[27] As a consequence, the majority party invariably has an absolute majority in Parliament and controls both the government and the legislature.[28] The two countries' judicial institutions are also similar.[29] Britain has led the world in the development of a judiciary with an exceptional reputation for probity. Jamaica's judiciary is also well regarded, and has ruled against the government on

26. The detailed case studies on which this article is based follow a research framework developed in Spiller and Levy (1991). That framework emphasizes, as this article does, the contracting problems endemic to utilities regulation, and requires the gathering of detailed information about the regulatory structure (including information on regulatory proceedings and court cases) over time. It also requires the collection of a common set of information concerning investments, prices, and outputs.

27. Jamaica inherited British political institutions upon obtaining its independence from that country in 1962. In Jamaica, the percentage of the vote and the number of seats obtained by candidates independent of the two main parties (the PNP and the JLP) fell, respectively, from 35 percent and 5 (out of 35 seats) in 1944 to 1 percent and 0 since the 1959 election (see Stone, 1981, 1986). See also Cox (1987) and Cain, Ferejohn, and Fiorina (1987) for an analysis of party politics in the U.K.

28. It is not surprising that both countries have had drastic policy shifts as parties alternate in power.

29. While Jamaica's judicial institutions parallel those of the U.K., there are two important differences. First, as a former colony, Jamaica's judicial system has retained the right of final appeal of its decisions to the Privy Council in the U.K., providing an unusually strong source of credibility. Second, unlike the U.K., Jamaica has combined the institution of a sovereign parliament with a written constitution.

numerous occasions.[30] Note, though, the implications for the judiciary of a political system based upon a sovereign two-party parliament with no written constitution: under such a system, the parliament is free to act as it pleases, so long as it follows generally accepted procedures (on which more later), but the courts have no formal restraining authority.[31] To a large extent because of this feature of parliamentary politics, in neither country has the judiciary developed a strong administrative law doctrine, although both have a long contract-law tradition, and have upheld contracts against the government.[32] In both countries, then, administrative decisions are essentially undertaken in the dark.[33] Agencies do not necessarily justify their decisions (although the U.K. Office of Telecommunications Regulation does),[34] nor necessarily hold public hearings.[35,36] Judicial review of agency decisions is not customary in either country.[37] Furthermore, in the U.K., regulatory review is not a strong weapon for the regulated firms and intervenors,[38] because regulators can make decisions that effectively prevent judicial review.[39]

Thus, the formal institutions of government in the U.K. and Jamaica allow for substantial governmental discretion. This governmental discretion can

30. For example, during the first administration of Prime Minister Michael Manley, the courts blocked Manley's attempt to expropriate landholdings by requiring the government to pay fair compensation.

31. The fact that the U.K. does not have a written constitution, though, has not precluded the development of a large body of constitutional law.

32. See Salzberg (1991) for a discussion of the secondary role of the U.K. judiciary in statutory interpretation. See Spiller and Sampson (1993) for a discussion of the judiciary in Jamaica, and Spiller and Vogelsang (1993b) for a discussion of the role of the judiciary in license enforcement until the nationalization of the electricity sector after World War II.

33. For a discussion of the development of regulatory agencies and their procedures in the U.K. since the beginning of the privatization process, see Veljanovski (1991).

34. For, example, "the Cable Authority is not bound to give reasons for its decisions and it may well decide not to spell out its selection criteria in any detail in an effort to retain the greatest flexibility" (Baldwin and McCrudden, 1987:292).

35. The Jamaican Public Utilities Commission (JPUC) during the period 1966–75, did hold public hearings and was, in principle, subject to U.S.-style conditions for judicial review.

36. See Baldwin and McCrudden (1987) for a discussion of procedures in various U.K. regulatory agencies, including the Office of Fair Trading and the Monopolies and Mergers Commission.

37. Judicial review in the U.K., however, is becoming more frequent, in particular at the local government level, as conflict between local and central government has increased. Baldwin and McCrudden (1987:57), quoting Sir Michael Kerry, the former Treasury Solicitor, observe that judicial review of administrative agencies has "increased from a handful a year in the 60s to 50–100 in the early 70s, to a rate of about 400 a year in the first six months of [1982]." Furthermore, Kerry reported that most of these cases "come under two main heads, applications to quash planning decisions . . . and immigration cases." (see Kerry, 1983:168; and Young, 1985).

38. However, in the U.K. judicial review may be effective in resolving disputes among branches of government. See Baldwin and McCrudden (1987:59) for a discussion of this issue.

39. In the U.K. judicial review can be initiated on procedural grounds or if the regulator's decision has been unreasonable. A claim of unreasonableness, however, rarely wins, because the regulator is not required to provide a thorough explanation of the basis for making a particular decision (e.g., the granting of a cable license). See Baldwin and McCrudden (1987:292–93).

Table 1. Institutional Features of Argentina, Chile, Jamaica, Philippines and United Kingdom

Country	Legislative and Executive Institutions	Judicial Institutions	Social Conflict	Social Norms	Administrative Capabilities
Argentina	Separation of powers with fragmented party structure.	Weak and politically manipulable.	Basic urban-rural conflict.	Rent-seeking. Lack of respect for constitutional order.	Corrupt bureaucracy, but highly qualified professional class.
Chile	Separation of powers with fragmented party structure. Orderly alternation of power except during Gen. Pinochet's regime.	Strong and professional; defended private property during socialist period.	Regional balance.	Respect for judiciary.	Highly respected bureaucracy and qualified professional class.
Jamaica	Parliamentary system with two strong parties.	Strong and professional; upheld utility contracts against government prior to 1966 and	Small middle class holds political balance. No major regional differences. Violent urban poor.	Respect for judiciary and electoral outcomes.	Small professional class. Politicized bureaucracy.

		defended private property during the first Manley administration.			
Philippines	Separation of powers with weak parties and strong presidency. Until 1960s, partial United States supervision. Military regime during Marcos.	Weak and corrupt.	Regional competition among members of elite.	Rent-seeking. Not outright expropriation of elite ownership.	Weak and corrupt bureaucracy.
United Kingdom	Sovereign parliament with strong two-party system.	Very strong and professional; upholds contracts against the government. Weak administrative law.	Large middle class, holding political balance.	Strong respect for bureaucratic process and for judiciary.	Very strong bureaucracy.

translate into important policy shifts, with the judiciary playing a minor role in restraining administrative discretion. Informal rules of legislative decision-making, however, restrain both governments' ability to undertake policy shifts without consulting interest groups. For example, over the years the U.K. has developed decision-making processes that tend to limit the endemic secrecy of parliamentary system governments by allowing interest-group consultations. Although both these countries have the potential to undertake large policy shifts, some amount of consensus in policy-making is required. The need for consensus-making procedures arises as much from the need to legitimize governmental decision-making as from the need to avoid cracks in the governing party with the consequent loss of legislature support. Ways to develop consensus and conduct interest-group consultations vary from country to country; they include the role and use of ad hoc commissions and white and green papers,[40] the use of collective ministerial responsibility,[41] as well as the use of party organizations to settle disagreements prior to parliamentary action. Within-party consensus-building measures are useful for single-party governments not just because they grant stability and credibility to their actions, but also because they provide legitimacy to the party leadership. Legitimacy is important in safeguarding against other factions' attacks and in maintaining backbenchers' support.[42]

40. For example, major policy changes start with an ad hoc commission that is charged with analyzing the policy change the government is interested in undertaking. The outcome of the ad hoc commission is a consultative "green paper," which while not representing the government's exact intentions is nevertheless circulated for public comment. (Telecommunications reform, for example, started in 1981 with the Beesley report, which recommended unrestricted resale of leased lines, British Telecommunication's price flexibility on leased lines, and network entry.) Following this comment period, the government may decide to drop or to continue (with or without modification) the policy initiative. If the government decides to go ahead with the policy change, it will eventually publish a "white paper," which forms the basis for the cabinet's legislative initiative. This process, which is also followed in Jamaica, has the virtue of providing interest groups with warning signs about impending policy changes. Interest groups then can lobby party members and legislators in an attempt to influence the policy change in their desired direction. See Miller (1985:197–211) for a discussion of how the decision-making process in the U.K. provides opportunities for interested parties to participate in the legislative process. See also Spiller and Vogelsang (1993a). The role of this decision-making process is not too dissimilar from the advance warning features of the U.S. Administrative Procedure Act. For a discussion of the U.S. Administrative Procedure Act, see McCubbins, Noll, and Weingast (1987) and Spiller and Urbiztondo (1993).

41. On the role of ministerial responsibility in limiting the potential for breaks in the party's control over government, see Cox (1993). Cox's main point is that the effect of requiring joint and several ministerial responsibility "is to increase the power of the executive body by decreasing the chance that executive decisions will be challenged in any broader arena. Indeed, the convention of collective responsibility in the United Kingdom has been so effective in preventing internal Cabinet disagreements from spilling out into the Commons that many have questioned the independent importance of the legislature" Cox (1993:47).

42. To some extent, because Japan's LDP until recently had continuous control over government in a contestable legislative environment, it developed a formal process of government decision-making prior to submitting legislation to the Diet. This process involves the formal use of the LDP's Policy Affairs Research Committee (PARC) and industry advisory committees, as

In the U.K., furthermore, at the level of policy implementation, the Westminster model of government defines the prerogatives and responsibilities of politicians and bureaucrats,[43] with mutually recognized boundaries of authority, even where their power is not explicitly constrained. Jamaica and the U.K. differ, however, in the extent of professionalism of the bureaucracy. While the U.K.'s bureaucracy is professional and largely apolitical, the politicization of the bureaucracy during the first administration of Jamaica's Prime Minister Manley seems to have had an irreversible effect in reducing the qualifications and role of its bureaucracy.[44]

Thus both the U.K. and Jamaica have electoral systems that provide for great legislative flexibility, and judiciaries that do not strongly restrain administrative actions. As a consequence, neither can base its governance structure on legislative acts. They need further constraints. As we will see, both found them in contract law.

3.2 The Archetypal Presidential System: Chile

Chile, with its archetypal presidential system,[45] is the country in our sample that provides the observations for the Figure 1 branch that answers no to the "unified government" question. Between 1973 and 1989, Chile went through a period of military rule under General Augusto Pinochet. This period, however, stands out as a 15-year exception to more than 100 years of rule by civilian government. For the rest of this 100-year period, the country was governed by a constitution that embodied the principles of separation of powers, orderly transfer of authority, and regular elections between competing parties. For an extended period, voters were divided among multiple parties, with none strong enough to legislate, except by coalition. Legislators' independence from central party apparatus led to the development of a legislature with a strong sense of local representation.[46] A series of constitutional

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well as informal consultations with Zoku (*tribe*) Diet members and LDP factions. For an extremely insightful description of governmental decision-making in Japan, see Baron (1992:chap. 13). Lupia and McCubbins (1993) stress that a major role of PARC's review is to provide backbenchers with information about Cabinet intentions. Because the Japanese electoral system develops a stronger personal vote in Japan than in the U.K., Japanese factions are more intrinsically independent from the party leadership than in the U.K. As a consequence, more formal consensus-building processes are required to keep interfaction conflict from spilling into the legislature.

43. For an interesting transaction-cost discussion of the raise of the Westminster model of bureaucracy, see Palmer (1992).

44. During his first administration, Prime Minister Manley broke with political tradition and replaced many Permanent Secretaries. Since then, Permanent Secretaries have lost some of their influence and prestige, reducing the position's attractiveness to highly qualified middle-class individuals (see Stone, 1986). For a discussion of the U.K.'s bureaucracy, and a comparison to that in the U.S., see, for example, Fesler (1983).

45. Shugart and Carey (1992:173–74) use Chile's political system until 1970 to characterize the "archetypal presidential system."

46. At the same time, concurrent elections provided for the development of bipolar coalitions that offered voters choices over national policies without the need to develop strong central parties (Shugart and Carey, 1992:174).

reforms between 1958 and 1973 shifted the balance of authority in favor of the presidency and elevated national (rather than regional) politics and parties to center stage. These reforms granted more executive powers at the same time that they developed stronger checks and balances.[47] The reforms increased the potential for conflict between the legislative and the executive branches, which became evident during the regime of President Salvador Allende. Thus, while not entirely resistant to extreme pressure, Chile's long-standing set of legislative and executive institutions and the nature of its checks and balances can be seen as potentially providing some credible safeguards against arbitrary changes in the regulatory regime governing utilities. This period of extended stability, broken only by the military takeover in 1973, developed in Chile a strong respect for institutions.[48]

Chile's strong, professional, and independent judiciary provides a particularly effective check on the government, on issues of both constitutional and statutory interpretation. For example, Allende's 1970–73 government repeatedly clashed with the courts over issues of expropriation and compensation, with the courts refusing to back down. Its large pool of highly qualified professionals, has served Chile well in providing governments from the different parties access to qualified political appointees.

Chile's diffuse political power, then, provides opportunities for designing regulatory governance structures along several alternative lines. Because specific legislation is more difficult to change in Chile than, say, in the U.K. specific legislation may play a more important role in the regulatory governance structure of Chile than in the U.K. On the other hand, Chile's strong judiciary provides also for implementing regulatory governance based purely on procedures or contract law.[49]

3.3 Rent-Seeking Presidential Systems: Argentina and the Philippines

Argentina and the Philippines provide the observations for the Figure 1 branch that answers no to the "independent judiciary" question. These two countries share some common political features. First, both have modeled their formal political institutions upon those of the United States, creating a complex

47. Shugart and Carey (1992:183) call the system before the constitutional changes of 1958 and 1970 the "inefficient secret," because the regionalization of politics and the relatively weak powers of the president provided for a very dynamic legislature. Concerning the post-1970 Chilean system, Shugart and Carey (1992:200) describe it as the strongest among presidential systems. It features a strong germaneness limitation on amendments and permits only the president to offer a budget bill. Thus, the president fully controls the budget process, although that is not the case on nonbudgetary issues.

48. One may ask whether this respect for institutions persisted even during the military regime of General Pinochet. Even then signs of respect for long-standing institutions were evident. For example, during the military regime the constitution was amended by a popular referendum. Similarly, the military regime's decision to return the country to a democratic system followed an electoral loss.

49. See, McCubbins, Noll, and Weingast (1987) for a discussion of the role of procedures in providing commitment.

system of checks and balances.[50] Indeed, both countries have experienced quite extended periods of constitutional rule during which executive authority was largely restrained. Yet structure is not determinative: the history of both countries has been punctuated by periods of extra-constitutional rule in which governmental authority was concentrated in the president (see Hill and Abdala, 1993; and Esfahani 1993).[51] Second, in both countries, the endemic lack of respect for constitutional order has translated into a corrupt bureaucracy and judiciary, and into turns to the military as the panacea for interest-group conflicts.[52,53]

50. For example, both countries have separation of powers between legislature, executive, and judiciary; a written constitution limiting legislative and executive power and enforced by the courts; two legislative houses, with weak political parties; and a federal structure of power, with strong decentralization even to the local level. Although electoral rules are such that the effective number of parties contesting elections in the Philippines is 2, in Argentina it is higher than 2 and increasing, reaching 3.4 in 1989 (Shugart and Carey, 1992:220–21). To a large extent, this can be explained by the importance of nonconcurrent elections in Argentina. The fact that the effective number of parties in the Philippines is two does not mean that these are strong parties. Indeed, in the Philippines, as in the U.S., parties do not control nominations, nor do they use list ranks to control the order of elections or pool the votes. Thus, as in the U.S., Filipino legislators are quite independent of their central parties.

51. Argentina's 1853 constitutional separation of powers remained in place for almost a century, until it was amended in 1949 by President Juan Perón in a way that substantially expanded the powers of the president. The military overthrew Perón in 1956 and restored the earlier constitution. However, two subsequent military governments came to power in 1966 and in 1976. In the past, during Argentina's periods of civilian rule, governments either have been fragmented, making it difficult to enact sustained economic reforms, or have pursued zero-sum policies which rewarded the supporters of those in power. The present administration of President Menem is an important exception to this pattern of civilian rule. Not only did his Peronist Party win control of both houses of Congress (as well as the executive) in the 1990 elections, but when Menem took power, Congress (with the active support of Menem's opponents) ceded him special powers to deal with the economic crisis (see Hill and Abdala, 1993).

52. The theory to explain why some polities develop rules of the game that defer the arbitration of interest-group conflicts to the judiciary and the legislature rather than to the army is yet to be developed. Calvert's (1992) view of constitutions as conventions is a step forward, in that coordination games have multiple equilibria, with one equilibrium being characterized by lack of coordination. We do not attempt to provide an answer to this question here.

53. In Argentina, the disdain for constitutional legality appears even in the transfer of power following democratic elections. The transfer of power from the Radical Party to the current Peronist Party government was advanced to several months before the legal date. The transfer of power was arranged through an agreement between the Peronist Party and the Radical Party that required the incumbent Congress (not yet dominated by the Peronists) to pass an Economic Emergency Law granting the future president (Carlos Menem) the power to implement by decree a series of economic measures (see Hill and Abdala, 1993). Also, members of the judiciary are appointed by the country's president (and confirmed by the Senate) and serve for life, giving them substantial formal independence. In practice, however, changes in government (whether constitutional or nonconstitutional) have in the past been accompanied by turnover among members of the judiciary. Indeed, in 1990 the new government of President Menem, with the agreement of Congress, altered the Supreme Court by increasing the number of justices from five to nine and naming all new justices. By 1993 President Menem was able to appoint six of the nine Supreme Court justices. The Menem Court has recently been plagued by corruption scandals (see *The Miami Herald*, October 12, 1993).

Although the governments of both the Philippines and Argentina have traditionally followed "beggar-thy-neighbor" policies toward political opponents, the governing Filipino elites have followed, even during the Marcos regime, a "nonexpropriation" norm, whereby assets of political opponents are not expropriated outright (Esfahani, 1993). Instead, since control over the government rotates among elite groups, business owners not aligned with the elite in power tend to be subject to administrative expropriation (see Esfahani, 1993).

To summarize, both Argentina's and the Philippines' institutional frameworks seem to be sufficiently weak, and the scope for executive dominance sufficiently strong, that our framework suggests that regulatory governance has to go beyond the choices of legislation, procedures, or contract law.[54] We discuss these issues in Section 4.2.

4. Exogenous Endowments and Regulatory Commitment Mechanisms

This section describes and interprets the regulatory experience of the five countries in question. The discussion of regulation is organized around the three mechanisms to restrain arbitrary administrative action that were identified earlier: (a) substantive restraints on the discretion of the regulator that are written into the design of a regulatory system, (b) restraints on changing the regulatory system, and (c) institutions for enforcing both the substantive restraints and restraints on system changes. Each subsection sets the stage for discussing regulation by briefly describing the evolution of telecommunications ownership in the relevant countries.

As the analysis reveals, across the five countries and different periods, regulatory systems worked and attracted private investment at reasonable rates of return only when all three mechanisms were in place. Moreover, the evidence suggests that the exogenous institutional endowments of individual

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In the Philippines, on the other hand, while its written constitution incorporates an independent judiciary and prior to the proclamation of martial law in 1972 the judiciary was reasonably independent, the Philippines press has long been filled with tales of judicial scandal. Under martial law, its independence was further constrained and President Marcos effectively was empowered to remove any judge. Since 1986, the judiciary has regained some independence and influence, although corruption scandals continue. For example, in 1992 the Philippines' Supreme Court blocked the entry of a competing international communications carrier (Eastern Telecom). A few months later the author of the decision (Justice Hugo Gutierrez) resigned, following allegations that the opinion had been written by a PLDT lawyer (Panaligan, 1993—cited in Esfahani, 1993).

54. Viewed over the longer term, though, the multiplicity of parties in both countries suggests that if the current democratic episodes represent a clear break with unconstitutional transfers of power, future authority may be weaker than at present. U.S.-style legislative and executive institutions were reasonably effective in constraining arbitrary governmental authority in the Philippines in the first quarter-century after it obtained independence from the United States in 1946—although the Philippines' constitution tilted the balance of power more sharply toward the executive than does the United States model (see Abueva, 1988). President Marcos's declaration of martial law in 1972 (despite some modest reforms after 1978), further concentrated power in the executive. Since his overthrow in 1986 the country has reverted to a somewhat modified version of its pre-martial-law political institutions.

countries have influenced both whether they were able to put in place workable governance designs for their regulatory system and, if so, the specific forms of such designs. Tables 2 through 4 summarize the information presented below.

4.1 Traditional Parliamentary Systems: Jamaica and the United Kingdom

Table 2 summarizes the chronology of telecommunications ownership, regulation, and performance in Jamaica and the U.K.[55] Three features of the chronology are especially noteworthy and are examined in some depth below. First, both the U.K. and Jamaica have had sustained periods of high levels of private investment in telecommunications: in Jamaica before 1962 and after 1987, in the U.K. since corporatization and privatization (1982 and 1984, respectively). Second, during the periods of high investment, regulation took different forms in the two countries. In Jamaica, rate-of-return regulation has been the standard regulatory method, although with important differences between the pre-1962 and post-1987 periods; in the U.K., on the other hand, price-cap regulation was introduced for the first time in the regulation of British Telecommunication (BT). Finally, although both Jamaica and the U.K. had periods in which private ownership was associated with strong investment, Jamaica experienced a long decade (from the early 1960s to the mid-1970s) during which private investment lagged.

In this section we attempt to explain these three features in the light of the framework developed earlier. The thrust of this section is the following: First, despite seeming differences in their regulatory frameworks, the strong commonalities in the two countries' regulatory governance structures have roots in the similarities of their exogenous institutional endowments; second, the differences in the substantive restraints developed in both countries can be traced to important differences in their respective exogenous endowments; third, in all three high-investment periods the regulatory systems were appropriately aligned with exogenous endowments in a way that created workable mechanisms to restrain arbitrary action; finally, Jamaica's disastrous 1966–75 experience was the consequence of a misalignment between its exogenous institutions and the chosen regulatory governance structure.

4.1.1 The High-Investment Periods.

As Table 2 describes, Jamaica has had two high-investment periods: the first continued until the government's decision (in 1962) to switch from license-based, rate-of-return regulation to a U.S.-style, Public Utility Commission-based regulatory framework. The second period started with the creation and privatization of Telecommunications of Jamaica (TOJ) in 1987. The U.K.'s high-investment period began with BT's corporatization and subsequent privatization in 1984. As we discuss below, these events provide the observations for the Figure 1 branch that answers yes to the "de jure contractual arrangement" question.

Although the regulatory incentive schemes in the three periods are quite

55. This section is based on Spiller and Sampson (1993) and Spiller and Vogelsang (1993a).

Table 2. Regulatory History and Commitment Mechanisms: Jamaica and the United Kingdom

				Restraining Mechanisms		
Country/Period	Ownership	Regulatory History	Private Performance	Substantive Restraints	Restraints on System Changes	Enforcement of Restraints
Jamaica–1966	Privately owned with separate domestic and international companies.[a]	Rate of return (7–9%) on assets stipulated in the license. Ad hoc rate boards responsible for rate reviews. Decisions challengeable in courts.	Sustained network expansion up to 1962. Steady, moderate rate of return.	Monopoly rights plus precise rate of return for long period; written in the license.	License cannot be altered without consent of company.	Strong judiciary.
Jamaica 1966–75	In 1962 government announced intention to change regulation system at license renewal time. Sale of JTC to CTC (Continental Telephone Company) in 1966. In 1971 government takes majority stake in new international operations company, and in	New license issued in 1956 specifies JTC to be regulated by JPUC. License specifies rate of return to be fair and reasonable, although Telephone Act specifies 8% return. JPUC interprets legislative mandate to be not binding. JPUC institutes rate increases based	Initial network expansion, then slowdown. Low profitability.	"Fair" rate of return.	None, given generality of license.	Strong judiciary.

	1975 takes over JTC.	on investment performance. Sustained regulatory conflict.				
Jamaica 1987–	Creation of Telecommunications of Jamaica (TOJ), a joint venture between the government of Jamaica and Cable and Wireless, to combine JTC and JAMINTEL. Privatization starts in 1988.	License stipulates rate of return (17.5–20%) on shareholders' revalued assets. Speedy arbitration. Government cannot challenge investments. Government to monitor quality, and may require quality improvements.	Major investment in domestic network. Reduction in real prices and sustained high profitability.	Monopoly rights plus precise rate of return for long period written into license.	License cannot be altered without consent of company.	Strong judiciary.
United Kingdom 1984–	Publicly owned from 1912 until privatization in 1984.	License specifies price cap, and a complex mechanism to resolve regulatory conflicts	Takeoff of investment in 1982, with large gains in national welfare.	Main regulatory issues, including RPI-X, with a specific X, written into license.	License can be changed only with consent of company or through a precise process requiring the approval of three separate bodies. Informal restraints on abuse of power by sovereign.	Strong judiciary, plus informal norms of governmental decision-making.

[a]International company: Cable and Wireless (West Indies); domestic company: Jamaica Telephone Company (JTC); majority shareholder: the Telephone and General Trust of the United Kingdom.

Table 3. Regulatory History and Commitment Mechanisms: Chile

				Restraining Mechanisms		
Period	Ownership	Regulatory History	Performance	Substantive Restraints	Restraints on System Changes	Enforcement of Restraints
1930–58	Controlled by ITT (International Telephone and Telegraph).	Regulatory law open-ended, no independent regulatory. Government had right to intervene in the company's operations. Disputes to be resolved by Supreme Court.	Initially, relative rapid expansion, then slowdown.	Vague. Based on legislation.	Vagueness provided for administrative discretion in interpreting law.	Strong judiciary.
1958–73	Partial takeover of CTC (Compañía de Teléfonos de Chile) by government in 1967, government intervention in 1971, and total takeover in 1974. ENTEL created to	Regulatory subagreements in 1958 and 1967 eliminated vagueness concerning rate of return (set now at 10% instead of up to 10%) and imposed new in-	Network expansion accelerates prior to intervention and nationalization.	Strengthened by 1958 subagreements.	Separation of powers and divided legislature. Constitutional changes in 1958 and 1967 increased powers of national parties.	Strong judiciary.

	provide long-distance services in 1964.	vestment obligations.				
1987–	Privatization in 1988.	Detailed benchmark regulation for noncompetitive market segments. Price regulation based on performance of theoretically efficient firm, recalibrated every 5 years with interim indexation. Law stipulates process to be followed to compute and rate of return to efficient firm. Explicit arbitration procedures for recalibration. Regulatory decisions can be appealed to Supreme Court.	Unprecedentedly high rates of network expansion and traffic growth subsequent to privatization.	Very explicit, precise price regulation based on rate of return of efficient firm, plus explicit process for defining noncompetitive activities subject to price regulation. Both stipulated by law.	Separation of powers and divided legislature.	Explicit conflict-resolution process, with strong judiciary as final arbiter.

Table 4. Regulatory History and Commitment Mechanisms: Argentina and the Philippines

				Restraining Mechanisms		
Country	Ownership	Regulatory History	Performance	Substantive Restraints	Restraints on System Changes	Enforcement of Restraints
Argentina	Main telephone companies nationalized in 1946, to form a national company (ENTEL). Divided into two regional companies and privatized in 1990.	License-based regulatory framework specified initial 2 years based on rate of return, followed by 5 years with price cap with $x = 0$. Exclusive license to be extended to 10 years only if minimum investment targets are met. In fact, price freeze instituted 4 months after privatization. Companies	Highly profitable to initial investors. Investment levels match or exceed license renewal requirements. Very high prices (in US$), and quality problems remain. Too soon to determine full impact on welfare.	Explicit price-adjustment formula.	License amendments require company's agreement	Very little, as government seems to be able to deviate from license specifications without triggering judicial review. Politicized and weak judiciary.

		negotiated indexation based on U.S. consumer price index. Regulatory agency created under the Ministry of Economy. Appeals only to the Minister. Regulatory framework currently under review.				
Philippines	Private since inception, with ownership shifting from GTE to private Filipino parties in 1967.	Long-standing regulation by commission with vague mandate, lack of political independence, and modest power.	Alternation between stagnation and periods of moderate investment, following political cycle. Very high unmet demand. Profitability unknown.	None.	None.	None

dissimilar (Jamaica having in both periods a rate-of-return regulation with specific profitability targets and strong limitations on regulatory discretion, while the U.K. has no formal profitability targets in its price-cap regime), the regulatory governance structures are quite similar. The licenses served as contracts between the regulated companies and their respective governments, since attempts by the governments to deviate from the license specifications could be, and were, challenged in court. For the judiciary to serve as a credible arbitrator, however, the licenses must be specific enough that judicial outcomes are predictable. Licenses, then, can serve as an effective restraint to administrative action. Indeed, in the three episodes, licenses have been very specific about price-setting procedures. Both Jamaican licenses require that prices provide the company with a specific rate of return (7–9 percent on real operating assets in the pre-1966 period, and 17.5–20 percent on revalued shareholders' net worth since 1987). The 1987 license also limits the ability of the regulatory to disqualify investments or to delay price increases through administrative silence. Furthermore, the 1987 license provides for speedy arbitration to resolve price-setting conflicts. Both Jamaican licenses specifically granted the company the ability to challenge government decisions in court. BT's 1984 license (and all its amendments) is equally specific about its price-setting procedures. Price-setting powers are granted to BT, with only ex post supervision by the regulator to see that regulated prices follow the price-cap structure specified in the license. In both countries, attempts by the regulator to alter the main features of the regulatory regime requires a license modification. In Jamaica, license modifications require the agreement of the company. In the U.K., license modifications involve a well-specified process, which to be undertaken against BT's will, requires the agreement of the Monopolies and Mergers Commission (MMC) and the Secretary of Trade and Industry (the Board of Trade). Furthermore, an attempt by the regulator to circumvent such a process can be challenged in court.

Thus, in both Jamaica and the U.K. the use of very specific licenses provided the companies with substantial assurances about the expected profitability of their investments.[56] Furthermore, because these licenses were specified for long periods of time, were not easily modified, and were enforceable in the courts, the companies were assured of substantial regulatory stability.[57]

56. Although BT's license was very specific on price setting, it was quite vague on quality regulation. Thus, Oftel, the telecommunications regulator, has spent most of its efforts, and administrative discretion, in implementing quality-control measures (see Spiller and Vogelsang, 1993a). Given BT's disastrous internal quality-control systems at privatization time, it is not altogether clear that such efforts by Oftel were not in the interests of BT's shareholders *and* customers.

57. Jamaica's licenses traditionally have been granted for 25 years. While BT's license was granted for a similar period, its current price-cap feature expires after 5 years. Thus, unless BT's license is modified before the sunset provision of its price-cap regulation, BT's pricing becomes

The emphasis on contract rather than administrative law in providing regulatory credibility in both Jamaica and the U.K. is consistent with the nature of their political institutions. Their systems of parliamentary sovereignty imply that the mere existence of a law governing regulation, even if it is very precise and specific, provides very little assurance that the current regulations will not be subsequently modified. On the other hand, the courts in both Jamaica and the U.K. have a strong history of upholding contracts among private parties. Jamaican courts were called to resolve contract (regulatory) disputes between the government and the regulated company before 1962, while the U.K. courts dealt with electric power license interpretation issues prior to World War II. While U.K. courts have yet to hear and decide a case against a regulator of the privatized utilities, it seems that the threat of legal action has restrained the United Kingdom's regulators.[58,59] No disputes over the terms of the 1988 Jamaican licenses have yet been brought to court.

To summarize, in the three periods with substantial private investment, the three regulatory regimes specified important substantive restrictions on the discretion of the regulator; furthermore, there were serious impediments to changing the regulatory regimes; and finally, in all three episodes there was an institution that could credibly be called upon to enforce both the substantive restrictions on the regulator and the stability of the regulatory regime.

4.1.1 Differences in Regulatory Governance. Although both the U.K. and Jamaica have based their respective regulatory governance structures on licenses, BT's license has a measure of flexibility that TOJ's license does not have. BT's license can be amended against its will; TOJ's cannot. Amending BT's license against its will, however, is no minor task. It requires agreement among the Director General of Telecommunications, the Monopolies and Mergers Commission, and the Secretary of Trade and Industry. These three authorities can be expected to differ with one another in their regulatory views; indeed, two of them (the Director General and the Monopolies and Mergers Commission) enjoy more than a modicum of independence from the government of the day. As Spiller and Vogelsang (1993a) show, the traditional

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unregulated. This sunset provision gives BT a strong bargaining position, since undertaking a license modification against its will may take as much as a full year (see Spiller and Vogelsang, 1993a).

58. Spiller and Vogelsang (1993a) report that following the failure at the Monopolies and Mergers Commission of the Director General's proposal for license reform concerning the marketing of 900-type calls, the Director General was advised not to proceed with his proposal because he would be successfully challenged in courts.

59. Recently, however, Mercury filed a suit against BT and Oftel and it won its preliminary court hearing. Mercury claimed that "Oftel had not offer it with reasonable terms for the carriage of its traffic by BT, through a *consistent misinterpretation* of BT's government licence. Mercury's victory . . . means that there will be a full hearing of its application for a legal interpretation of that part of the licence which deal with interconnection" (*Financial Times*, 1 March 1994, our italics).

independence of the MMC and the inability of the Secretary of Trade and Industry to dictate decisions to the Director General of Telecommunications[60] imply that the multiplicity of veto points make a license amendment against BT difficult, though not impossible.

Jamaica's licenses have never had that measure of flexibility. Since the beginning of utility regulation, Jamaica's licenses have required the agreement of the company for any amendment.[61] That requirement has given the regulated company substantial bargaining power. As a consequence, even dramatic technological or political changes may fail to bring about changes in the regulatory environment.[62] While such rigidity could be criticized from a purely normative perspective, Jamaica's institutional endowment provides the clue for the need to introduce institutional rigidities in the regulatory governance. In the U.K., regulatory flexibility was built on a foundation of a long tradition of informal checks and balances and the use of independent, expert commissions. By contrast, Jamaica has never had a system of administrative checks and balances. The Jamaican Public Utilities Commission created in 1966 was the first, and only, experiment with independent commissions, and as the next section shows, the result was quite disastrous. Furthermore, the repercussions of the politicization of the bureaucracy during the first administration of Prime Minister Manley in the early 1970s eliminated the potential for using delegation of regulatory responsibilities as a source of commitment (Spiller and Sampson, 1993).[63] Our framework suggests, then, that attempt-

60. Constitutional interpretation traditionally has seen independent regulatory agencies in the U.K. as separate entities from their respective Secretary of State. The (CAA) revocation of Laker's Skytrain license to fly to the U.S. in 1976 following the issuance of the Secretary of State's guidance for the CAA was successfully challenged in the Court of Appeal (see *Laker Airways v Department of Trade* [1977] QB 643, cited in Baldwin and McCrudden, 1987:167). The Court stated that the Department of Trade's guidance "could supplement the CAA's statutory objectives; it could not replace them. . . . In issuing peremptory instructions to the CAA it constituted direction rather than guidance. . . . Parliament could not have set up an elaborate licensing code, subject to limited powers of direction, only to allow the Crown to render licences useless by use of the prerogative power." See Baldwin and McCrudden (1987:167). This, however, did not preclude Ministerial influence. Indeed, because the statute provided for appeal of CAA's decisions to the Secretary of State, since *Laker* 18 appeals to the Secretary of State have been successful, in whole or in part, while prior to *Laker* no appeal to the Secretary of State was successful (Baldwin and McCrudden, 1987:168). What *Laker* shows is that the Secretary of State may use the powers given by statute and consistent with the constitutional view of the role of independent agencies.

61. As mentioned, Jamaica's licenses traditionally have been granted for 25 years. At expiration, the drawing of a new license agreement would also require the acquiescence of the company.

62. For example, the U.S. experience with flexible competitive boundaries as a way to adapt the regulatory regime to new technologies (see Knieps and Spiller, 1983) cannot be implemented in Jamaica without compensating the company for the reduction in its profitability. Thus, for example, if new entrants were to be allowed, interconnection rates would have to compensate the company for its profit loss. This is not altogether different from the position taken by New Zealand's High Court in its recent *Clear Communications* decision concerning the interconnection of new entrants to New Zealand Telecom's network (see Mueller, 1993).

63. As mentioned above, the politicization of the bureaucracy during the mid-1970s diminished the attractiveness of the position in the eyes of the Jamaican middle class. Several commen-

ing to design in Jamaica a regulatory governance system with as much flexibility as that in the U.K. will most probably undermine the credibility of Jamaica's regulatory process, and hence negatively impact the sector's performance.

4.1.2 Differences in Regulatory Incentives. Jamaica and the U.K. differ not only in their regulatory governance structures but also in the nature of their regulatory incentive structures. Jamaica pursued a straightforward rate-of-return regulatory system,[64] while the U.K. introduced price-cap regulation. Because the normative inefficiencies of rate-of-return regulation had been discussed at length in the economic literature by the early 1980s and because price caps were already widely discussed as superior to rate of return by the late 1980s,[65] it is proper to question whether Jamaica's regulatory system introduced in the late 1980s was the result of a mistake, capture, or of the constraints imposed by the institutional background of the country.

Although we cannot reconstruct the mental processes by which Jamaica's government privatized TOJ and compare it to that undertaken by the U.K. government, it is clear that in both instances substantial emphasis was given to how to design the regulatory system to be applied to the privatized company—in the case of the U.K., through the commissioning of several white papers,[66] and in the case of Jamaica, through numerous cabinet meetings.[67] While capture and mistakes are difficult to discard as reasons for any regulatory decision,[68] our framework sees the institutional background in Jamaica as limiting the potential implementation of a flexible price-cap regime.[69] In the U.K., the regulator's revision of the price-cap rules is con-

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tators have mentioned to us that since the 1980s secretaries have tended to depend less on the advice of their permanent secretaries and more on non-civil-service advisors.

64. The modern Jamaican rate-of-return system, though, differs in important dimensions from that common in the U.S. or Chile prior to the 1970s, and even from Jamaica's own pre-1966 system, in that the regulator is given very little latitude to challenge capital investments and the rate of return is based on stockholders' revalued assets rather than on fixed or operating assets (as was the case pre-1966).

65. For analyses of price-cap regulation, see, for example, the *RAND Journal of Economics* symposium on price caps (Vol. 20, No. 3, 1989).

66. For a discussion of the legislative process up to the passage of the Telecommunications Act of 1984, see Newman (1986:8–11). See also Spiller and Vogelsang (1993a).

67. Conversation with Richard Downer of Coopers & Lybrand, Jamaica, and consultant to the Jamaican government.

68. Spiller and Sampson (1993) provide evidence against the capture hypothesis by computing the value of TOJ under its license scheme and comparing it to the price paid by the private investors. They find that the price of TOJ was very close to their computation of TOJ value as of privatization date. In their computation they assumed a 4 percent dividend policy and that the rate of return on equity would be the lower bound specified in the license. As the discount rate, they use the real return of Jamaican bonds.

69. However, it is possible to say that the regulatory system in Jamaica has a de facto price-cap feature, because a freeze has been imposed on the price of local calls since privatization while international calls have been used to provide the necessary rate of return. A five-year freeze was informally agreed upon at privatization time. Since then, TOJ has maintained the nominal freeze.

strained by a very specific process that is built around the integrity and credible independence from government of the various layers of authority required to approve license amendments and around a range of informal norms in the U.K., which ensures that the process cannot easily be manipulated. Such a process, however, could not easily be transferred to Jamaica. Jamaica lacks the multiple layers of independent authority necessary to build in credible U.K.-style restraints.[70] Since price caps are by nature transitory,[71] it is reasonable to expect the X factor to be increased opportunistically at the next price-cap renewal. As a consequence, the regulated company will limit its exposure, unless the initial price-cap regime would provide it with substantial up-front rents.[72] In other words, U.K.-style RPI-X (price cap) regulation is not readily transferable.

4.1.3 Regulatory Misalignment: Jamaica 1966–1975. In 1962 the Jamaican government decided to move, at license renewal time, from a license-based to a PUC-style regulatory structure. In 1966 the government issued new licenses to the domestic company based on the Jamaican Public Utilities Act of 1966, which mandated "fair" rates of return. It also established a permanent and independent regulatory commission, the Jamaican Public Utilities Commission (JPUC), to oversee regulation of domestic telephone and electricity services. The JPUC had substantial administrative discretion and promoted participation in the regulatory process by a wide range of interest groups. This episode provides the observations for the Figure 1 branch that answers no to the "de jure contractual arrangement" question.

From its inception, the relationship between the JPUC and the domestic company (Jamaica Telephone Company, or JTC) were acrimonious, and the conflict increased over time. Price increases fell substantially behind inflation, and the JPUC introduced a policy of promising price increases conditioned on quality improvements and investment levels. The domestic operations company stopped all investment programs in 1962 following the government decision to change the regulatory regime. Except for a short period following the U.S.-based Continental Telephone Company's takeover of domestic telephone operations in 1966, there was no network expansion until the 1980s.

The primary reason for the acrimony and the deteriorating performance of JTC was the absence of substantive restraints in the regulatory system. The JPUC was created to replicate the operations and freedoms of a U.S.-style PUC. The JPUC invited participation from interest groups, undertook hear-

70. Indeed, since the elimination of the Jamaican Public Utility Commission (see below) there has not been even a single regulatory agency with substantial visibility and reputation for independence.

71. A fixed price cap in perpetuity will bring widely unstable profitability outcomes, and hence is not credible.

72. We claim this to be the case in Argentina (see below).

ings, and made determinations without strong constraints. The enabling legislation only required it to set "fair and reasonable" rates. Although the JPUC Act of 1966 granted the Jamaican courts the right to review JPUC's decisions, during the 1966–75 period the judiciary did not provide any important restraint to the JPUC. Indeed, given the vagueness of the license, the "unreasonableness" criterion required to overturn a governmental decision became a very stringent standard to overcome.[73] The JPUC was, for all purposes, unchecked, except for the direct intervention of the government.[74] Thus, during this period, the judiciary could not be called to provide the regulatory credibility inherent in the pre-1966 and post-1987 regulatory regimes.

4.2 The Archetypal Presidential System: Chile

Table 3 provides a summary chronology of telecommunications ownership, regulation, and performance in Chile.[75] As in Jamaica, Chile's regulatory history can be separated into high- and low-investment periods. During the high-investment periods, regulation took very different forms—rate of return in 1958–71, and benchmark regulation from 1987 on. The low-investment periods were (a) from the end of World War II until the late 1905s and (b) from the Allende government, through the intervention in 1971 and nationalization in 1974, until the regulatory reforms of the mid-1980s. Here we focus only on the period under private ownership (up to 1971 and from 1987 on). In this section we attempt to explain and interpret these patterns in the light of the framework developed earlier. The thrust of this section is as follows: first, during the periods of high investment, the regulatory schemes were better aligned with Chile's exogenous endowments than during the low-investment period; second, that such alignments restrained arbitrary action in the three dimensions noted above.

4.2.1 The Low-Investment Period.

The Compañía de Teléfonos de Chile (CTC) was operating in Chile as early as 1880. In 1930 it entered into a contract with the government (later written as Law No. 4791/30), which

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73. Following a JPUC decision to increase rates, both the JTC and a group of users filed cases in Jamaica's Supreme Court. The former because the rate increase was too low, while the latter because it was too high. The Supreme Court declined to hear either case. In 1974, the government amended the JPUC Act to specify a minimum rate of return (related to the yield of the Jamaican government's foreign debt) for the companies regulated under the Act. The JPUC nevertheless interpreted that amendment as not specifying a "total entitlement" but rather a maximum (see Spiller and Sampson, 1993).

74. For example, in a 1973 rate case the JPUC rejected the company's request for a price increase. The government then imposed a tax on telecommunications and provided the company with a subsidy equal to that tax. The JPUC claimed that such action by the government was illegal, but there was no legal challenge to the government's action. In consideration of the subsidy scheme, the government received a 10 percent share in the JTC (Spiller and Sampson, 1993).

75. This section is based mostly on Galal (1993).

remained in effect until the government intervention in 1971. The 1930 contract provided CTC with a 50-year concession, indexed its tariffs to "peso-gold," stipulated a return on assets up to 10 percent,[76] protected the company against termination of the concession,[77] and required from the company a particular investment program over the next few years. The contract provided the government with the ability to take over the company's operations under vaguely defined terms (Galal, 1993). While the 1930 law seems to have provided an impetus to telecommunications investments, investments started to lag and conflict with the government over tariffs and costs developed. The subagreements entered into in 1958 and 1967 resolved those conflicts. The 1958 subagreement assured CTC of a 10 percent rate of return (rather than up to 10 percent as in the 1930 law), and CTC agreed to start an eight-year development plan. The 1967 subagreement maintained the rate of return and redefined costs, and CTC agreed to an expansion plan up to 1971, committing to increase lines from 1971 on at a rate of 6–7 percent per annum.

Although many other reasons may lie behind the low investment levels prior to the subagreement of 1958,[78] the vagueness of Chile's telecommunications law did not provide strong safeguards against opportunistic behavior by the government, particularly as the post-war period was one of rapid political change. The telecommunications statute specified a maximum, but not necessarily binding, rate of return of 10 percent. The vagueness of the law had two main implications: first, regulators had substantial discretion in its interpretation; second, because of its vagueness, government could modify the law through regulatory decrees, as it did in 1958 and 1967.[79] Thus, not only did the regulatory regime provide wide latitude to the regulator but there were no important limitations to changing the regulatory system itself. The subagreements of 1958 and 1967 did not change the regulatory incentive structure, but rather improved upon regulatory governance. The change in performance that followed can be related directly to such an improvement. This period, then, provides an observation for the Figure 1 branch that answers no to the "specific process written in law or contract" question. This period resembles Jamaica's JPUC period. In both instances, regulatory governance structures

76. Any return in excess of 10 percent would be divided equally between CTC and the government.

77. At termination of the concession the government could either take over the company, paying the value of its assets expressed in "pesos-gold," or could renew the concession for another 30 years.

78. In particular, we refer here to potential macroeconomic considerations arising from World War II and its aftermath.

79. In Latin America's presidential systems, laws may be interpreted by the administration through the issuing of regulatory decrees (*decretos reguladores*) that have the power of law. Indeed, some legislative acts have no power until such regulatory decrees are issued. As a consequence, changes in a regulatory decree may require specific new legislation, unless the regulatory decree itself leaves open the need for its own modification (see Shugart and Carey, 1992).

were not aligned with the countries' institutional endowments and neither restrained regulators' discretion nor limited the potential for changing the regulatory systems. In both cases, network expansion was limited.

4.2.2 The High-Investment Periods. While the regulatory schemes of 1958–71 and 1987 to the present are quite different (see Table 3), both attempt to limit regulatory discretion. In both cases, limits to regulatory discretion are attained through specific legislation. As noted, the subagreements of 1958 and 1967 eliminated the vagueness of the previous law by assuring CTC a 10 percent rate of return (while at the same time imposing new investment obligations). The post-1987 regulatory regime is of a different nature. After experimenting with a variety of regulatory schemes as a prelude to privatization, Chile's military government introduced a new regulatory law that remains in force to this day. The new law provides precise details for the implementation of rate-of-return regulation of the noncompetitive market segments. Furthermore, the law specifies the process to be used in determining which services are noncompetitive, and hence subject to regulation. The process involves a determination by the Antitrust Resolutive Commission, following a reference from the telecommunications regulator (the Sub-Secretary for Telecommunications).

Price regulation for the noncompetitive services is designed to provide a rate of return to a theoretically best-practice, efficient firm. The specificity of the telecommunications law is such that it specifies how to compute the cost of capital of the putatively efficient firm[80] and how to compute, given the cost of capital, the maximum prices (based on a long-run marginal cost model for each of the individual services at the point of departure) for the regulated services. Note, though, that Chile permits entry even into these regulated market segments.[81] This benchmark is recalibrated every five years (with indexation in the interim periods) by the regulator in consultation with the private companies. The law also specifies an explicit arbitration process in the event of disagreements—with the courts as final arbiter.[82]

Because the law is so specific, regulatory changes require new legislation, as the law's specificity provides very little latitude for alternative interpretations. New legislation would have to overcome institutional obstacles, like bicameralism and a divided legislature with a minority president. The

80. The law requires the use of the capital asset pricing model in computing the allowed price levels. Furthermore, the law also stipulates the precise averaging procedure to be used in recalculating the costs of the putatively efficient firm.

81. Chile imposes benchmark regulation only in those market segments that are deemed not to be contestable and has an explicit procedure of public hearings for determining whether contestability exists in individual segments (see Galal, 1993).

82. Several aspects of the regulatory regime remained to be interpreted by the antitrust commissions and the courts—for example, interconnection agreements and the right of Entel (a long-distance company created in the late 1960s and privatized also in the late 1980s) and CTC to enter into each other's line of business (see Galal, 1993).

post-1987 period, however, provides a particular source of flexibility that did not exist in the 1958–74 period. Because regulation is to be undertaken only in noncompetitive segments, the boundaries of price competition are not fixed in the legislation but rather are allowed to be changed by decisions of the antitrust commission. It was possible to pass such specific legislation in the first place, because at the time Chile's government was unified under the military, partially resolving the legislative obstacles to the creation of a complex regulatory system. However, this does not mean that only through military regimes can such specific legislation be achieved. In fact, other democratically elected governments have introduced similarly specific legislation in other regulatory areas.[83]

Thus, during the post-1987 period, and to some extent following the subagreements in 1958 and 1967, governance structures were designed to limit regulatory discretion. These governance structures were particularly aligned with Chile's institutional environment. Specific regulatory laws in Chile provide regulatory credibility because specific legislative changes are not easy to implement. Finally, deviations from both specific regulatory instructions and attempts to change the system by governmental actions can be easily challenged in the courts. The Chilean judiciary has a record of hearing—and resolving impartially—regulatory disputes. Indeed, since privatization it has become involved in a series of disputes surrounding the regulation of telecommunications concerning, in particular, the determination of competitive boundaries (see Galal, 1993).

The two periods, however, provide very different limitations on regulatory discretion. While regulatory discretion during the 1958–71 period was more limited than during the period prior to the subagreements of 1958 and 1967, it was still much higher than during the post-1987 period. Since 1987, short-run regulatory discretion in pricing has been almost completely eliminated, as the 1987 law specifies not only the procedures to be followed, but also the way information is to be processed. These episodes, then, provide observations for the Figure 1 branch that answers yes to the "specific process written in law or contract" question.

We should note, however, that such legislative specificity would not have provided the same type of commitment in Jamaica or the U.K., where laws can be amended much more easily than in a presidential system like Chile's. While specificity of the sort designed in Chile could be stipulated in a license (à la U.K. or Jamaica), such a high degree of specificity and complexity requires that those active in enforcing the license—that is, company executives, bureaucrats, and the courts[84]—be able to effectively navigate its complexity. While the U.K. bureaucracy has traditionally attracted highly quali-

83. For example, in late 1992 Argentina introduced a similar regulatory regime for the electricity sector (see Spiller, 1993).

84. We could even include the media, as license renewals have always been very public affairs in both Jamaica and the U.K.

fied professionals, it is questionable whether the Jamaica bureaucracy has the necessary depth and experience. As a consequence, it is reasonable to speculate that the introduction of Chilean-style regulatory incentives in Jamaica could have triggered continuous litigation, forcing the Jamaican courts to make highly technical interpretations, with an unstable outcome being highly probable. In terms of Figure 1, the U.K. and Chile provide observations for the branch that answers yes to the "strong bureaucracy" question, while Jamaica provides observations for the branch that answers no to that question.

To summarize, the evidence presented here is consistent with our main hypothesis that performance is related first and foremost to the extent to which regulatory governance structures are aligned with the institutional endowments of the country. While the incentive structures of Chile's post-1987 period are particularly strong, they would not be credible in the absence of appropriate regulatory governance.

3 Rent-Seeking Presidential Systems: Argentina and the Philippines

Table 4 provides a summary chronology of telecommunications ownership, regulation, and performance in Argentina and the Philippines.[85] Three features are particularly noteworthy and will be examined in some detail below: first, in neither country has a workable regulatory governance structure been successfully put in place; second, telecommunications development in the Philippines has been characterized by a "political investment cycle"; third, investment levels have been reasonable in Argentina since privatization, but were accompanied by very high rates of return. In this section we attempt to explain and interpret these patterns in the light of the framework developed above. The main thrust of this section is as follows: the gaps in the exogenous institutional endowment of the two countries account for their chronic failure to establish workable regulatory governance structures; as a consequence, investment decisions have been made with very short horizons, with negative implications for long-term performance.

4.3.1 Regulatory Governance Problems.

In 1990 Argentina's main state-owned telecommunications company, ENTel, was split and was later sold to two separate private consortia—one headed by Telefónica of Spain, the second headed by France Cable and Radio and Stet of Italy.[86] The rules under which the private companies were to operate have repeatedly been changed, with pricing a vivid example: one set of pricing rules was announced when private investors were invited to bid for ENTel; these rules were changed during negotiations with the bidders, were changed twice more in 1991 when the initial agreements came into conflict with broader macroeconomic policies, and were renegotiated yet again in late 1992. Underlying the fluid state of the regulatory system around the time of the privatization, the initial price

85. This section is based mostly on Hill and Abdala (1993) and Esfahani (1993).

86. These companies became known as Telefónica and Telecom, respectively

level for the basic telecommunication pulse[87] was negotiated *after* the companies submitted their bids and after the bids were adjudicated but *before* the companies signed their license agreements in 1991.[88] The two winning consortia negotiated hard to set the initial price level before taking control over, and paying for, the two operating companies, suggesting that they were not confident that the proposed regulatory scheme would actually be implemented. Indeed, although the regulatory systems specified in the operating licenses granted at privatization incorporated substantive restraints of some type or another, what actually was implemented (i.e., a price freeze, followed by indexation to the U.S. consumer price index) bore no resemblance to what was specified in the original licenses.[89] We have found no evidence that the affected companies tried to force implementation of their license specifications through appeals to the courts. However, this is not surprising, given the politicization and corruption of the Argentinian judiciary.

The Philippines also has not had a system that imposed any substantive restraints on regulatory discretion. Formally, the telecommunications sector has been under the control of a regulatory commission since colonial times: before 1972, the Public Service Commission (PSC) was responsible for all utilities; subsequently, responsibilities passed to a specialized telecommunications regulatory agency. However, at no time have either the boundaries of authority of the regulatory agency or the substance of its regulatory mandate ever been clearly delineated. Other than the splitting of the PSC into its component parts, there have been no systematic efforts at telecommunications regulatory reform, at least since the Philippines obtained its independence in 1946. Given the fragmentation of the Philippines' legislature, and the potential for judicial corruption, the system limits the ability of the regulator to promote competition without legislative support. While the traditionally fragmented legislatures of Argentina and the Philippines could provide a basis for stable regulatory regimes, in fact both polities' lack of informal restraints, weak judiciaries, and disregard for the rule of law have meant that the opportunities for enacting restraints on changing the regulatory system are very limited.[90] Furthermore, the existence of corrupt judiciaries in both countries

87. All call prices are based on the price of a "pulse," with more expensive calls (e.g., long distance) incurring more pulses per minute.

88. A similar disdain for rules is reflected in that the exclusive licenses included the service areas of the main private regional telephone company, CAT, a subsidiary of Siemens. As a consequence, the licenses took away CAT's legal standing, forcing it to be sold to the new licensees (see Hill and Abdala, 1993).

89. For example, the original licenses specified a two-year period during which pricing was to be set on a rate-of-return basis (the rate of return set at 16 percent, although it was unclear whether this was a maximum or a minimum, with legislators and the president of ENTel disagreeing on that point), followed by a price-cap period with X set to zero.

90. Given that the current regulatory regime has few substantive restraints, and that there are no restraints to changing the regulatory system, it is only a theoretical exercise to think about the enforcement of restraints in the cases of Argentina and the Philippines. We will not consider these issues here, except to note that while the judiciary in the Philippines has played some role in

seems to constitute a basic institutional flaw, as they cannot be trusted to restrain the regulators nor to restrain changes in the regulatory systems.

4.3.2 Investing in the Face of Adversity. It is reasonable to ask how investment takes place at all in countries with such weak governance structures. The answer resides in the extraction of short-term rents. Measuring profitability rates in the Philippines is an impossible task given the extent of corruption in procurement (Esfahani, 1993), but "short-termism" can be seen in the rhythm of telecommunications investment in the Philippines—which is attuned to the ebb and flow of political actors "friendly" to the telecommunications utility rather than to the business cycle. In particular, Esfahani (1993) shows a repeated three-pronged investment pattern: first, investment in telecommunications takes off immediately following the inauguration of governments aligned with the group controlling the main telecommunications utility (PLDT); second, investment tails off in the later years of the regime; and third, investment stagnates in periods when relations with the group in power are more distant. As a consequence, sector performance has been poor, especially in the provision of local service. Between 1950 and 1991, the number of telephones in service expanded at the modest average rate of 4 percent per annum, with bursts of moderate growth in fixed assets punctuated by periods of stagnation. As of 1991, recorded unmet demand for telephones amounted to almost 65 percent of the number in service.

In Argentina, short-termism is apparent in the extremely high profitability of the licensees. For example, for the 11 months ending on September 30, 1991, the rate of return to Telecom's operator was 26.9 percent, while that of Telefónica's was 203 percent. The returns to both consortia were also quite remarkable: 58 percent and 72 percent, respectively (Hill and Abdala, 1993:Table 8). While 1991 investments were not higher than anticipated, during 1992 both companies increased their number of lines by twice the number required by their licenses to maintain their 10-year exclusivity period.[91]

5. Final Comments and Open Questions

The evidence presented in the previous section can be interpreted as follows. First, private utilities were aggressive investors whenever the three restraining mechanisms identified in Tables 2–4 were in place (in Chile, 1958–70 and post-1987; in Jamaica, pre-1962 and post-1987; in the U.K., post-1984). By contrast, out of the remaining four cases where the three mechanisms were not

limiting regulatory discretion, this restraining role seems to have been tainted by corruption allegations (see Esfahani, 1993).

91. To a large extent, given the political impossibility of repatriating all the cash flow generated by these companies, the fact that they quadrupled their additions to main lines in 1992 may simply reflect the use of available cash flow. By reinvesting their retained earnings now, the companies relax the constraints that license investment requirements may impose in future years, when cash flow reductions may require the companies to obtain fresh funds.

in place, only Argentina has experienced any significant private investment by telecommunications utilities (although only two years have elapsed since privatization). And that experience has been accompanied by unusually high rates of return.

Second, there were substantial variations in the specific forms of the three mechanisms. These variations appear to derive from the nature of each country's exogenous institutions. Chile incorporated substantive restraints into its regulatory incentive structures by specifying precisely how regulated prices are to be determined. Jamaica and the U.K. limited administrative discretion by granting the regulated company freedom to set prices subject to some overall price constraints (rate of return, in the case of Jamaica, price cap in the case of the U.K.) and by limiting the ability of the regulator to interfere with such decisions. Restraints on changing the regulatory system were also in place in those three countries during the periods when the regulatory incentive structures limited administrative discretion. The character of these restraints, however, varied across the three countries, with the variations consistent with the countries' exogenous institutional endowments: the U.K. and Jamaica used licenses, while Chile used specific regulatory legislation.

Third, all three countries whose regulatory systems have successfully constrained the discretionary power of regulators have independent and well regarded judiciaries. And in all three countries, these judiciaries have a record of hearing regulatory disputes and resolving them impartially. Thus, while in seven of the nine regulatory episodes discussed here, countries were endowed with exogenous institutions capable of restraining arbitrary administrative action, in only five of these seven episodes did governments use these exogenous endowments to put in place regulatory systems that restrained arbitrary administrative action, and, in turn, were successful in attracting private investment. The remaining two episodes—Jamaica between 1962 and 1975, and Chile before the subagreements of 1958 and 1967—appear to be cases of missed opportunities. In both episodes there was a basic flaw in the design of regulatory governance—a failure to build substantive regulatory restraints into the system itself. Chile's 1930 law imposed a ceiling (but no floor, until amended in 1958) on rate of return, and gave the government the right to intervene in the company's operations under vaguely defined circumstances. Jamaica's regulatory system between 1966 and 1975 was modeled on the U.S. system and promoted participation in an open-ended regulatory process by a wide range of interest groups—but without the procedural and judicial safeguards that traditionally have protected utilities in the U.S. Consequently, in both episodes private utilities eventually failed to invest, and the resulting conflicts with government culminated in nationalization.

The two remaining cases, Philippines and Argentina, are more of a mixed bag. In the Philippines the exogenous domestic institutions historically have provided an inadequate foundation upon which to erect a regulatory system capable of restraining administrative discretion. Private ownership seems to be based on rents extracted through the political process. For all their historical weaknesses, Argentina's political institutions may provide some basis for

making credible commitments, as long as the judiciary achieves a modicum of independent credibility and enforcement capability. If democracy becomes a permanent feature of Argentina, then power is likely to be more fragmented than it is at present, both between the executive and the legislature and within the legislature itself. Thus, regulatory reforms that limit administrative discretion, either through licenses with very specific and limiting provisions or through very specific legislation, may prove difficult to change and may thereby provide investors with safeguards for future investments. The Philippines' stable political institutions, however, seem to frustrate even such a mildly positive assessment (Esfahani, 1993).

Our analysis suggests that the foundation of a successful regulatory policy consists of the development of a regulatory governance structure that is adequate, given the nature of the country's institutions, to constrain arbitrary administrative action and that induces private investment to take place. An exclusive focus on regulatory governance, however, is inadequate, as it offers only limited guidance as to what should be the specific content of substantive regulatory rules. Thus, a unified approach to regulatory policy must incorporate regulatory incentives (that is, rules concerning pricing, entry, and interconnection) into the analysis as well as consider the impact of the specific content of regulatory rules on the efficiency with which private utilities perform. Exclusive emphasis on the latter, however, may result in a totally inadequate regulatory structure.

At this point it may be useful to speculate on what alternatives are available to countries that lack the crucial exogenous formal and informal institutions discussed here. Our discussion suggests that in those countries private investment will require the development of alternative safeguards. One example of a safeguarding mechanism is a privatization program that distributes share ownership (and thus a stake in the performance of the privatized company) among a broad part of the population. Building a broad base of shareholders was important in the privatization of telecommunications in the U.K., and played a modest role in the Chilean, Argentinean, and Jamaican telecommunications privatizations (but was an important component of other Chilean utility privatizations; see Spiller, 1993). Attempts at widespread ownership require the prior development of a stock market, with relatively well developed security regulations, which may be lacking in some countries. Similarly, widespread ownership may require the development of private institutional investors (e.g. pension funds, insurance companies) that provide a low-cost conduit for widespread and diversified stock ownership. The U.K., Chile, and to some extent Jamaica have developed these types of institutions, thus facilitating the further development of investment safeguards.[92] A second option is to privatize enterprises sequentially (and to have sequential sales of shares in individual enterprises). Since the success of the later steps of a sequenced program

92. For example, even when the U.K. Labour Party denounced BT's privatization in the mid-1980s, its platform called for renationalization without "speculative gains," rather than outright nationalization.

depends upon whether the privatizing government abides by the agreements made in the earlier steps, the costs to government of reneging on its early agreements can be high. Among the cases studied, Argentina provides the clearest example of this approach. Its privatization of telecommunications was the first dramatic step in a sweeping program to privatize public enterprises. The potential impact on the remainder of the program afforded the private buyers of the telecommunications utility some confidence that the Argentinean government would refrain from ex post administrative expropriation (Hill and Abdala, 1993). Unless the required institutions develop as the privatization process progresses, investors will be increasingly reluctant to invest, because of fears that the end of the privatization period may unravel the government's self-restraint.

As for international substitutes for missing national foundations, Jamaica and the Philippines in the 1950s come closest of all the countries studied to using this mechanism. Jamaica's judicial system continues to recognize the Privy Council in London as the final arbiter of Jamaican court decisions, a feature that may partially account for its continued credibility. Even though the Philippines was formally granted independence from the United States in 1946, for the subsequent 15 years the continuity of pre-independence institutions, the strong leverage of the United States, and specific agreements that protected U.S. investors provided a predictable and safe environment that facilitated investment by both Filipino and U.S. investors.

The potential exists to go much further in using international institutions as substitutes for weaknesses in domestic commitment capability. One innovation that has begun to receive attention is for an international institution like the World Bank to provide private investors (and lenders) with guarantees against noncommercial risk, including the risk of administrative expropriation. These guarantees are provided at the request of the host country of the investment. In the event of private investors calling in the guarantee, the host country becomes liable to repay the international institution the value of the guarantee. A failure to repay would provoke a costly rupture of the country's relationship with an important international institution. Through such guarantees, the country's good standing in the international community and its continuing commitment to regulatory restraint are held hostage to each other—providing some commitment against administrative expropriation.[93]

In sum, the success of a regulatory system depends on how well it fits with a country's prevailing institutions. If a country lacks the requisite institutions or erects a regulatory system that is incompatible with its institutional endowment, efforts at privatization may end in disappointment, recrimination, and the resurgence of demands for renationalization.

93. Note that a program along these lines is different from existing programs of insurance against noncommercial risk—which shift the costs of administrative expropriation to the insurer, and thus do little to enhance the incentive of the host country to abide by its commitments.

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