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"The Institutions of Regulation: An Application to Public Utilities"

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THE INSTITUTIONS OF REGULATION:
AN APPLICATION TO PUBLIC UTILITIES

by

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I. Introduction

Regulation is part of the complex web of a nation's public policy. To understand regulatory design, then, it is imperative to understand the general determinants of public policy. The purpose of this essay is to highlight the usefulness of a transactional approach to public policy determination in understanding the origins, nature and the evolution of the institutions of regulation. As it merits an essay in a volume on the New Institutional Economics, we approach public policy as a (complex and often intertemporal) transaction among policy makers.[1] As such, the nature and features of public policies are impacted by the type of contracts facilitated by the institutions – i.e., the rules of the political game – of the country in question.[2] Here, then, we analyze the institutional determinants of regulatory policy making by looking at regulation as the outcome of complex intertemporal exchanges among policy makers. As in normal economic transactions, efficient intertemporal exchanges require safeguarding institutions. In their absence, we will observe the development of non-cooperative and short-term behavior, inflexible rules to avoid political opportunism, and in general low quality regulatory policies.

There are three basic types of regulatory equilibrium outcomes: public ownership, flexible regulation or rigid regulation. The type of regulatory outcome observed in a jurisdiction, then, is a direct result of the polity's ability to undertake complex intertemporal exchanges.

This approach, with strong intellectual underpinnings in the transaction costs approach as developed by Oliver Williamson,[3] places the emphasis on what Levy and Spiller (1994) calls regulatory governance, and less on regulatory incentives. They see regulatory governance as the mechanisms that societies use to constrain regulatory

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[1] This approach traces its roots to the path breaking contributions of the McNollGast team. See McCubbins, et al (1987, 1989).

[2] North (1990) separates institutions from organizations. Institutions are "the rules of the game" of a society, while organizations (such as firms, or legislatures) are formal structures with certain objectives, constrained by society's institutions.

[3] See, in particular, Williamson (1975), (1979), (1985), (1996).

discretion, and to resolve conflicts that arise in relation to these constraints.[4] On the other hand, regulatory incentives are the rules governing utility pricing, cross- or direct-subsidies, entry, interconnection, etc. While regulatory incentives may affect performance, a main insight from Levy and Spiller (1994) is that the impact of regulatory incentives (whether positive or negative) comes to the forefront only if regulatory governance has successfully been put into place. We go, however, one step further, and suggest that to understand regulatory performance we need to understand the institutional determinants of regulatory governance. In this sense, our neo-institutional approach to regulatory institutions differs from the two main strands of the economics of regulation literature of the last twenty years: the Chicago school and the incentives theory of regulation.

We differ from the Chicago School, as exemplified in the path breaking work by Stigler (1971), Peltzman (1976) and Posner (1971), in that, although rent seeking and distributional effects are important to understand public policy outcomes, we emphasize the institutional aspects that impact on the nature of regulatory institutions, and thus of regulation and sectoral performance. In other words, we believe it is important to open the black box of regulation. We differ also from the incentives theory of regulation, as developed following the path breaking work of, among others, Loeb and Magat (1979), Baron and Myerson (1982), and Laffont and Tirole,[5] in two main respects. First, we emphasize that the contracting schemes that are required to provide second best incentives are dependent on the institutional environment in which the firms operate. By developing the link between the institutional environment and the type of regulatory institutions that are feasible, we can, implicitly, develop the institutional conditions under which incentive regulation becomes feasible. Second, since the incentive theory of regulation shares the "black box" approach to politics of the Chicago School,[6] our

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[4] Williamson would call such constraints on regulatory decision making "contractual governance institutions." See Williamson (1985, p. 35).

[5] See the summary of their work in Laffont and Tirole (1993).

[6] Observe that in most of the incentive theory of regulation literature, the regulatory process is described by a regulator's utility function. Interesting extensions into hierarchical or more dynamic models of regulation have brought some institutional flavors to this literature. See, for example, Demski and Sappington (1987), Baron and Besanko (1987) and Laffont and Tirole (1991).

emphasis on institutional determinants rather than pure efficiency incentives separates us also from the incentive theory of regulation.

Our emphasis in moving one step (or even two steps) higher in the hierarchy of issues not only makes us shift the object from regulatory policy itself (are prices closer to long run marginal cost, are mark-ups sensitive to cost changes),[7] to regulatory governance (are regulatory processes and rules to uphold those policies well established and stable?) and its link to the institutional environment that implements it, but also shifts the performance metric of analysis. Levy and Spiller (1994) emphasize that there are multiple regulatory regimes that are consistent with good performance. What is important, though, is that regulatory policy be stable, coherent, consistent across areas, predictable. In other words, what public administration scholars would call "good quality."[8] One could ask why not all regulatory outcomes are of high quality. Some may emphasize issue complexity, or administrative capabilities, or distributional features, or bureaucratic discretion. Here we propose to explore the implications of looking at regulation as a political transaction for the resulting features of regulatory policy. Thus, we suggest we move the discussion of regulation as an implicit contract between a regulator, or the government, and a firm, as is implicitly done in the literature on incentive regulation, to one among policy makers, where the result of that exchange, the nature of regulation, has direct implications to sector performance. This approach, then, places more emphasis on structure and process than necessarily on outcomes, and in that way it has important predecessors. Among those, Joskow (1974) and Williamson (1976) were some of the first to introduce process in the positive analysis of regulation. More directly related is the fundamental work of McCubbins, et al (1987 and 1989) who, as applied to the United States regulatory issues, were the first to link political structure to regulatory process.

The approach presented here, then, combines two of the pillars of the New Institutional Economics – transaction costs economics and positive political economy. Transaction costs economics provides the underlying framework to understand the

[7] These are the object of analysis of the Chicago school and the incentive regulation literature.
[8] These features are what Spiller and Tommasi (2003) call the "outer features" of policies.

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contracting issues among legislatures. Positive political economy provides the framework to understand the connection between institutions and politicians' incentives.

In this chapter we analyze the implications of this approach to the rise and evolution of regulatory institutions. Exclusively for the purpose of keeping the focus, we apply this essay to the regulation of public services, or as it is called in the United States, public utilities. The reader, however, should be able to extrapolate the implications of this analysis to other regulatory issues, like financial regulation, fiscal federalism, and so on and so forth. Finally, the analysis is applied to developed and developing nations as well. The structure of the chapter is as follows. In Section II we introduce what we see is the basic problem of utilities. We use this section to highlight the issues that regulatory institutions must deal with. Section III introduces a framework that we use to highlight some key issues in the design of regulatory institutions: in particular the delegation to agencies and courts. Section IV deals with regulatory governance in detail, by looking at its theoretical underpinnings and actual practice, and we provide some final comments in Section V.

II. The Problem of Utilities

In this section we contend that the overarching problem driving the regulation of utilities, whether public or private, and thus the issues politicians have to deal with, is how to limit governmental opportunism, understood as the incentives politicians have to expropriate – once the investments are made- the utilities' quasi rents, whether under private or public ownership, so as to garner political support. Institutional environments that are successful in generating regulatory institutions that limit governmental opportunism will be able to also provide successful sector performance. This, by no means, implies that other issues like the exercise of market power, the main topic in the incentives regulation literature, or interest group politics, the main topic in the Chicago School of regulation, are irrelevant or of no interest. Instead, our thrust is that what drives institutional design in public utility regulation is limiting governmental opportunism, not allocative efficiency. What drives the implementation of regulatory incentives, on the other hand, is the trade-off between allocative efficiency and distributional issues, given the constraints given by regulatory governance. Our focus, however, is on regulatory governance. Thus, in what follows we focus on its main determinants, and less on the implications of

restraining the exercise of market power by utilities.[9]

What Defines Utilities

Three features characterize utilities: first, their technologies are characterized by large specific, sunk, investments;[10] second, their technologies are characterized by important economies of scale and scope; and third, their products are massively consumed. Consider, for example, an electricity distribution company. Its assets have very little value in alternative uses (it is very expensive to bring down cables and posts, to dig out trenches, etc);[11] network externalities and economies of density imply that it may not be economical to have multiple wires deployed on the same street; and finally, its product is consumed by a large proportion of the city's population. Compare this situation to that of another industry characterized by large sunk investments: steel. While steel mills have very little value in alternative uses, the economies of scale and scope are trivial compared to the size of the market,[12] and furthermore, while everybody indirectly consume steel products, very few individuals in society pay any attention to the price of steel. Thus, it is not simply specific investments that characterize utilities. Nor is it simply economies of scale. Nor is it widespread consumption. What separates the utility sector from the rest of the economy is the combination of the three features: specific investments, economies of scale and widespread domestic consumption. These features are at the core of contracting problems that have traditionally raised the need for governmental regulation of utilities.[13] In turn, they make the pricing of utilities inherently political.

The reason for the politicization of infrastructure pricing is threefold. First, the fact that a large component of infrastructure investments is sunk, implies that once the investment is undertaken the operator will be willing to continue operating as long as operating revenues exceed operating costs. Since operating costs do not include a return

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[9] Almost all of the incentives regulation literature deals with restraining market power, while neglecting, except for some remarkable exceptions (e.g. Baron and Besanko 1987), the implications of governmental opportunism.

[10] Specific or sunk investments are those that once undertaken their value in alternative uses is substantially below their investment cost.

[11] Although the development of fiber optics has increased the value in alternative uses of their electricity poles.

[12] In some developing countries that protect the production of steel, that may not be so, as there may be just a few steel mills producing for the relatively small local market.

on sunk investments (but only on the alternative value of these assets), the operating company will be willing to operate even if prices are below total average costs.[14] Second, economies of scale imply that in most utility services, there will be few suppliers in each locality. Thus, the whiff of monopoly will always surround utility operations. Finally, the fact that utility services tend to be massively consumed, and thus that the set of consumers closely approximates the set of voters, implies that politicians and interest groups will care about the level of utility pricing. Thus, massive consumption, economies of scale and sunk investments provide governments (either national or local) with the opportunity to behave opportunistically vis-à-vis the investing company.[15] For example, after the investment is sunk, the government may try to restrict the operating company's pricing flexibility, may require the company to undertake special investments, purchasing or employment patterns or may try to restrict the movement of capital. All these are attempts to expropriate the company's sunk costs by administrative measures. Thus, expropriation may be indirect and undertaken by subtle means.

Expropriation of the firm's sunk assets, however, does not mean that the government takes over the operation of the company, but rather that it sets operating conditions that just compensate for the firm's operating costs and the return on its non-specific assets. Such returns will provide sufficient ex-post incentives for the firm to operate, but not to invest.[16] Indeed, sunk assets expropriation has been more prevalent in the developing world than direct utility takeovers or expropriation without

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[13] See, among others, North (1990), Williamson (1988), Goldberg (1976), Levy and Spiller (1994) and Spiller (1993).

[14] Observe that the source of financing does not change this computation. For example, if the company is completely leveraged, a price below average cost will bring the company to bankruptcy, eliminating the part of the debt associated with the sunk investments. Only the part of the debt that is associated with the value of the non-sunk investments would be able to be subsequently serviced.

[15] Observe that this incentive is as strong vis-à-vis private and public companies. See Savedoff and Spiller (1999).

[16] The company will be willing to continue operating because its return from operating will exceed its return from shutting down and deploying its assets elsewhere. On the other hand, the firm will have very little incentive to invest new capital as it will not be able to obtain a return. While it is feasible to conceive loan financing for new investments, as non-repayment would bring the company to bankruptcy, that will not however be the case. Bankruptcy does not mean that the company shuts down. Since the assets are specific, bankruptcy implies a change of ownership from stockholders to creditors. Now creditors' incentives to operate will be the same as the firm, and they would be willing to operate even if quasi-rents are expropriated. Thus, loan financing will not be feasible either.

compensation.[17] While the government may uphold and protect traditionally conceived property rights, it may still capture the utilities' quasi-rents via regulatory decision-making, what is commonly called "indirect expropriation" in international law. By setting prices, investment or quality requirements, taxes and the like, the state may limit the ability of the utility to recover its sunk investments, while still granting it enough cash flow to cover its variable operating costs. The government, in this way, obtain political support from relatively low prices *and* the maintenance of service, albeit with diminished incentives to invest and expand and in continuous conflicts with the utility.

Governmental Opportunism

Sunk assets' expropriation may be profitable for a government if the direct costs (reputation loss vis-à-vis other utilities, lack of future investments by utilities) are small compared to the (short term) benefits of such action (achieving re-election by reducing utilities' prices, by attacking the monopoly, etc), and if the indirect institutional costs (e.g., disregarding the judiciary, not following the proper, or traditional, administrative procedures, etc) are not too large.

Thus, incentives for expropriation of sunk assets should be expected to be largest in environments where indirect institutional costs are low,[18] direct costs are also small,[19] and, perhaps, more importantly, the government's horizon is relatively short.[20] Forecasting such expropriation, private utilities will not undertake investments in the first

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[17] Consider, for example, the case of Azurix Buenos Aires S.A. Azurix purchased the right to operate a large water concession in the Province of Buenos Aires in early 1999, paying almost $440 million. Right after taking possession, Azurix encountered multiple unexepected breaches by the Provincial government of prior written commitments (e.g., inability to adjust old property records to new information; lack of investment by the government in various water works needed to provide service; lack of tariff adjustments based on producer price index, imposition of subsidy requirement without compensation) to the point that in two years the company found it impossible to continue, and decided to return the concession and file for international arbitration under a claim of indirect expropriation. This case is an example of expropriating without taking ownership. According to Azurix, the Provincial Government simply reneged on its revenue promises, not allowing Azurix to obtain a return commensurate with its original investment. See La Nación, October 10, 2001, "Azurix anunció formalmente que en 90 días deja de operar."

[18] Indirect institutional costs are low when, for example, there are no formal or informal governmental procedures -checks and balances- required for regulatory decision making; regulatory policy is centralized in the administration; the judiciary does not have a tradition of, or the power to, reviewing administrative decisions, and in general, the executive expects little in terms of political downfall or retaliation from other branches of government.

[19] E.g., the utilities in general do not require massive investment programs, nor technological change is an important factor in the sector.

[20] I.e., highly contested elections, need to satisfy key constituencies, etc.

place. Thus, government direct intervention may become the default mode of operation.

The Performance Implications of Government Opportunism

If, in the presence of such incentives a government wants to motivate investment in utilities, then, it will have to design institutional arrangements that will limit its own ability to behave opportunistically once the utility undertook its investment program. Such institutional arrangements are nothing but the design of regulatory governance. Regulatory governance, if credible, solves a key contracting problem between the government and the utilities – whether public or private-[21] by restraining the government from opportunistically expropriating the utilities' sunk investments.[22] This, however, does not mean that the utility has to receive assurances of a rate of return nature, or that it has to receive exclusive licenses. In some countries, however, where the incentives for governmental opportunism are high, exclusive licenses and well-specified assurances on rates of return may be the only way to grant investors sufficient incentives to invest.

Unless regulatory governance is credible, then, investments will not be undertaken, or if undertaken will not be efficient. Investment inefficiencies may arise in several fronts. A first order effect is underinvestment. Although the utility may invest, it will do so exclusively in areas whose market return is very high and where the payback period is relatively short.[23] Second, maintenance expenditures may be kept to the minimum, thus degrading quality. Third, investment may be undertaken with technologies that have a lower degree of specificity, even at the cost of, again, degrading quality.[24] Fourth, up-front rents may be achieved by very high prices which although

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[21] Savedoff and Spiller (1999).

[22] See, Goldberg (1976) for one of the first treatments of this problem. See also Williamson (1976). See also Troesken (1996) and (1997) for a seminal treatment of the origins of state regulation of utilities in the United States.

[23] An alternative way of reducing the specificity of the investment is by customers undertaking the financing of the sunk assets. For example, SAGUAPAC, the water public service cooperative of Santa Cruz, Bolivia, requires commitment of customer financing prior to undertaking an expansion plan. For a discussion of Saguapac's strategy, see Walton (2003). Similarly, Chile's Electricity Services General Law of 1982 allows the utilities to require that customers requesting service finance, via a reimbursable charge, any required expansion cost, or that they undertake the investment directly. See Arts. 75 and 76. (http://www.sec.cl/OpenDocs/data/13/DFL%201%20Electricidad.doc)

[24] In this sense it is not surprising that private telecommunications operators that rushed to develop the telecommunications sector in Easter European countries, moved first and foremost into cellular rather than fixed link networks. While cellular has a higher long run cost than fixed link, and on some quality dimensions is also an inferior product, the magnitude of investment in specific assets is much smaller than

may provide incentives for some investment, may be politically unsustainable.[25]

Regulatory governance schemes that do not limit the potential for governmental opportunism, then, create strong inefficiencies and poor sector performance.[26] Poor quality, lack of investments and high prices lead, eventually, to the conflicts between operators and the government. Unless those are resolved by a new regulatory governance scheme, popular support for efficient pricing will fade, as higher prices will not translate into improved service. In those environments, government ownership may be the only feasible mode.[27]

Contrasting Firm with Governmental Opportunism

At the core of both the Chicago School and the Incentives approach is a normative or passive view of the regulatory process. In the Chicago School, regulation can be perceived as an arena where conflicting private interests are accommodated, while in the incentives regulation literature, regulatory rules are optimally designed to placate the firm's profit motive. The former approaches political actors as essentially passive, while the latter approaches political actors as benevolent. We see political actors differently. They are neither passive nor benevolent. They are not different than any of us. They are opportunistic – willing to lie and deceive and to pursue "self-interest with guile."[28]

There is, though, a fundamental difference between governmental opportunism and the opportunism or exercise of market power that is perceived to be at the root of the

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in fixed link networks. Furthermore, a large portion of the specific investments in cellular telephony are undertaken by the customers themselves (who purchase the handsets). See also, Noll and Shirley (2002) for an analysis of telecommunications development in Africa.

[25] The privatization of Argentina's telecommunications companies is particularly illuminating. Prior to the privatization, telephone prices were raised well beyond international levels. It is not surprising, that following the privatization the government reneged on aspects of the license, like its price indexation as ways to limit the quasi-rents of the investors. The initial high prices, though, allowed the companies to remain profitable, even following government's deviation from the license provisions. See Levy and Spiller (1996).

[26] While the link between aggregate institutional features of a country and general economic growth is by now a growth industry (see, for example, Knack and Keefer 1995 and Haggard and Kaufman (1995), few have taken the step of linking actual country's general and regulatory institutions and explored the impact on sector performance. For such examples, see Henisz and Zelner (2001) for an application to investment in telecommunications, Henisz and Zelner (2002) for an application to electricity investment, and Henisz (2002) for an application to railways, telecommunications and electricity generation across 129 countries over the period 1815-1998.

[27] For an analysis to the water sector, see Savedoff and Spiller (1999).

[28] See Williamson (1975, p.26).

regulatory problem by most neoclassical economists. If what drove the design of regulatory policy-making is the potential for private firm opportunism or exercise of market power, then that could be undertaken by the application of general antitrust (and common law) provisions.[29] There would be no need for industry specific regulation. Indeed granting the power to limit the exercise of market power by regulatory fiat – say by setting maximum prices, conducting cost reviews, requiring specific investments, and the like, grants the political and administrative power that is behind governmental opportunism.[30] Troesken (1996 and 1997) has convincingly argued that the early 1900 movement away from municipal regulation towards state regulation was a way to reduce the incentives to behave opportunistically by the municipal regulators. Although some will argue that the complexities of modern regulatory issues (e.g., interconnection, prices and standards) tilts the balance towards regulatory agencies, regulatory agencies were created more than 100 years ago, at times when the pressing regulatory issues were less interconnection and other complex regulatory issues, and more investment incentives in the presence of strong pressure to limit prices.[31] Thus, although on a day-to-day regulators' main concerns are indeed firm opportunism and the restrain of market power, rather than thinking how to restrain themselves from expropriating the firms' quasi-rents, the origins of regulatory governance is rooted in restraining governmental opportunism.

Although in some environments regulatory governance may have been designed to facilitate private capture, such design exposes the regulatory process to *political capture* following a turn of the political wheel.[32] Private investors fearing such event will be cautious on long-term investments, and more interested in short term gains. Thus, regulatory design that limits the potential for governmental opportunism not only facilitates investment, but also serves to credibly enhance the political restrain over operators' opportunism.

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[29] This light-handed regulation approach was implemented in New Zealand following the reforms of the mid 1980s. See Evans et.al (1996).

[30] Indeed, Barry Weingast's (1995, p.1) opening paragraph perfectly exemplifies this point. He says: *"A government strong enough to protect property rights and enforce contracts is also strong enough to confiscate the wealth of its citizens."*

[31] See for example Troesken and Geddes (2003) analysis of the municipalization of water works in the late 1800s early 1900s in the US.

III. A Transactions Approach to Regulatory Governance

In this section we develop a framework that we use to relate the design of regulatory governance to the nature of the country's institutional environment. The main thrust is that in environments in which intertemporal political exchanges are difficult to make, the type of regulatory institutions chosen will become extremely important in determining the extent of commitment the polity can provide to private (and public) enterprises, and thus, the potential for sector performance. In particular, in "difficult contracting" political environments, the equilibrium regulatory governance may not provide for sufficient regulatory flexibility to implement complex regulatory schemes as required in the incentives regulation literature. Instead, under some conditions regulation will be stable but inflexible, providing thus little in the sense of high power incentives. In other words, it will be "third best." Under other circumstances, however, the regulatory governance itself will be ill defined. Policy, as a consequence, will be erratic, not providing strong incentives for private investment and sector performance.

We develop this framework in two stages. First, we explore an abstract game among policy makers, where the outcome of the game may consist on institutional restrains on policy making. We then implement the insights of this game to the real world, by analyzing the features of the political environment that help determine the nature of these institutional restraints.

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A Framework to Understand Regulatory Institutions

We approach public policy as a game among politicians with conflicting interests reflecting basic ideological or constituency differences. Thus, some may take a long term view of promoting investments, while others may feel the need for achieving short term distributive gains.

Institutions, and for that matter, regulatory institutions, are (contractual) outcomes to that game, whose purpose is to provide some limits on future political behavior. Since all contracts are incomplete, the limitation in the power of the political agent cannot be fully contingent. Thus, in an environment in which political actors take (random) turns at

[32] See, Esfahani (1996) for a fascinating description of the regulatory process in the Philippines, where political alignment between the utilities' shareholders and the government seems to have been determinative of the shareholders' incentives to invest.

the helm of the political machine, limiting the ability of the political actor in power has a cost. The more this power is limited, the less policy can be adjusted to unexpected economic and technological shocks, even when, under full information, all political actors would be *ex-post* better off with such an adaptation. On the other hand, such limits also have benefits. By limiting policy drifts associated with random political outcomes, policy becomes more predictable, and economic agents may undertake more long-term investments.

Politicians, however, may not find it necessary to put institutional limits to their own discretion. Such limits may arise endogenously as behavioral norms from the repeated nature of the game they play. In such circumstances, political opportunism will not be an issue, as the threat of retaliation from breaking the norm will keep politicians from deviating from efficient policies, thus maximizing the common (political) good.[33] In those circumstances, policies will adapt to technological and economic shocks, while will be insensitive to the randomness of politics.

It is easy to show that if political actors are infinitely lived and patient enough (a characterization, though, that one does not normally assign to political agents), their repeated interaction could sustain such first-best policies as a Nash equilibrium in an infinitely repeated game.[34] If their discount rate is high enough, though, (full) cooperation will not be sustainable in equilibrium. In such a case, policies will depend on the realization of political uncertainty. Policies will alternate with the identity of the ruling politician. We can describe this regulatory policy as unstable, not providing safeguards for investors.

It is in these environments, more closely associated with the real world, that policy-makers may consider entering into some type of *ex-ante* agreements that would limit their *ex-post* power. The set of feasible (enforceable) agreements will depend on the issue under consideration, as well as on the available enforcement technologies. Suppose, for instance, that *ex-ante* regulatory compacts can be enforced by third parties,[35]

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[33] See Spiller and Tommasi (2003) and Saporiti et al (2002) for further developments of this idea.

[34] More generally, the possibility of sustaining cooperation will depend on a number of factors beyond the discount rate, including the number of players, and the parameters that characterize the details of the intra-period decision procedure.

[35] Third parties could constitute the domestic courts, or even international arbitration courts.

but that the realization of economic shocks is not verifiable. In that case, it will not be feasible to enforce agreements that prescribe regulatory rules contingent on the state of technology or costs. Simple rules, though, can be agreed upon. These simple rules will then be highly inflexible regulatory policies or procedures. They will set regulatory policy or processes independent of technological or economic shocks.[36]

Such "best feasible" policies come, though, at a cost. Thus, if repeated play among policy-makers delivers cooperation, a rigid rule will not be utilized. But when the parties have a limited capacity to self-enforce cooperative agreements (whether because of impatience or lack of enforcement technologies), policy makers must make a choice between rigid policy rules and procedures (not responsive to the economic environment) or erratic (i.e., alternating) policies, subject to the outcome of the political wheel. Spiller and Tommasi (2003) show that a condition for rigid rules to arise in equilibrium is that the divergence in politicians' interests concerning the issue at hand be more extreme than the volatility of the underlying economic and technological shocks. Utility regulation, particularly in the early years, seems to be more characterized by distributional aspects than by the importance of adaptation to technological shocks. It is in those environments, then, that policy and procedural rigidities may arise to move away from the costs of political randomness.

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Thus, when intertemporal political exchanges are hard to enforce, we may observe highly inflexible institutionally designed policies, with policies not adjusting well neither to politics nor to economic shocks, or highly erratic policies, reflecting not just economic shocks, but also electoral politics.

This discussion can be interpreted in standard transaction costs arguments. If the institutional environment facilitates political cooperation, then relatively efficient and adaptable policies can be implemented without many (and costly) safeguards. When the environment does not facilitate cooperation, but the costs of implementing safeguards are relatively low, then the policy will be implemented with the support of associated safeguards (*ex-ante* rigid –institutionally driven- rules). When, on the other hand, the

[36] Thus, for example, the regulatory regime will not allow the return on assets to be adjusted to changes in interest rates. For example, Chile's Electric Services Law (DFL #1 of 1982) sets, in its Art 106, at 10% the real rate of return on assets to use in setting retail tariffs.

costs of implementing safeguards are very high, then policies will respond to political shocks.[37]

The Determinants of Political Cooperation

The previous section, then, provides an abstract characterization of the political environment by exploring the ability of the polity to reach intertemporal cooperation, thus relating the nature of the political environment to the nature of regulatory rules and policies. In this section we start discussing the features of the political environment that make for a more or less cooperative environment. In the next section we develop the type of regulatory and procedural rigidities that societies may find necessary to provide long term regulatory credibility. In moving the abstract discussion of the previous section to the real world, we now discuss six features of political environments that impact of the ability of political actors to engage in long term cooperation:

1. Number of political actors with power over a given decision. Theory predicts that the larger the number of relevant policy-makers players, the smaller the set of other parameters for which cooperation obtains. This result obtains in general games under some reasonable conditions on the set of feasible payoffs.[38] Electoral rules have also important effects on the "effective number of parties" – or legislative players - that will tend to result from elections, and thus, the extent of governmental control over the legislative process. It is widely perceived, for example, that proportional representation

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[37] This basic idea can be extended in multiple ways. For example, there may be intertemporal links to regulatory issues. Those linkages arise in the regulatory environment because of the impact of policies on investment. In other policy domains they could arise from technical reasons (i.e., policies that have intertemporal effects), legal reasons (a law is in placed until it is changed), or economic reasons (present fiscal actions have future effects through intertemporal budget constraints). Saporiti et al (2002) explore such linkages, and show that in bad transactions environments, some welfare improving policies (or reforms) are not undertaken, and there is also under-investment in policymaking capabilities.

[38] In some simple games, such as common-pool ones, the result is fairly straight-forward and general. See Fudenberg and Tirole (1991) for the result that, holding constant the dimension of the set of feasible payoffs, increasing the number of players reduces the set of equilibria towards less cooperative ones. Holding constant the number of players, the theory has predictions in terms of the parameters of the stochastic recognition process. For instance, tacit cooperation is more likely the more uncertain are election results over time; i.e., the more evenly divided are the chances of being in power at each point in time (as in Dixit et al 2000, de Figueiredo 2001, and Alesina 1988). Separation of powers dampens here the volatility of politics as restrains changes in the set of implementable politics. On this see Cox and McCubbins (2001), Shugart and Haggard (2001), Tsebelis (2002), Cooter (2000) and Epstein and O'Halloran (1999). For earlier treatments of the topic, see also Gely and Spiller (1990) and McCubbins, et al (1987, 1989).

tends to generate a large number of parties, while first-past-the-post with relatively small district elections tends to create bipolar party configurations.[39]

2. Intertemporal linkages among key political actors. The intertemporal pattern of interactions among individuals in formal political positions (such as legislators, president, bureaucrats) matters for developing cooperative outcomes. It is not the same to have a legislature in which the same individuals interact over extended periods of time, as to have a legislature where individuals are drawn at random from given populations (parties, provinces, etc) with frequent replacement. Non-simultaneous elections for the different branches of government, for example, tend to enhance political continuity and thus electoral checks and balances.[40]

3. Timing and observability of moves. Cooperation is harder to sustain if unilateral moves are hard to observe or hard to verify (Green and Porter 1984, Lehrer 1989). The ability of the executive to legislate is one such feature. 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 non-parliamentary political institutions -- would grant the executive large legislative powers.[41]

4. Availability of enforcement technologies. Other than self-enforcement through repeated play, certain forms of cooperation may be achieved by alternative institutional means. One alternative consists on fixing policy rules of the type analyzed above, which limit future opportunistic behavior. Another alternative is to delegate policy to an independent

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[39] This result has been coined 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 UK) see Cain, et al (1987) and Cox (1987). See also Cox (1997) linking electoral systems to political behavior more generally, and Haggard and McCubbins (2001) for more references. Federalist structures create another dimension to the "number of players." On the role of federalism in limiting discretion see Weingast (1995). On possible "complications" once you enter into the details of the way federalism is structured in each county, see Tommasi (2002) and Careaga and Weingast (2002).

[40] See Jacobson (1990). See also Shugart and Carey (1992).

[41] See, among others, Cox and McCubbins (2001), Moe and Caldwell (1994), Persson, et al (1997), Persson and Tabellini (2002 and 2003), and Tsebelis (1995 and 2002).

bureaucracy. Although bureaucratic delegation is a choice (Moe 1990, Epstein and O'Halloran 1994, 1996 and 1999, Huber and Shipan 2002), it is partly constrained by some general properties of civil service in the country, like its professionalism. These generic features of the bureaucracy are themselves endogenous to more fundamental constitutional, electoral, and historical factors, but can be taken as given when considering a specific policy deal. It can be shown, though, that delegating policy forever to an individual with preferences in between those of the two parties, leads to the first best. Delegation, as we discuss later in this essay, has its problems, but there will be cases in which the cost of those problems is smaller than the cost of "partisan" policymaking. A somewhat similar reasoning applies to the presence and characteristics of an impartial umpire and enforcer of political agreements, such as an independent Judiciary. This has traditionally been the way administrative discretion is restrained in the US, as regulatory statutes have tended to be quite vague, thus delegating to the courts the enforcement of explicit or implicit contracts among politicians.[42]

5. Characteristics of the arenas where key political actors undertake their exchanges. The complex intertemporal exchanges required for the implementation of effective public policies could be facilitated by the existence of exchange arenas organized in ways that make cooperation easier to enforce. Weingast and Marshall (1988), for example, claim that the organization of the US Congress is designed to facilitate intertemporal cooperation in political exchanges.[43] Their main thrust is that in the United States the legislature is the arena where the key political transactions take place. As a consequence, legislators designed the institutional framework of the legislature in ways to increase the predictability of its functioning and to protect the interests of its members – including their reelection chances. In general, though, whether the legislature, as the arena where these transactions take place, is adequately institutionalized or not, depends on several factors including legislators' incentives and capabilities. In environments with weak

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[42] 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, and thus may not serve as an effective enforcement entity. See, for example, Iaryczower, et al (2002).

[43] See also Shepsle and Bonchek (1997) and the collection in Shepsle and Weingast (1996).

legislatures,[44] and many developed and developing nations have such legislatures, political exchanges will take place in alternative settings that will tend to be less formal, more uncertain, and harder to monitor, observe and enforce. These "arenas," however, need not be the edifice of Congress or of the regulatory agency. In most parliamentary systems these transactions are carried out outside the legislature, most often within parliamentary parties or the cabinet. Nonetheless, the degree of institutionalization of the key exchange arena is important. For example, while Japan's LDP developed complex decision making processes with Diet members and committees playing a secondary role, the decision making itself provided for participation by various interested parties so as to develop an internal party consensus. Thus, in Japan under the LDP, the key decision making arenas were the LDP committees and the cabinet (Baron 2003).[45]

6. Intra-period payoff structure. The sensitivity of per-period payoff to alternative spot actions is an important determinant of whether cooperation is sustainable in equilibrium. As in models of collusion, if the payoff from deviating today is very high, *ceteris paribus,* full cooperation is less likely.[46] For example, in environments where fiscal accountability has not been implemented, long term cooperation will be hard to achieve, as deviations will have a high short term payoff.[47]

To sum up, political cooperation leading to a stable and flexible (i.e., effective) regulatory policy is more likely if: (1) the number of key political actors is small; (2) those actors have strong intertemporal linkages; (3) policy and political moves are widely observable; (4) good enforcement technologies (a strong bureaucracy to delegate, or a strong Court to arbitrate) are available, (5) the key political exchanges take place in arenas where properties (1)-(4) tend to be satisfied, and (6) the short-run payoffs from non-cooperation are not too high.

In this section, then, we showed that regulatory policy is highly dependent on the

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[44] Weak legislatures are those that, because of electoral or constitutional rules, or just because of the evolution of history, have little control over the legislative agenda. For an in-depth analysis of the institutional determinants of the relative powers of the executive vis-à-vis legislatures, see Shugart and Carey (1992).

[45] See, also Cowhey and McCubbins (1995).

[46] In oligopoly games, this is the case with the incentives to discount: if a firm stands to gain very large short-term profits by lowering its price (for instance because there are a large number of competitors from where to steal customers, related to point 1 above), collusive oligopoly is harder to sustain.

[47] Tommasi (2002) develops this issue for explaining the rigid fiscal arrangements in Argentina.

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nature of the institutional environment. Although "formal" policies may, on paper, look efficient, in fact the workings of institutions imply that under some conditions regulatory policy and procedures will be erratic, under other conditions it will be highly inflexible, while under other conditions it will be highly adaptable and effective. Thus, to explain the real characteristics of regulatory policy and policy-making in specific political systems and periods, we need to look at the workings of political institutions and their determinants in specific countries / time periods. Identifying these variables is a difficult task. It requires immersion in the "micro-detail" of politics (and policies) in each case.

The abstract listing we provided would correspond to characteristics of the policy making environment, which in turn will be (in many cases) endogenous (in interrelated ways) to some deeper determinants.[48] The type of variables to analyze include: key political actors, determinants of their payoffs, institutional veto points, variables determining who holds those institutional veto points at each point in time (related to parameters of stochastic description of the political process), horizons of key political actors and their determinants, institutional features (constitution, budget procedures, informal practices) that facilitate unchecked moves by some actors, independence and strength of Supreme Court or equivalent, characteristics of the bureaucracy. These are all institutional characteristics that serve as sources of regulatory commitment. In the next section we move beyond the abstract nature of these features to discuss how they arise and have been implemented through time.

IV. Regulatory Governance in Theory and Practice

Political and social institutions not only affect the ability to restrain political and administrative action, but 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 yardstick competition) usually require substantial regulatory flexibility and granting discretion to the regulators. Thus, unless the country's institutions allow for the separation of arbitrariness from useful regulatory discretion, systems that grant too

[48] A somewhat similar logic is presented in Cohwey and McCubbins (1995), where they speak of political institutions (structure), politics (conduct) and policy (performance), using an apt industrial organization metaphor.

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much administrative discretion may not generate the high levels of investment and welfare expected from private sector participation. Conversely, some countries might 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 reasonable incentives for investment. Regulatory governance is a choice, although a constrained one. In that sense, the institutional endowment of the country limits and conditions the menu of regulatory governance available.

Regulatory governance may take very different forms. In the United States, for example, regulatory governance consists of a complex set of formal administrative procedures. In the UK, however, regulatory governance is based on the use of contract law. In democracies with weaker institutional environments, regulatory governance consists of highly inflexible regulatory structures.

In this section we will try to show that the difference between these regulatory styles can be traced back to the difference in institutional environments (Spiller 1997). The UK has a parliamentary system that has systematically brought about unified governments without the need for coalition building. On the other hand, the US electoral system assures the development of divided governments, with the President seldom having full control over the legislative process (Jacobson 1990). As a consequence, legislators in the US have been reluctant to delegate to the executive too much regulatory discretion, and instead they have tended to impose on the executive branch much stronger procedural burdens as a way to limit the executive's ability to deviate from legislators' interests. Thus, the use in the United States of formal administrative procedures. On the other hand, in the UK, as in other countries with British style parliamentary systems, the government controls the legislative process (Shugart and Carey 1992). Procedural restrictions on regulatory decision-making, then, will seldom be introduced as not only they may be unnecessary to assure consistency between legislative interests and executive action (Spiller and Vogelsang 1997), but may also not bind future governments, as these, via their control of both the executive and the legislature, will be able to adapt the rules and procedures to their current needs. Similarly, in less developed democracies, procedural restrictions may not provide guarantees of appropriate

regulatory decision-making, if they can be disregarded with little political cost. In the utilities' case, however, companies will not invest in highly specific sunk assets without either very high up-front rents, or assurances that once invested, regulatory rules will not be changed to expropriate those assets via the administrative process. Thus, the use of more rigid regulatory governance schemes. Licenses used as regulatory mechanisms, based essentially on contract law, may provide such credibility, as contracts (in this case, the license and thus the regulatory regime) cannot be changed unilaterally. The UK has introduced some flexibility in this highly inflexible scheme by regulating the license amendment process (Spiller and Vogelsang 1997).

In the remaining of this section we discuss how countries have actually dealt with –or failed to - facilitating long-term political cooperation. We focus on three key issues that common wisdom suggests are fundamental for providing a safe investment environment: delegation to the bureaucracy, delegation to the judiciary, and regulatory transparency. We show, though, that these features cannot be exogenously implemented, and that their relative effectiveness will depend on the nature of the institutional environment in which they operate.

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Regulatory Governance I: Why Delegation to Independent Agencies?

In Section III we discuss that delegation to a third party for policy implementation could bring improvements upon the one shot Nash equilibrium. Such delegation, however, requires that there be such an independent agency. Thus, before we can answer whether delegation to an agency is done so as to achieve a substantive policy improvement over centralization of decision-making, we need to ask whether there is such a thing as independent agencies. Only then can we examine, why legislatures may delegate to independent agencies.

Spiller and Urbiztondo (1994) answered the independence question in the following way: the probability of observing independent agencies is higher in systems characterized by divided government. In systems characterized by unified governments (where the preferences of the legislature and the executive are systematically aligned, as in a two party parliamentary system) with relatively stable polities, control over the bureaucracy will be stronger, with a much smaller proportion of political appointees than

in systems characterized by divided government (what we call here true division of power systems). The use of political appointees (including independent agencies), then, arises from the fact that in systems characterized by divided government the executive has less control over the professional bureaucracy, as the latter will naturally tend to be aligned with the legislature, a political institution that tends to be longer lasting than the executive. They find that such characterization of divided and unified governments holds both across countries and across cities in the United States.

In an important article, Weingast and Moran (1983) raised the Congressional Dominance Hypothesis. This hypothesis suggests that independent agencies are not truly independent, as they are subject to continuous congressional oversight. In a system of division of powers, however, Congressional Dominance is a corner solution. Spiller (1990) shows that Congressional budgetary decisions of agencies reflect an internal rather than a corner solution. Thus, agencies do not fully respond to Congressional desires. If this is the case, then, a basic question is why does Congress delegate to agencies that are not fully aligned with it, and what are the implications of such delegation for regulatory commitment?

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Our analysis of Section III brings delegation as an *ex-ante* commitment device in an environment in which complex intertemporal transactions among policy-makers are hard to implement. Delegation, however, can also be seen as an equilibrium way to commit future polities to a particular policy if the probability of regime change is high (de Figueiredo 2001). Delegation, though, requires that the right incentives be given to the bureaucracy to undertake legislative intents. Civil service provisions have been thought as providing such incentives (Spiller and Urbiztondo 1994). Bambaci et al (2002), however, consider circumstances where the legislature is weak and the executive has a high level of rotation (as is the case in Argentina). In those environments, they claim, traditional bureaucracies will be very difficult to motivate, thus triggering the politicization of the bureaucracy.[49]

In sum, delegation to independent agencies requires a system of division of powers. In this environment, legislative specificity will most probably not be the norm, as

[49] Bambaci et al (2002) provide evidence that the extent of politicization of Argentine's bureaucracy is very high. With some secretaries having more the 70% of its personnel outside the normal civil service.

legislative costs will be high and preference homogeneity among the members of the legislature will most probably be low, increasing the costs of reversing agencies and courts. Under those circumstances, it is where we can expect agency independence. But, it is also here where we should expect judicial independence that, to some extent, counterbalances and limits the independence of agencies. This does not imply that in unified governments we may not see delegation to administrative agencies. Indeed, most advanced democracies have developed strong administrative agencies, including such unified governments as Canada, New Zealand and the U.K. These agencies, however, while seemingly independent, would not be able to stand in opposition to the executive, as by an act of parliament the executive could change their term, their nature or even eliminate them.[50]

Regulatory Governance II: The Design of Administrative Processes

The discussion of Section III highlights the potential role of the Courts as an enforcement device. The Court plays such a role in the McCubbins, et al (1987, 1989) world. Indeed, in the United States, administrative law stipulates that Federal Courts can review all administrative agencies' decisions.[51] In the framework of Section III, then, the US Congress has delegated to the Courts a major role in limiting the ability of the Executive to take unilateral action. The most far reaching procedural limitation is the Administrative Procedures Act. These standards, however, are quite vague.[52] The courts are not restricted to review agency decisions exclusively by interpreting the APA. They can also use the due process clauses of the Constitution. While in principle courts decide questions of law and not of facts, providing deference to the agencies on the latter, the difference between a question of law and a question of fact is also vague.[47]

[50] Consider, for example, the relative ease with which the UK Labor Government combined the electricity (Offer) and gas (Ofgas) regulators into a single energy regulatory agency (Ofgem). Such smooth adaptation – which was opposed by the incumbent electricity regulator – would be difficult to implement in a political environment in which the Executive does not have a tight control over the legislature and over the bureaucracy.

[51] Except for the Social Security Administration disability decisions which are heard at the Federal District Courts, most decisions of administrative agencies are reviewed directly by Federal Courts of Appeals.

[52] See, for example, Section 706 of the Administrative Procedure Act.

[47] See, e.g., NLRB v. Hearst Publications, 322 U.S. 111, where the Supreme Court held that newsboys are employees under the NLRA, reversing a previous Court of Appeals decision, thus making a statement of fact, based, however, on the interpretation of the statute.

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The vagueness of the criteria under which Courts can review administrative decisions is not a legislative mistake. The APA was passed precisely with the dual intention of providing the Courts with the ability to monitor the agencies, and of increasing transparency in agency decision making, by allowing interest groups to participate in the regulatory process. Both aspects of the APA foster participation by interested parties, and provide members of Congress with the ability to preempt the implementation of administrative decisions they may dislike, as agencies may have an incentive to deviate from their original mandate, whether explicit or implicit.[53]

Regulatory Governance III: The Independent Judiciary Question

Judicial review, however, does not assure objective adherence to the initial legislative mandate. In particular, the strategic approach to judicial decision making[54,55] emphasizes that Courts are ideologically motivated bodies with well defined political preferences, making decisions based not on the traditional legal rules of precedent, but on the constraints imposed by the other political institutions (i.e. Congress and the Presidency).[56] In such a framework the main constraint on the Courts' power and independence is the potential for legislative reversal,[57] not the original legislative intent.[58]

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[53] See McCubbins and Schwartz (1984) for the original analysis of regulatory process as a "fire-alarm." See de Figueiredo, Spiller and Urbiztondo (1999) for an analysis of logic of APA's requirement of multiple interest group participation. Shepsle (1992) and Macey (1992) develop three reasons for bureaucratic drift. First, interest groups will attempt to move the agency towards their own directions, separate from the original mandate. Second, the agency may attempt to implement its own view of the world. And finally, legislators will attempt to move the agency towards their own view of the world. To limit the extent of agency discretion, legislators will strategically design the agency's structure and organization (Gilligan, et al 1989), its administrative procedures for decision-making (McCubbins, et al 1989, Spiller and Tiller 1997), its budgetary allocation (Spiller and Tiller 1997) and the nature of judicial review.

[54] The modern version of the strategic approach to judicial decision making emerged from the non-strategic approach developed in Marks (1988). See Gely and Spiller (1990); Ferejohn and Shipan (1990), Eskridge (1991), Eskridge and Ferejohn (1992a) and (1992b), Ferejohn and Weingast (1992), Schwartz (1992), Epstein and Walker (1995), Epstein and Knight (1997). Previous "strategic" approaches to judicial decision making can be found in Murphy's (1964) book on judicial strategy and in Dahl's (1957) suggestion that the selection process of Supreme Court justices caused judicial decisions to reflect the public's policy preferences since voters elected the judge-appointing politicians. See also Funston's (1975) analysis of the disagreements between the judicial and legislative branches during "change-over" periods of the Court..

[55] This approach is often called "the division of powers game." For a critical review of this literature see Segal (1997), and for a reply, see, Bergara et al (2003).

[56] Spiller and Spitzer (1995) analyze in detail the theoretical implications of assuming that courts are not strategic players. They show that such assumption has empirical implications not consistent with current evidence.

[57] If the decision touches on a constitutional issue, reversal has to be undertaken by a constitutional amendment. See Gely and Spiller (1992) and Spiller and Spitzer (1992).

Indeed, as the power of the executive increases, either because of a stronger control over the legislature, or an increased ability to undertake unilateral moves, the Court's ability to undertake independent action falls. Thus, the court will, in general, tend to have more freedom of action under divided rather than unified governments. In unified governments, not only Courts may fear legislative reversals, but also stronger punishing acts.[59] The central idea is that in environments where political fragmentation is the norm, the Judiciary is able, over time, to create a doctrine of judicial independence without fear of political reprisals, whether as a constitutional amendment limiting its review power, dismissal from the Court or increases in its size. Similar attempts in a more unified political environment would generate political clashes, eventually limiting the Judiciary's power.[60] This theory suggests that courts would tend to be more subjugated to political power in the presence of unified governments, like strong parliamentary systems, and more aggressive in the presence of divided governments, like presidential systems or fragmented parliamentary systems where governments are formed from multi-party coalitions, and where the potential for coalition break-up is substantially bigger.[61]

Thus, it is not surprising that in countries with traditionally unified governments such as the UK, Japan, or Mexico (pre-Fox), Courts have not developed a strong tradition of judicial review of administrative actions, developing a rudimentary administrative law.[62,63] On the other hand, less unified (often presidential systems), like France have developed substantial bodies of administrative law, giving also raise to important doctrines of regulatory protection of investments.[64]

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[58] For a strategic approach to legislative intent, see Schwartz, et al (1994)
[59] A series of papers (in particular, Cooter and Ginsburg (1996), Ramseyer (1994), and Salzberg, forthcoming) suggest that the power of the judiciary is limited in parliamentary systems like those in Japan or Europe, where cabinet's control over the legislature limits the ability of the court to innovate (Cooter and Ginsburg 1996).
[60] See Epstein and Knight (2000) and Helmke (1999).
[61] See, for example, Steunenberg (1995) for an analysis of judicial intervention in the euthanasia debate arising from the fragmentation of the government coalition.
[62] On UK's administrative law see Baldwin and McCrudden (1987).
[63] This, however, does not imply that in unified countries judicial review does not develop. For example, Iaryczower et al (2002) find that the Argentine Court is much more likely to reverse a decision of a provincial government than of the central government.
[64] The evolution of water regulation in France is a fascinating example. The *General Code of Territorial Communities* (Code général des collectivités territoriales) regulates, among many other issues, the ways municipalities must handle its water and sewerage works and concessions. A fundamental issue of the Code is that water services must be in financial equilibrium. Water service prices must cover their costs,

Regulatory Governance IV: Regulatory Transparency, or Arranging Interest Group Participation in the Regulatory Process

Policy making transparency is a much touted regulatory recipe. In this section we discuss the implications of transparency for agency performance, and we show that as a long-term policy, effective transparency requires the existence of a set of institutions that cannot be exogenously created.

Policy making transparency involves regulating and formalizing the participation of interest groups in the administrative process.[65] Interest groups play a particularly important role in the administrative process in the US (McCubbins and Schwartz 1984). Indeed, the Administrative Procedure Act, as well as most of the enabling legislation of regulatory agencies, sets a series of procedural requirements that provides for ample participation of interest groups in the regulatory process. Regulatory agencies must provide notice, must inform about proposed rule makings, must make their decisions taking into account the submissions of interested parties, and cannot rush nor make decisions in the dark. Transparency, in this setting, has two important effects: first, it allows the agency to receive information about the state of the world in an open and organized fashion, and second, it allows the manifestation of particularistic interests. Both are important for the agency. On the one hand, agencies are resource constrained and hence information about the state of the world is always beneficial. On the other hand, information about interest groups' preferences is important as it allows the agency to forecast potential political problems they may encounter at the legislature. Procedural restrictions on decision making also provide the opportunity to affected interests to attempt to block agency decision making through lobbying their politicians. In a particularly important article, McCubbins and Schwartz (1984) claim that the participation by interest groups makes the regulatory process work like a "fire alarm."

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with municipalities (except for very small communities) not being able to cover water services deficits from their general budgets, nor can they transfer operating surplus to their own budgets. See Cour de Comptes, “La Gestion Des Services Publics Locaux D'eau Et D'assainissement” January 1997, available (in summary form) at http://www.ccomptes.fr/Cour-des-comptes/publications/rapports/eau/cdc72.htm. This feature substantially limits the potential for opportunistic behavior from the municipalities vis-à-vis the water operators, whether private *or* public.

[65] We refer here to interest groups in a very generic form, including regulated firms, consumer groups, unions, environmental groups, and so on and so forth.

Transparency, then, allows legislators to supervise the agency without having to be actively involved in the regulatory process, and hence limiting the time that legislators have to expend in regulating regulators. Interested parties, however, are seldom unbiased (de Figueiredo, et al 1999, Lupia and McCubbins 1994). Interest groups will not reveal information that will bring about a regulatory outcome that makes them worse off than if they hadn't revealed the information. As a consequence, politicians that base their decisions exclusively on the information provided by a single interest group, even if that group is a natural ally, will find the legislative outcome to be biased. Thus, the incentive for politicians to increase transparency allowing for the participation of multiple interest groups, preferably with conflicting interests as ways to limit the information power of interest groups, even of those supporting them.[66]

As we discuss in Section III, however, transparency comes at a cost. It delays decision-making, and it may also block regulatory adaptation to important shocks. Furthermore, for regulatory transparency to develop, judicial review must arise in equilibrium.

Regulatory Governance in Unified Government Systems: Contract Law

The previous discussion suggests that purely administrative procedures with judicial review may not provide substantial regulatory commitment in systems characterized by unified government, unless there is substantial polity stability. The main deterrent to stable policies is that government controls both the administrative and the legislative processes. Thus, political changes that bring about a change in government can also bring about legislative changes. By having few institutional checks and balances, such systems have an inherent instability that raises questions about their ability to provide regulatory commitment. Nevertheless several countries that can be characterized as having a unified form of government have developed private ownership of utilities (e.g., Japan, the UK, Jamaica, Mexico). Such countries have developed alternative institutional ways to provide regulatory commitment based on the idea of rigid regulatory rules discussed at the beginning of Section IV.

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[66] de Figueiredo et al (1999) show that by increasing participation politicians reduce their informational dependency on their own aligned interest groups, and thus, in equilibrium, limit the rents these groups will

Indeed, some, like the UK, Jamaica and other Caribbean countries, have based their regulatory governance structures on contract law.[67] Japan, prior to the collapse of the LDP, developed internal party structures that provided for substantial regulatory commitment.[68] Other countries, e.g., Mexico telecommunications,[69] developed private ownership of utilities by providing for substantial up-front rents.

A main purpose of the regulatory and institutional schemes in countries like Japan, Jamaica and the UK is to provide the regulated companies with some amount of veto power over regulatory decisions. Consider the case of British utilities. British utilities are regulated by different price caps methods. The distinguishing feature of these price cap methods, however, is that they are embedded in the companies' license rather than in an agency decision or piece of legislation.[70] The advantage of regulatory frameworks instituted through licenses is that since the latter usually have the power of contracts between governments and the firms, any amendment to the license will usually require the agreement of the company.[71] This feature, however, provides credibility at the cost of inflexibility. For example, if a technological breakthrough substantially erodes economies of scale in a segment of the market where the company has – by virtue of the license – an exclusive operating right, the regulator may have to "bribe" the company into accepting to relinquish its legal exclusive rights over that segment. In a more flexible regulatory governance choice, such decision could be taken administratively.[72] Thus, while contracts may be useful in providing assurances to the

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extract from policy-making, increasing, thus, the politicians' welfare.

[67] See Spiller and Sampson (1995) and Spiller and Vogelsang (1997) for analyses of the regulatory structures in Jamaica and the UK respectively.

[68] See, in particular, the volume by Cowhey and McCubbins (1995) for an analysis of the organization of the LDP and its implications for policy determination.

[69] There are those, though, who would claim that Mexico's privatization of telecommunications was nothing but the capture of social wealth by politically connected individuals.

[70] Indeed, the enabling laws in the UK are silent about pricing schemes.

[71] In the British case, the law stipulates that in the case that the company does not agree to a license amendment proposed by the regulator, there is a process involving the Competition Commission that the regulator may use to amend the license against the will of the company. This, however, requires the Competition Commission to agree with the regulator against the company. See Spiller and Vogelsang (1997).

[72] This was the case with Cable & Wireless in Jamaica, where it had a concession granting it a monopoly over telecommunications services since 1988 (Spiller and Sampson 1996). Eventually, and after much negotiations, an agreement was reached in 1999, that included the opening by 2001 of the cellular market. In 2001 Digicel became the first cellular competitor to C&W. By 2003 there were a total of four cellular operators in the island.

companies, they do so only by introducing rigidities in the regulatory system.

For contracts as a governance structure to provide regulatory stability, then, they must be very specific and clearly limit what the regulator can do. A license that does not specify the regulatory mechanism in any detail, but leaves the administration free to make all regulatory decisions will fail the first criteria for regulatory stability.[73] Operating licenses in the US, for example, do not serve as a governance structure, as they deal mostly with eminent domain and geographic operation boundaries. Whether specific licenses will provide regulatory credibility depends on whether the courts will see licenses as binding contracts. In particular, it must be the case that courts will be willing to uphold contracts against the wish of the administration. If courts do not treat licenses as contracts, or grant the administration substantial leeway in interpreting those contracts, then, license-based regulatory contracts will fail as a source of regulatory stability.[74] Observe, then, that contracts can be implemented in nations with very strong or very weak executives, with parliamentary or Presidential systems. Indeed, a basic requirement is the judiciary will treat licenses as contracts.

Contract based regulation, however, are particularly appealing to polities with few veto players and with high rates of turnover, environments in which our model of Section III predicts highly unstable or highly rigid polices. In such cases, changes in political preferences would either bring about a new piece of legislation if the current regulatory regime is based on specific legislation, or a modification of the agency's interpretation of the statute if the current regulatory regime is based on general administrative procedures. On the other hand, if regulatory policy was initially hard-wired through a license, then the desire to change regulatory policy will be constrained by *ex-ante* agreements. These agreements, when regulation is based on contract law, require the acquiescence of the company. Thus, by introducing the regulatory process in the license an additional veto point is introduced, namely the company itself. Thus, the relevant set of parties required to change the status quo now includes also the company. Thus, it is not surprising that

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[73] Comparing the licenses issued in Jamaica under the Jamaican Public Utilities Act of 1966 to those issued prior to 1966 or after the privatization of 1988 shows the total failure of licenses to restrain the regulators based on the 1966 Act. See Spiller and Sampson (1993).

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countries like Jamaica, the UK and many of the other Caribbean countries have adopted license based regulatory systems.[75]

V. Conclusions

The institutions of regulation arise to deal with basic transaction problems among policy-makers, and thus to guarantee investors that their investments will be protected against opportunistic behavior by current or future governments. In this chapter we provide a general transaction framework to analyze the rise and evolution of regulatory institutions. Regulatory structures work very different as credible regulatory governance depending on the nature of the institutional environment, and the way it affects policy-makers' capacity to enter into complex intertemporal agreements among themselves. Thus, this chapter emphasizes the shift away from exploring regulation as a pure government/firm game, to understanding the institutions of regulation as facilitating entering into complex intertemporal agreements among policy-makers, agreements that have direct consequences for firms' investment incentives and performance.

This chapter also points to the intrinsically inter-disciplinary nature of the research on regulatory institutions. Neoclassical economics has contributed greatly to our understandings of incentives and the potential for market failures. As it relates to the real performance of regulatory institutions, though, we must branch out of the narrow confines of economics, and add to it deeper understandings of the institutional environments in which regulatory issues are at stake, to which political sciences and the law provide fundamental insights. In particular, this chapter has emphasized the need for more "nitty-gritty" work on regulatory institutions and their origins. Williamson (1976) path-breaking work on the way Cable TV regulation actually worked in the US of the 1970s is the type of work that, at the level of institutions, needs to be undertaken to unravel the key details of the institutional environment in which policy making is made.

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[74] Breaching a contract may, however, be an expensive proposition for a government if the private counterpart is a foreign company protected by a Bilateral Investment Treaty (BIT). BITs developed after the Second World War as ways to provide assurances to foreign investors. See www.worldbank.org/icsid/.

[75] Bolivia has had the longest lasting private electricity company in South America. COBEE, founded in the late 1910s, has provided electricity to La Paz and its environs. Its regulatory structure, although set by a Presidential Decree was enshrined in its license. Thus, future Presidential Decrees will not be able to amend the terms of the license (Spiller 1995). Argentina privatization process in the 1990s was also based on contracts as regulatory instruments, and it worked reasonably well until the havoc created by the mega devaluation of 2002.

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Only equipped with that knowledge will we be able to grasp the complexities of the workings of regulatory institutions.

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