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CENTER FOR INSTITUTIONAL REFORM AND THE INFORMAL SECTOR

University of Maryland at College Park

Center Office: IRIS Center, 2105 Morrill Hall, College Park, MD 20742
Telephone (301) 405-3110 • Fax (301) 405-3020

**UTILITY REGULATION, ECONOMIC DEVELOPMENT,
AND POLITICAL STABILITY: THE CONTRASTING
CASES OF ARGENTINA AND CHILE**

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Mathew D. McCubbins

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Author: Mathew D. McCubbins, University of California, San Diego, CA.

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Mathew D. McCubbins
University of California, San Diego

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Utility Regulation, Economic Development, and Political Stability: The Contrasting Cases of Argentina and Chile

Mathew D. McCubbins

UC San Diego

ABSTRACT

Healthy, lasting economic development cannot be achieved in the absence of long-run capital investment. As Douglass North has argued, in order to provide investors with the requisite security of investment, a government must be able to *commit* to stable regulatory policy, so that investors a) can calculate their expected returns given the regulatory framework; and b) can be reasonably confident that the government of the day will not arbitrarily change the entire regulatory framework. This paper differs from the work of others who have argued this point in that I break the issue of government commitment to stability down to two issues: stability of regulatory policy and political stability. It is well understood that attracting investment means allowing investors to earn acceptable returns. I argue, however, that conditions for investment go much deeper than the administrative procedures that govern earnings. Even the most attractive regulatory framework (one in which returns are high and difficult to alter) will leave investors cold insofar as the government is unable to guarantee that neither it nor a government that succeeds it will change not only regulatory policy but the entire regulatory framework. To show this, I compare the cases of electricity and telecommunications regulation in Argentina and Chile to those of the U.S. and Japan. Chile's regulatory system mirrors the

top-down, authoritarian politics of Pinochet's regime: its regulations not only are stable but they look like they were designed by economists for maximum efficiency. Further, Chile's constitution militates against changes in the regulatory system itself. As might be expected, Chile's electricity and telecommunications industries have developed admirably. In Argentina, by contrast, the regulatory structure mirrors the wide-open, easily polarized politics of the broader political system. While policy has remained stable in both telecommunications and electricity since their privatization, there are few obstacles to policy change should regulators decide in favor of a different tariff structure. for example. More importantly, the fear of *political* instability still is very real. Privatization has attracted investment, but it is investment that is distorted by current regulatory policy and, I argue, by the concern that Argentina has yet to shake of its past penchant for extreme political conflict and instability.

Introduction

Sound, long-lasting economic development and long-term capital investment go hand in hand. A healthy economy is built on a foundation of both human and industrial capital. The twin problems of capital flight and “brain drain,” by depleting resources for intelligent, long-term investment, can not only bring economic development to a grinding halt but even reverse it. Public utilities such as electric and communications companies are particularly important in the relationship between development and investment: not only does building a utility itself require major capital inputs, but utilities are fundamental building blocks for economic development as well. As such, we can learn a lot about economic development by studying them.

There are three possible approaches to the development of utilities. The first is public ownership. Perhaps because of their importance to economic development in general, utilities often are owned and managed by the state. This is true in the developed world as well as in the developing world, although it is perhaps more pervasive in poorer countries, where the kinds of resources needed for major capital investment simply are unavailable outside of the government. Owned by the state and managed by bureaucrats, who in turn implement the dictates of political leaders, utilities (and, more generally, the entire public-enterprise sector) are subject to political winds. They are an attractive and potent tool for redistributing wealth and other resources, and as such they pose an often irresistible temptation to politicians. Meddling in electricity policy when the electric utility is state-run, for example—e.g., affecting prices, classes of service, universality of service—is easy and can be politically effective. It also tends to be economically

inefficient, as economic criteria often are low on the list of considerations applied to decisions on prices, subsidies, and so forth.

Political meddling and its resulting inefficiencies are not confined to low-and middle-income economies. These problems exist in the developed world as well, albeit with less serious consequences. In developed economies, government interference with utilities' operations is essentially a kind of tax policy: it may be inefficient, but it is a useful tool. In less-developed countries, however, politically motivated redistributive efforts often end up stripping (or driving) away resources for long-term capital investment and hence seriously impeding economic development.

The second approach treats investment in key infrastructure, such as utilities, as an economic "field of dreams" that, once built, would attract investors. In many countries, including the United States, long-term investment was fostered through this type of state-led capitalism. Perhaps the best example in the United States is the development of the railroads: the government did not actually own the railroads itself, but it bent over backward to give railroad companies incentives to build a continent-spanning system—granting generous rights of way, trackside land grants, protected monopoly status—with the idea that by providing transportation infrastructure, the railroad would encourage the development of industry and commerce in its path. Many countries have followed this "field of dreams" approach to developing public utilities, often with the utilities incorporated as separate firms and that are (purportedly) free from direct political control. State-led capitalism, the "field of dreams," is relatively open to political meddling and its concomitant inefficiencies as well, however. These companies have

been privatized recently, in many countries, in order to escape these political inefficiencies.

The third path to development is the free market. This approach suffers, in the eyes of politicians concerned with protecting or increasing their bases of support, from its economic logic. It ignores many if not all of the criteria that make certain people or classes of people politically (but not economically) important. Conversely, it is conducive to efficient investment and, consequently, wealth creation. Privatizations and the opening up of traditionally protected markets have become increasingly common, as many developed and middle-income countries are now trying to go this route.

This paper focuses on electricity and telecommunications regulation in Chile and Argentina, in light of regulation in Japan and the United States. In both Japan and the United States, political and policy stability have been instrumental in encouraging the successful development of telecommunications and the electricity industry. All is not rosy, however: the rate-of-return regulation they employ leads to some inefficiencies, and both countries practice redistributive pricing. Redistribution in the United States has benefited residential users at the expense of business in both industries, although the subsidy for residential users in telecommunications should disappear as the industry moves toward an increasingly free market. In Japan, for both electricity and telecommunications, commercial users are charged a premium that goes to subsidize industry as well as the utilities' pockets (residential users also pay more than their fair share in telephony).

Private investment, and therefore market-led development is risk sensitive. If the risks associated with an investment, relative to its reward, are too great, then investors will put their capital to work elsewhere. Attracting investment, then, means making investments *relatively* secure. Security of investment has two components: price stability and political stability. Price stability means that investors can forecast their returns over time, and so allows them to calculate the worth of an investment. Price risk can arise from both market forces, such as a change in technology that changes relative prices, or from regulatory forces. Political stability refers to the condition of the political system of which the agencies that regulate a market are a part. Political risk arises from the prospects of wholesale changes in the way the government treats an investment, from changes in the tax treatment of a type of investment, to takings and expropriation. Clearly, a high risk of expropriation implies to most investors that, unless the returns are correspondingly very high, their money is best put somewhere else.

Price stability and political stability are not generated out of thin air. They depend heavily on that most basic building block of politics, the structure of government. When policy makers write regulatory legislation, they follow constitutional process and are limited (to a greater or lesser extent) by constitutional mandates. Constitutions define who must approve regulatory laws and, often, what procedures must be followed in making a decision. The structure of government also has important implications for governmental actors' incentives: it describes who works for whom, as well as terms of office and criteria for reappointment.

At the level of constitutional structure, Japan and the United States are quite different. The United States has a presidential system of government with a bicameral legislature. Because the Constitution prescribes different constituencies for members of each chamber of Congress and the president, each branch of government is "hard-wired" to have different preferences over many areas of policy. This is true even when all three branches are controlled by the same party. This is the essence of Madison's desire to have ambition counter ambition in order to force government to keep a rein on itself. The immediate effect of this is that there are myriad structural barriers and procedural requirements that must precede any regulatory decision making.

Finally, the federal structure of U.S. government means that federal-government processes often are duplicated at the state level. State public utilities commissions (and sometimes even municipal authorities) have the authority (de facto and often de jure) to veto federal legislation or regulatory decisions that they do not like. Thus, a permit for power-plant construction at the federal level may be useless if a state Public Utilities Commission (PUC) decides to scuttle the project. Further, state-level elected officials and the bureaucrats who answer to them serve very different constituencies from their federal-government counterparts. This of course simply adds to the multiplicity of obstacles to be negotiated in the regulatory maze.

Japan, by contrast, has a remarkably streamlined governmental structure. It has a parliamentary system of government, where the legislature (the Diet) possesses sovereign authority to write legislation and regulatory procedure. The Diet is bicameral for much legislative activity, but the lower house has sole authority over the annual budget, the

ratification of treaties, and the choice of prime minister. the last of these exceptions is most important, given the legislative prominence of the prime minister and his hand-picked cabinet. There is in Japan no separately elected executive and no federal structure. Local governments' decision-making authority is given to them by the Diet, and the Diet can take it away. Consequently, the party that controls the Diet can make and change policy with impunity.

Argentina and Chile present contrasting cases. Chile's electricity regulations look like they were designed by economists for maximum efficiency. They constitute a system far different from regulatory regimes elsewhere, in a near-successful intent to induce free-market efficiency in a regulated industry. Chilean telecommunications regulation looks a lot like telephone regulation in the United States (prior to 1973), with a few differences (regulation by fixed-term contract, and the companies can set the regulatory agenda). Chile, in brief, enjoys stable regulatory structures (political stability) as well as stable, well-balanced (i.e., nondistortionary) policies. The solidity of Chile's regulatory system is a direct consequence of the fact that it mirrors the top-down, authoritarian politics of Pinochet's regime.. As might be expected, Chile's electricity and telecommunications industries have developed admirably over the past decade or so.

The outlook for Argentina, by contrast, is less attractive. While *policy* has remained stable in both telecommunications and electricity since their privatization in the early 1990s, the fear of *political* instability still is very real. Moreover, while policy is stable it is skewed toward redistribution and therefore is distortionary: commercial users of electricity, for example, are heavily taxed to subsidize residential users. In essence,

regulatory structure in Argentina mirrors the wide-open, easily polarized politics of the broader political system. Further, in keeping with the labor-movement roots of President Menem's Peronist party, electricity regulation in Argentina provides strong incentives for overemployment of labor. Nonetheless, I argue that the biggest problem by far in Argentina is political instability (or the threat thereof).

I focus in this paper on the relationship between regulatory rules and capital investment in Argentina and Chile. To this end, I first examine the basic considerations that generally impinge on investment decisions. It is generally recognized that the key to long-term capital investment is investor security. I agree with this general principle, but I argue that the conditions for investor security are more complicated than often thought. Security, I argue, depends not only on a regulatory framework that can be counted on to produce consistent policy that is reasonably friendly to investors, but also on the very stability of that framework. And that *stability*, depends heavily on a country's politics. I then go on to look at the cases of electricity regulation and telecommunications regulation, respectively. My discussions of each industry parallel each other: I first give a comparative overview of regulation in Japan and the United States, followed by more detailed, individual case studies of Argentina and Chile. In all cases, I draw out the implications of both the regulatory system and the political system for investment decisions such as whether to concentrate relatively more on capital or labor, and whether they should be expected to be governed by long- or short-run considerations. The final section concludes.

Regulation and investment

When the government operates an industry directly, regulation is largely a moot point. With privatization, however, regulation becomes an important issue. The key question is, How to regulate? This breaks down to questions such as: How much control should the government retain? Should the industry be structured to favor consumers, to attract investors, or to provide support for developing industry in other sectors? In order for economic development to occur or to continue, the answers to these questions need to lead to policies that encourage (or at least do not penalize) long-term investment.

Getting long-term capital investment is more than just a matter of deciding which path to choose or supplying the infrastructure. Any capital investment carries with it two potential problems: the hostage problem and the expropriation problem. Both problems are rooted in the fact that capital investment is tangible and generally difficult to move. This makes it a tempting target for governments that need resources or want to reallocate wealth. The hostage problem (Williamson 1983) refers to the government's ability to force utilities to shoulder onerous taxes or to charge unprofitable rates for their service; companies' sunk costs in capital may be largely unrecoverable, so that even though continuing to provide service is unprofitable, exiting is even more so. The hostage problem is in essence a problem of *price risk*.¹ The expropriation problem refers to

¹ In this regard, I should not that one of the key aspects of price regulation is who gets to define the parameters of regulation. Once a purchaser has invested in existing capital as well as improvements and expansions, it may be difficult (if it is even allowed) profitably to recoup his investment if regulatory requirements are too onerous. Hence, there is a

possibility that at some point in the future the government may make a decision (such as expropriation of utilities' property) that renders an investment less valuable (valueless, in the extreme case) to the investor. The expropriation problem is more fundamental: it is regulatory, or *political risk*, in that it refers to the probability that the entire regulatory framework in which a company operates will be changed—e.g., the government might renege on promised subsidies or simply change its policies concerning infrastructure development.

In order to encourage investment, then, a government must be able to commit to limiting both price risk and political risk. Such commitment is most credible if the government is “constrained to obey a set of rules that do not permit leeway for violating commitments” (North and Weingast 1989, 804; see also, Williamson 1985, 48-49; Milgrom, North, and Weingast 1990; Root 1994; Levy and Spiller 1993). Companies will choose their investment strategies according to expected earnings, and the higher the

world of difference between a contract that is proposed by the industry and subject to approval by the relevant government entity and a contract that is proposed by the government regulatory body to the industry. In the case where the regulator is the one who proposes the parameters of regulation, the industry might be highly disadvantaged: if the costs of exiting from the telecommunications business are high, then the investor can be forced to put up with a lot of very onerous regulation before he gives up and sells out. If the industry proposes regulatory guidelines subject to government approval or amendment, on the other hand, the range of outcomes is likely to be much more favorable to the investor.

price risk or the political risk, the less heavily will investors concentrate on long-term capital investment.

A firm's profits typically are considered to be a function of four things: demand, and therewith the price of its product, the quantity sold, and costs of production. In a free market (assuming a known demand curve), firms are assumed to be price takers and adjust their quantity and their costs in order to maximize profits given prices. In regulated markets, the relationship between price, quantity, and cost depends on the type of regulation applied. Rate of return (ROR) regulation, for example, explicitly makes prices a function of firm costs by allowing firms to earn a specified return on their capital. Firms that face ROR regulation will seek to keep variable costs as low as possible, but since their profit level is based on their capital investment they will tend to overinvest in capital (Averch and Johnson 1962). Other regulatory schemes that set prices independent of costs will induce firms to keep costs as low as possible, perhaps even leading to underinvestment.

I add a fourth consideration, risk, alongside the usual issues of price, quantity, and cost. Utilities' investment strategies determine their production. In choosing inputs—what kind of mix of long-term vs. short-term capital to employ, and their usage of variable-cost inputs (labor, fuel, administrative and marketing efforts, metering, and so forth)—utilities effectively are choosing both their level and capacity of production. If their operating environment is *stable*—if regulated prices are unlikely to be changed beyond a predictable range, and if political risk is low—utilities can invest according to the incentives set by the characteristics of their regulated market. To the degree that their

operating environment is not stable, however, companies will factor risk into their investment strategies.

If prices are independent of costs, so that profits are a function of the marginal product of capital but not capital costs, then the higher the rate of risk the greater must be the marginal product of capital in order to make capital investment worthwhile. If prices are set artificially low (or likely to be set artificially low in the future), then companies will keep costs down by investing—and hence producing—less. If the risk of expropriation is high, companies not only will invest less but also they will focus investment on short-term capital (which allows them to recoup their costs more quickly). In either case, the end result is less long-term investment and, by definition, less development.

Development, then, depends crucially on risk and risk management. More risk implies less development. In order to minimize risk, a government has to be able to commit not only to both keep regulatory policy reasonably stable, but also to the maintenance of the overall regulatory framework. The less the government is able to commit to policy stability and political stability,² the higher the rate of risk and, again, the lower the rate of market-driven development.

² Commitment to political stability means not only that the current government won't change the regulatory framework, but also that *future* governments won't do so either.

Electricity regulation in the United States and Japan

An examination of electricity regulation in Japan and the United States reveals some stark differences in both process and outcome. Nowhere are these differences more evident than in nuclear energy regulation (see Cohen, McCubbins, and Rosenbluth 1995). The process for licensing new power plants (nuclear and nonnuclear) is instructive: in the United States, a utility must obtain over 200 licenses between its decision to build a plant and the flick of the switch that puts the plant on line. These licenses are issued by dozens of different federal, state, and local agencies, each with potentially different preferences concerning nuclear energy development. Moreover, each of these agencies must follow specific procedures in deciding whether or not to issue a license, and the Administrative Procedure Act allows any agency to be sued for failing to follow proper procedures at any stage in the process. This is a process that lends itself famously to interminable lawsuits and construction delays.

In Japan, construction delays are shorter and less frequent than in the United States. This is partly because fewer licenses are required, but mostly because all licenses are issued by a single agency, the Ministry of International Trade and Industry (MITI). A utility that is able to convince MITI at the first stage of the construction (and licensing) process that a proposed power plant is necessary for the public convenience, is then able to bring the plant on line with little hindrance. Further, MITI is not bound by the procedural requirements that lay US agencies and the licenses they issue open to lawsuits: there is in Japan no equivalent to the US Administrative Procedure Act or the National Environmental Policy Act (NEPA). MITI, does hold public hearings to discuss plant

siting, but these hearings are completely unlike such hearings in the United States. MITI chooses who may attend a hearing, preapproves their comments, and may dismiss any participant for deviating from the script. And if in the course of a hearing legitimate concerns are expressed in spite of these constraints, MITI is under no obligation to respond to them. The paucity of procedural constraints on agency action means that there are few grounds for lawsuits that might stop or delay new-plant construction.³

Construction delays are costly. For an electric utility, costs include interest payments on money already borrowed, opportunity costs in terms of revenue foregone from electricity not yet generated, and legal costs of fighting court challenges. Hence, the longer a plant's construction lead time, the more expensive is that plant to the utility. The sheer number of permits required to construct a power plant in the United States, along with the probability that one or more of those permits will inspire opposition and therewith lawsuits, makes power-plant construction much more expensive than in Japan. Of course, if utilities are confident that they can recover licensing and construction costs by factoring them into their rate base, or if their cost of capital is low, then they will tend to be less concerned with heavy construction costs. In both cases, Japanese electric utilities have an advantage over their American counterparts.

First, Japanese utilities receive low-cost loans from the government-controlled Japan Development Bank. American utilities, by contrast, must compete for capital on the

³ It should be noted in this context as well that Japanese courts have proven much less willing than their US counterparts to grant standing for class-action or other personal suits (Haley; Upham; Ramseyer and Rosenbluth 1993).

open market. As a result, every day of construction delay is more costly to an American utility than to a Japanese one. Second, Japanese utilities could be much more sanguine about the prospect of recovering those up-front costs later on. Demand for electricity in Japan has increased steadily over the entire postwar period, so utilities know there will be a market for the new capacity. Further, utilities are allowed to include 50 percent of construction costs of work in progress (CWIP) in their rate base from the moment they begin construction. The remainder may be included in the rate base when the plant goes on line. This means that utilities know they can recover half of their costs immediately, and all of their costs eventually, as long as the policy does not change. Since policy change was unimaginable prior to the toppling of the LDP, up until the summer of 1993 at least utilities could be confident of policy continuity and therefore continued building more and more plants.

Rate-of-return regulation makes capital-intensive investment very attractive, since larger capital investment means a larger rate base and, therefore, higher profits. This, in combination with the 50 percent CWIP rule, has made capital-hogging nuclear plants in particular very attractive investments in Japan. It comes as no surprise, in light of the regulatory situation, that the Japanese nuclear energy program has burgeoned over the last two decades, growing from five plants in 1973 to eleven plants under construction and forty-one completed plants, accounting for 26 percent of total electricity supply, in 1993.

American utilities, by contrast, never could be sure about their ability to recover costs prior to startup. The percentage of up-front costs that a U.S. utility may include in its rate base is up to state regulators, is decided late in the process, and varies from case to

case. Ohio, for example, allows 20 percent of costs of plants that are 75 percent complete. Consequently, pre-startup costs are much more daunting to American utilities than to Japanese ones. Adding insult to injury, a U.S. utility never knows whether or not it will ever be allowed to generate electricity from a plant that completes the construction stage. There are several cases in which pristine nuclear plants have never been turned on, because the last license was never granted.

The final straw for U.S. utilities came in the early 1970s. In 1971, the D.C. Circuit Court mandated that licensing applications to the Atomic Energy Commission (AEC) comply with the NEPA. This meant that utilities had to file environmental impact reports (EIRs), which effectively added yet another veto gate to the licensing process. The immediate effect of this ruling was to cause several utilities to backtrack for over twelve months in order to comply with the EIR requirement. The long-term effect was that the decision created new grounds for filing suit against utilities, delaying construction even further. As a result of long, costly delays, and possible total losses involved in nuclear power plant construction in the United States, by the late 1970s utilities had stopped ordering nuclear power plants. They even canceled plants that were already under construction. Before EIRs, new-plant construction was seen as profitable, albeit risky; but EIRs broke the back of the U.S. nuclear energy program by significantly opening up the regulatory process, bringing in other agencies (such as the Environmental Protection Agency) and increasing both delays and the risk of being denied requisite permits (Joskow and Schmalensee 1983).

The dispersion of veto authority to the House, the Senate, the president, state—and sometimes even local—governments, and the courts means that it is very difficult to change policy in the United States. The converse is also true: once policy has been changed, it is very difficult to change back (or to something different). In Japan, while the concentration of all regulatory authority in a single agency, and the concentration of veto authority in one place (the Diet) means that it is easy for the majority party in parliament to change policy, the long domination of the LDP meant that policy was stable. It is interesting to note that as soon as the LDP lost power, in 1993, the nine electric utilities announced that they would build no more nuclear power plants. One can only assume that they had reassessed the political risk of long-term capital investments in light of new unpredictability on the political scene.

Electricity regulation in Argentina

Regulation of private electricity utilities in Argentina is a new phenomenon. The privatization process was only announced in 1989, with the first sales taking place in 1992. The regulatory framework that was created in anticipation of privatization divorces calculation of utility earnings from their capital-investment costs. While provisions for rate of return on capital have been abandoned, however, the regulatory scheme essentially sets up *provisions for rate of return on variable costs such as labor, administration and organization, fuel, and so forth.*

The government and the workers of SEGBA (Servicios Eléctricos del Gran Buenos Aires) reached an agreement on selling SEGBA (with some shares going to workers) in September 1989 (González Fraga 1991, 95). By 1993, the government had sold off majority stakes in various segments of its holdings in the electricity sector (see Table 1).⁴ Purchasers involved in the original sale included Chilean companies as well as companies from France and Spain (Hannon 1993, 96; Rausch 1993, 185).

Table 1
Sales of Government-Owned Electric Utilities, Argentina

Month and Year	Entity	Terms of Transfer
April 1992	SEGBA, Puerto Power	Sale, 60 percent
May 1992	SEGBA, Costancra Power	Sale, 60 percent
August 1992	SEGBA, Edenor	Sale, 51 percent
August 1992	SEGBA, Edesur	Sale, 51 percent
August 1992	Alto Valle Power	Sale, 90 percent
September 1992	Gueines Power	Sale, 60 percent
October 1992	SEGBA, Dock Sud Power	Sale, 90 percent
October 1992	Pedro de Mendoza Power	Sale, 90 percent
November 1992	SEGBA, Edelap	sale, 51 percent
December 1992	Sorrento Power	Sale, 90 percent

Source: Hannon 1993, 96.

Generation, transmission, and distribution

Electricity generation, transmission, and distribution are regulated under law 24065 (as implemented under rules applied by decree 1398/92). As in most countries,

⁴ The percentages unaccounted for in the original sales were distributed to employees of the privatized firms or to be floated in the stock market.

there are different regulatory procedures for each of these three aspects of electricity provision.

Electricity generation is essentially unregulated, with no need for (prospective) generators to obtain permission prior to building or adding to generating facilities. When it comes to *selling* electricity, generators operate in two “wholesale” markets, one in which the price is regulated according to specific calculations, and the other wholly unregulated. The unregulated market is straightforward: generators can contract to sell their output directly to distributors and large consumers, at any price that both parties can agree to (law 24065, Art. 5).⁵ Alternatively (and neither option is exclusive of the other), they can sell electricity in the “producers’ market” at a three-month “spot” price intended to approximate what would prevail in a free market.⁶

⁵ Note that the implementation of the electricity law prohibits owners of generative facilities from holding licenses to distribute electricity (decree 1398/92, Art. 9).

⁶ This price combines long-term estimates of the output of the most economical production technology (over the long term) available (i.e., hydroelectric), weekly estimates of the probability of breakdowns and the concomitant costs of ensuring sufficient capacity to maintain uninterrupted supply, and daily calculation, given input availability (for example, hydroelectric generation grows more expensive during dry spells), of the most efficient type of generator. Note that the decisions as to what is to be used as the standard for an efficient generator, as well as estimates of future demand and probability of breakdowns are made by the regulatory body. There is therefore quite a bit of leeway for the “spot” price to differ from what would be the free-market price.

Electricity transmission and distribution are considered public services and are regulated for the public convenience and necessity. Companies involved in transmission are prohibited from buying and selling electricity and, like distributors, they are considered natural geographical monopolies. Perhaps because of the deficiencies of electricity provision before privatization, direct state involvement in electricity transmission is called for only in cases where continuous service cannot otherwise be guaranteed. Avoidance of direct involvement does not rule out regulation, however: The National Electricity regulating Body (Ente Nacional Reguladora de la Electricidad, ENRE) regulates transmission and distribution companies fairly heavily and for the most part they are covered by the same regulatory provisions. Not only must they obtain permits from ENRE in order to build, operate, or extend their facilities (law 24065, Art. 11), but the process through which such permits are granted is replete with public hearings and public notice and comment (much like that provided for in the US Administrative Procedure Act; see law 24065, Caps. 8 and 9).

Transmission (and distribution) companies are forbidden from engaging in mergers with or buyouts of like companies (law 24065, Art. 32). Similarly, they may not exit from or cut back service in markets in which they are active (law 24065, Art. 14; note that receiving a transmission or distribution permit *can* also carry with it the *obligation* to increase service capacity—Art. 28). Such actions are admissible only with the express approval of ENRE, and only if they do not result in a worsening in service (in the case of mergers) or if they can be shown to involve unnecessary services (in the case of service cutbacks). ENRE approval of mergers, buyouts, or cutbacks, like approval of

operating licenses, can come only after a well-defined process of public notice, hearing, and comment.

Where the activities of existing or unlicensed operators damage the interests of a licensed operator, the damaged party may challenge the new entrant before ENRE. This includes new operating permits that ENRE may grant, as ENRE is not limited in the number of concessions it is allowed to give out (in spite of the assumption that transmission and distribution are natural monopolies). ENRE may, if it deems necessary, hold public hearings prior to ruling on the challenge, but it need not do so. Hence, ENRE has the ability punish badly performing firms by allowing or even encouraging new entry into the market. If an existing firm is performing well, however, ENRE can discourage or prohibit new entry into that firm's market.

Prices

The licenses that ENRE grants to transmitters and distributors stipulate a five-year rate structure, although the companies may request changes at any time. Like MITI in Japan, ENRE must consider all such requests, but need not take action on them. Much like their counterparts in the United States and Japan, large users are free to enter into contracts with generators and distributors and to set their own terms. *Unlike Japan and the United States, however, the licensee may institute its requested changes as if they had been approved if ENRE does not rule on the rate change within 120 days.* (Should ENRE later reject the requested change, however, the licensee must return to the old rate structure and reimburse customers for any difference in what they paid and what ENRE rules that they should have paid—Art. 47).

In a significant departure from the practice in Japan and the United States, cross-subsidization is strictly prohibited: "under no circumstances shall the costs of providing service to one user or class of users be covered through rates charged to other users" (law 24065, Art. 42). This prohibition should benefit those large users who do not contract directly with generators for their power supplies, at the expense of households and other small consumers. Prior to privatization, prices were distorted and often erratic (Covarrubios and Maia 1994a; see

also Table 2), particularly for commercial users. Excluding commercial users, by 1991 there was already some movement toward charging cheaper rates to larger users and, consequently, away from industrial subsidization of residential users (Table 2). Post-privatization price data is as yet unavailable, but if the prohibition

on cross-subsidization is in fact enforced I would expect eventually to see users of the same size and tension level ultimately being charged the same price, regardless of their sectorial classification.

What can be seen thus far, is that the regulatory process for tariff setting is a complex one that invites uncertainty. When the procedural dust clears, two things stand

Table 2
Utility Tariffs, SEGBA
(US cents per kWh/month)

	1987	1988	1991
Residential low (20 kWh/mo)	4.51	9.25	8.58
Residential high (400 kWh/mo)	7.25	9.05	8.58
Commercial (400 kWh/mo)	7.25	11.00	10.91
Small industry (2000 kWh/mo)	7.44	11.17	6.53
Large industry (100,000 kWh/mo)	3.05	3.75	4.15

Source: Heidarian and Wu 1994, 20.

out: first, the government (that is, ENRE) retains the authority to dictate prices; and second, vendors in both the resale and the wholesale, "spot" markets can ask for adjustments in rates, subject to challenge on several fronts and to approval by ENRE. ENRE, upon receiving any such request for a rate change from a transmission or distribution company, must convene public hearings to establish whether conceding the requested change would be in keeping both with the law and with the public interest (law 24065, Art. 45).

What this means is that there is no such thing as a stand-alone request for rate adjustment. A distributor can request a price change, for example, but consumers and transmission companies can mount a challenge to that request. Similarly, a transmitter can request a rate change, which is then open to challenge by distributors and consumers. In order to be reasonably assured of being able to convince ENRE to concede a rate-change request, therefore, the different segments of the market must collude vertically.⁷ This adds an extra measure of uncertainty to the process. For example, if a distributor has been successfully challenged in the past in its rate requests by consumers, then it practically has no choice but to challenge a rate request from its transmission company; otherwise, without the ability to pass on its new costs to consumers, it is likely to lose money. Thus, every rate request really involves at least two requests, one by the transmission company and one by the distributor.

⁷ Legal vertical integration is ruled out, at least partially, by the prohibition on a single entity owning both generation and distribution facilities (see note 5).

Unlike the United States and Japan, rates in Argentina are not set on the basis of rate of return to capital. Rather, rates are set equal to the "spot" price plus an allowance for the marginal cost of distribution, with a profit margin calculated into the final price. The profit margin that ENRE uses to set resale rates should be similar, on average, to profits realized by other companies that face comparable risks (law 24065, Art. 41). Since it is probably easier to calculate distribution costs than capital costs, this is one area where uncertainty is kept low. Because the rates that companies can charge are essentially independent of their capital costs, this should lead to relatively efficient capital purchases—in contrast to the overcapitalization of the electricity sector in Japan and, to some extent, in the United States.

Efficiency in capital investment does not mean efficiency overall, however. Electricity costs paid by consumers are a combination of the prices paid to generators and distribution value added.⁸ The distribution value added is essentially provides for ROR profits, *but not ROR to capital*. Rather, distribution companies earn a rate of return on their employment of variable inputs. *The focus on the costs of distribution in regulating prices, and the fact that regulation fixes a profit margin above these costs, implies an overemployment of labor.* This is a straightforward consequence of the method of calculating distribution costs, which are defined as the sum of 1) the marginal cost of distribution networks, factoring in predictable, technical losses; 2) operation and maintenance costs; 3) and *commercialization costs*, including administrative and

⁸ Transmission costs play a role in pricing as well, but as they are included in the distributor's costs I leave them out of this discussion.

measuring costs (decree 1398/92, Art. 40). Clearly, operation and maintenance and “commercialization” are labor intensive, and since they are in essence factored into the rate base companies certainly have no disincentive to the overemployment of labor. This rate procedure, then, should result in greater inefficiencies and higher prices than would be the case if the bias toward surplus labor were eliminated.⁹

On the whole, Argentine electricity regulation pushes for a fairly market-oriented approach with respect to capital utilization. This push is especially noteworthy in comparison to the state-led capitalism of postwar Japan—where cross-subsidization went from residential consumers to large users—and the United States prior to 1970. In both the United States and Japan, moreover, rate-of-return regulation led to overcapitalization and surplus capacity, pushing down real prices and further fostering industrial development. This does not necessarily imply that prices will drop, however. Indeed, they might well be expected to rise, considering that as of 1991 average revenue for electricity (total sales divided by total sales in GWh) was only 79 percent of average financial cost (total operating cost, plus payments on debt interest and principal, minus depreciation, divided by total sales in GWh; Campos and Esfahani 1994, Table 2b). And rise they have, with SEGBA’s total average tariff more than doubling from the first quarter of 1990 to the first quarter of 1992 (Covarrubios and Maia 1994b, A-40, Table 2).

⁹ This is in principal an easily testable hypothesis. Transfer of ownership from the state to nongovernmental investors was quite recent, however, and the pertinent statistics are as yet unavailable.

Most important, price risk is dependent not only on policy stability but also on *political stability*. The political stability that has reigned in Argentina over the past few years may not last forever: a change in government, or a change in popular opinion, could bring radical change to price policy or to ENRE's regulatory objectives, or both. Consequently, utilities are likely to invest only when their returns are high enough to compensate their risk.

Indeed, the biggest investment risk in Argentina, arguably, is political. Argentina's dilemma has been to promote efficient development of industries that have long been the object of amusement, if not derision.. The cause of the lack of development is as near as Argentina's past political instability. No government ever had an incentive to undertake the total of needed investments because the costs far outweighed the likelihood of reaping the benefits of such investment.

Argentinean politics in the twentieth century have been typified by intense, often violent conflicts. Urban-rural strife has combined with and reinforced economic class cleavages. And Argentina's political system, predicated on strong provincial representation, has magnified political conflict. Political leaders faced a military that was willing and able to intervene in politics and, generally, an opposition that sought a radical restructuring of the patterns of distribution of the fruits of the economy.

The prize of winning political control was particularly sweet because key sectors of the Argentine economy were state owned. State ownership of public utilities was one of the few things that Radical party and Peronist politicians agreed on. Whatever the basis for this agreement—economic philosophy, nationalism, political expedience, ideology—

the effect was to open the coffers of state-owned enterprises to the party in power. As a result, not surprisingly, politicians in power have sought two things above all else: to eliminate the opposition, and to extract as much as they could from the economy before they were removed from office.

The heart of the problem is that, until recently, being thrown out of office has been one of the few things that governments could count on. The basic problem of regime stability has three dimensions. First, the economy has been, and to a great extent still is, centered on export-oriented agriculture (Waisman 1987). This has been the only sector of the economy to generate a surplus that could be used for industrial development. Government policies, especially since 1943, of course, have led to a decline in the surplus generated from agricultural exports, and thus to a decline in developmental potential. Argentine politics has been zero-sum, if not negative-sum for most of the past seventy years. Second, the national economy is itself split regionally, with industry overwhelmingly concentrated in and around Buenos Aires, and agriculture the dominant economic activity in the bulk of the country. Thus, cross-regional coalitions are difficult to form and maintain, because the economic interests of the city are so at odds with the interests of the agrarian regions.¹⁰

Third, and most important, are the rules that govern Argentine congressional elections. The electoral rules have two noteworthy features. First, deputies are not elected nationally, but provincially, and the lists of candidates in each province are put together

¹⁰ Of course, some elites have interests in both sectors, but few of the middle or working class interests are cross-cutting.

by the provincial party organization. Thus, as has historically been true in the United States, while same-party lower house members from a single province tend to have a common outlook on policy questions, the provincial party organizations operate quite independently of the national party organization. Senatorial elections reinforce this tendency for legislators to look first to the provincial party organization for policy advice. Hence, members of the Lower House, (the Chamber of Deputies) are elected from closed party lists (with seats allocated by the d'Hondt formula). Senators are elected in provincial legislatures by plurality, two for each Province, and two from the capital. Members of both chambers of Congress owe their allegiance to provincial party organizations and their constituents. This mode of election, then, reinforces the political and economic conflicts between the provinces that have permeated Argentine history.

The timing of elections further exacerbates the difficulties of building cohesive, national parties. The term of office for deputies is four years, and for senators is nine years. Only one half of the deputies and one third of the senators are elected concurrently with the President, who holds a six-year term and cannot be reelected to successive terms (see Shugart and Carey 1992). This staggering of elections means that the provincial electorates can express their changing policy concerns fairly frequently (with a national election held every other year in which half of the lower House is at stake and every third year, in which a third of the Senate is at stake). But with only a fraction of legislative seats up for reelection in any one election—and different portions of the House and Senate being matched up every six years, when the Presidency is also at stake—the odds are that the electorate will often produce divided partisan control of government.

The divisions between parties are evidenced by the segmentation of both of the two largest Argentine parties—the Radicals and the Peronists—and by the large number of parties competing for election (McDonald and Ruhl 1989, ch. 10). Further, in recent Argentine elections, the effective number of parties¹¹ has been over 3 (Shugart and Carey 1992, 220).¹² Of course, the most important consequence of these partisan divisions is that the parties then mirror the regional economic and political divisions. Thus, none of the existing parties—at the provincial level, especially—cuts across economic class separations: the labor unions are still Peronist, and the middle class is largely affiliated with the Radicals.¹³

Although not always appreciated, the Argentine Congress plays a central role in policy making. Most emphasis in studies of Argentine politics has been given to the President, but formal constitutional powers to make policy reside with the Congress. Indeed, as noted above, the decree powers under which Menem is reforming the economy were delegated with strict controls by Congress, and are subject to congressional approval

¹¹ See Laakso and Taagepera 1979 for an explanation of this measure.

¹² The effective number of parties is a number constructed to represent the number of parties that have a chance at competing for election. This is similar to constructing the effective number of new entrants in a market. There may be many potential entrants, while there are actually none observed (or there may be many observed, but none are competitive).

¹³ Nationally, there are two Peronist factions, one moderate, representing the middle class, the other more traditional, and extreme, representing labor unions.

and oversight.¹⁴ Law 23,696, for example, is quite explicit about what industries could be privatized and what procedures the government could use in the process.

The role of Congress is most evident when partisan control of the two branches is divided. Under these circumstances, the stalemate of divided government has defeated any plans, including the President's, to change policy. This was true under the Conservatives in the 1940s, under several of the Radical governments in the period from 1955 to 1983, and most recently led to stalemate under Alfonsín.¹⁵ Divided government, and the stalemate it produces, is yet another consequence of the Argentine electoral rules.

¹⁴ As mentioned above, the 1988-89 Congress passed two important liberalization laws. The first law sets out explicit procedures by which Menem was authorized to privatize government-owned industries; the second grants more broad authorities to eliminate government subsidies and price supports, increase some taxes, eliminate trade barriers, and reorganize capital markets.

¹⁵ Indeed, it was yet another of these stalemates that led to the current institutional arrangement that has allowed Menem to pursue his liberalization policies. Menem won the presidential election in May 1989, but Argentina's current constitution at that time mandated a 7 month "lame duck" period before the new President took office. During that time, inflation was soaring and economic growth was stagnant in the wake of Alfonsín's failed economic shock program—the Austral Plan. Alfonsín, who had been unable to gain the decree power he needed to implement liberalization and privatization policies from the divided Congress, requested that the presidential transition be expedited and Menem

The historical circumstance of declining real national incomes has created conflict between Radicals and Peronists, and between urban workers and rural elites, that would be much less pressing if national income had instead been growing. For most of the 20th century, Argentina's governments have been unified, either under Peronist, Radical/Conservative, or military control. Thus, each side has had opportunities to unilaterally impose its own, favored solution to government policy. Finally, only through the recent innovations of divided partisan control of Congress have Argentina's main political parties found compromise to be possible. This result has in part been due to the relative decline of the influence of labor unions in the Peronist party (in part the result itself of repression and the failure of industrial development) and the concomitant rise of rural, middle class interests, which have been more inclined to compromise with middle

agreed to take office in the summer (Argentine winter) of 1989, before the new, unified Peronist majority would take office in Congress.

Menem demanded guarantees that the lame-duck Congress would support his policy program, even in the period until December, when his JP majorities would be inaugurated in accordance with the Constitutional schedule. The most important guarantees provided Menem were two laws (23,696 and 23,697) delegating authority for one year to the executive to undertake broad economic reforms. These laws were passed in August 1989, with support from both Radical and Peronist members (for example, the vote on final passage for law 23,696 was 139-19 in favor of the bill in the lower House). Notably, however, the decree authorities to continue privatizations were extended by the JP majorities in Congress in 1992.

class Radical interests. There is no reason other than the whim of the electorate that divided control should continue, however, and the weight of Argentina's past militates against discounting the likelihood of sharp changes in these (and other) whims.

Political risk plus a strong incentive to employ excess labor suggests that prices will be fairly high. Utilities will tend to shy away from large, long-term investments out of fear that they won't be allowed to recoup their costs, much less earn a profit. Instead, they are likely to follow an investment strategy that involves installing smaller, more expensive, generating capacity than they might otherwise have purchased. Direct evidence that electric utilities are in fact following this type of strategy is as yet unavailable. But the higher utility prices are, the more attractive it is for large users to opt out of the system and instead generate their own power. They can do this profitably as soon as the purchase price for electricity exceeds the marginal cost of installing self-generating capacity. In this context, it is worthy of note that self-generated electricity in Argentina is projected to rise from some 3400 GWh in 1991 to 5480 in the year 2000 (Covarrubios and Maia 1994b, A-42, Figure 7). This carries the suggestion that the purchase price of electricity is above the marginal cost of many generators that would be priced out of the market by competitive providers able to take advantage of economies of scale.

Electricity regulation in Chile

As in Argentina, the electricity sector in Chile is regulated by a single body—the National Energy Commission (CNE). Guidelines for electricity regulation are spelled out in fine detail in Ministry of Mines Decree 1, 1982 (as amended by Law 18.922, 1990).

Also as in Argentina, certain classes of service are unregulated. In general, prices may be freely contracted for large (over 2000 kW) for short-term service (less than twelve months), and for users with special service requirements (DFL 1, Art.90).

While the law regulating electricity generation and distribution explicitly leaves certain classes of service unregulated, it nonetheless links regulated and nonregulated prices. Decree 1, 1982, stipulates that the prices set by the CNE “may not differ by more than 10 percent from contracted prices” in the nonregulated market (law 24065, Art. 101). This innocent-looking clause ties the two classes of prices—regulated and unregulated—together and carries with it the potential to set up a rather interesting incentive structure for utility investment strategies.

In its rate-setting role, the CNE—again, like its Argentine counterpart—is supposed to take into account the real costs of producing, transmitting, and distributing electricity. To this end, it sets maximum allowable rates that are supposed to reflect the long-run marginal costs of operations (Spiller and Martorell 1994, 36; Silva 1991, 25). The result is not intended to approximate rate-of-return regulation, which was in fact the method used prior to 1980 (Spiller and Martorell 1994, 30).

Prices at the distribution end of the electricity pipeline are set on the basis of wholesale, or “node” prices plus value added in distribution. Node prices for electricity are set twice yearly to “reflect an average of the marginal costs of supply incurred in generation and transmission” (DFL 1, 1982, Art. 97) and “are computed using indexing formulae that depend on fuel costs, equipment costs, dam levels, exchange rate, and so on” (Spiller and Martorell 1994, 37). To the extent that capital costs are factored into this

calculation, they are aggregated and averaged across all generating and transmitting companies. Company-specific capital costs also are not included in the calculation of distribution value added—these, along with administrative and operating costs, are determined on the basis of a “model company” whose characteristics are defined by a CNE-commissioned technical study (DFL 1, 1982, Art. 106).

So far, the method of regulating end-user prices makes a lot of sense. Distributors have little direct control over the prices set by the CNE, and while they are assured of recouping their cost of buying electricity on the wholesale market¹⁶ they have no such assurance with respect to returns on their capital investments. For that, they need to be sure to invest as efficiently as possible, in order to keep their own costs in line with the CNE-estimated costs that would be incurred by a “model” company.¹⁷

In defining the tariff-influencing characteristics of a “model” company, and hence the costs that it will allow utilities to recoup through tariffs, the CNE divides companies

¹⁶ Recall that node prices are factored into resale prices.

¹⁷ The CNE-defined “model” company is supposed to represent a typical, efficient firm. However, the CNE’s definitions can be challenged by existing distribution and transmission companies (DFL 1, 1982, Art. 107). In case of challenge, the CNE may accede to the utilities’ estimates of costs or not; if it chooses not to accept the utilities’ figures, then the characteristics of a “model” company are calculated as a weighted average of CNE and industry figures (CNE figures are weighted by 2/3, industry figure by 1/3). This rule in fact gives electric utilities as a group a fair amount of authority, albeit indirect, to set their own rates.

into three classes. "Low density" (of which there are seven) companies are defined as companies with less than twenty thousand customers; "medium density" (seventeen) companies have between twenty thousand and one million customers; and "high density" (one—CHILECTRA) companies are those that serve over one million users (Spiller and Martorell, 32). "Model" costs are set separately for each class of company, and how closely they approximate the actual costs that would be incurred by companies operating in a competitive market will depend on how accurately the CNE is able to calculate them. And that is likely to depend crucially on how competitive the market actually is: the only source of information on company costs ultimately is the companies themselves.¹⁸ Hence, estimated costs for medium-density companies should be fairly accurate, costs for low-density companies should be somewhat less accurate, and *costs for the single high-density company ought to be overestimated* (insofar as they are based on information from that company alone).

As noted above, regulated wholesale prices are set to reflect generating companies' long-run marginal costs. The twist to this scheme is that CNE-determined node prices "cannot diverge by more than 10 percent from prices [for equivalent tension and power levels] not subject to price regulation" (DFL 1, 1982, Art. 101). In short, all prices are in effect regulated, despite the explicit intent to allow and encourage free contracting of price and supply wherever possible. The intent here seems clear: to ensure

¹⁸ Companies that operate in an uncompetitive environment will overrepresent their costs because they receive only benefits from so doing. In more competitive contexts, exaggeration will benefit competitors as well and so is less likely (cf. Olson 1965).

that wholesale prices are set where they would be in a competitive market, even in markets where competition is lacking. It does set up an interesting incentive problem for generators with regard to whether to sell their output in the unregulated market or in the regulated market. *The problem is that the existence of the regulated market could well take the competitive pressure out of the unregulated market.* As in any free market, the fewer companies that compete in the unregulated market, all else constant, the higher will be the unregulated price and, therefore, the regulated price as well. A company that does not enter into the unregulated market is not, however, denied the ability to sell its product. On the contrary, it can then sell its output on the regulated market *at guaranteed prices.* This sets up a strong incentive for collusion among generators, with cohesive, cartel-like behavior rewarded for all through higher prices on the regulated market.

Unlike in Argentina, Chilean rate-setting procedures are fairly well-insulated from the vagaries of politics. Where ENRE in Argentina is required to respond to all complaints and, often, to hold public hearings—with concomitant uncertainty about how it will reach a decision or what that decision might be—often less is required of the CNE. In some cases, as when generating companies register complaints about what they see as unfair regulated rates, CNE is under no obligation to take any action at all (so long as regulated rates are within 10 percent of unregulated rates—DFL 1, 1982, Art. 101). In those cases where a response is required, the manner and degree of the response is spelled out in the law. This insulation, plus the fact that costs are calculated on the basis of long-term investments (DFL 1, 1982, Art. 105), gives companies an incentive to invest in efficient

and durable physical plant, as it is unlikely that a turn of the political worm will lead to policies that effectively devalue productive investments.

On the one hand, then, investment capital should have gravitated toward Chile's electric utilities. Further, as such investment would have been channeled into efficient generation and transmission facilities, Chile should have seen an impressive increase in installed capacity over the same period. On the other hand, to the degree that generators operate in uncompetitive markets (due to market structure or to collusion), electricity prices should have held steady or at least dropped far less than might be expected given the increase in installed capacity. As a result, and this is the clincher, electricity generation should be highly profitable in spite of the CNE's continuing efforts to set tariff rates equal to long-term marginal costs and, therefore, bring profits down to minimal levels.

Throughout Pinochet's regime (1973-89), Chile's government focused on economic liberalization and political stability. In 1980, Pinochet introduced a new constitution (with subsequent amendments, also introduced under Pinochet) designed to ensure continuity in the constitution itself, as well as in economic policies, the armed forces, the civil service, and other basic institutions of the republic that were established under Pinochet's rule. Moreover, by accelerating the privatization process after 1985, Pinochet denied his successors the ability to interfere in the economy even if they wanted to—simply put, they didn't have the tools at their disposal.¹⁹

Table 3

Chile: Votes and Seats, 1989 and 1993.

Party	Election: December 1993			Election: December 1989	
	Popular vote (percent) [†]	Percent Senate seats	Percent Chamber seats	Percent Senate seats	Percent Chamber seats
DC ^C	27.0	27	31	28	33
PS ^C	12.0	11	13	9	15
PPD ^C	12.0	4	13	2	6
PR ^C	3.0	2	2	7	5
SD ^{C*}				2	0
Other [†]	1.5	0	1		
PC+ [†]	5.0	0	0	0	2
Ind. [†]	4.8	0	0		
Other [†]	---	0	0		
RN ^R	16	24	24	28	27
UDI ^R	12	7	13	4	12
UCC ^R	3.2	2	2	0	0
Ind. ^R	4.8	4	3	1	2
Total	100	81 [*]	100	83 [*]	100

Source: Compiled by Dan Kaufman.

Notes: ^C member of Concertación; [†] member of left opposition to Concertación; ^R member of right opposition to Concertación; [†] popular vote figures for 1989 elections not available; percentages add up to less than 100 because the appointed senators are not counted (there were 47 Senate seats in 1989, with 9 designated senators, and only 46 seats and 8 designated senators in 1993).

¹⁹ Much of the discussion of Chilean politics here is drawn from Drake 1993.

The rules governing selection to Chile's bicameral congress are designed to ensure overrepresentation of the natural allies of Pinochet's policies. First, electoral laws give excessive representation to relatively sparsely populated, conservative, rural areas. Second, election to the Chamber of Deputies is by d'Hondt proportional representation in small (two member) districts (Caviedes 1991).²⁰ This setup gives a strong boost to the second-strongest party in a district: If a single party list wins more than double the number of votes of the second-strongest party, then that list captures both seats. Otherwise, the second seat goes to the party that came in second. The result is that small (albeit not too small) parties obtain more seats than they would under a first-past-the-post system or under proportional representation with larger districts. And third, the constitution specifies that nine of the senators in the upper house will be appointed, not elected (Drake 1993, 2). Pinochet's government appointed its own supporters to these positions, with the result that the opposition Concertación coalition that took over the reins of government from Pinochet has been denied a majority in the Senate. The Concertación won about 58 percent of the *elected* seats in both the House of Deputies and the Senate in 1989, but ended up with only 47 percent of seats in the Senate because of the designated senators. In 1993, Concertación parties jointly won about 55 percent of elected Senate seats, but only 46 percent of total Senate seats (see Table 3). The

²⁰ Many observers think of Chile's small-district d'Hondt system as distinct from proportional representation altogether. They see it, rather, as a "binomial majoritarian system" (Godoy Arcaya 1994, 303)

Concertación's share of the popular vote in 1989 and 1993 was 52.1 and 55.5 percent, respectively (Auth 1994, 347).

Given the legislative and electoral institutions now in place, it would be very difficult for a government that sought to reverse the liberalization policies enacted under Pinochet's rule to do so. Moreover, the current balance of political forces makes major policy change highly unlikely. The governing Concertación has the support of over half of the electorate, while support for the center-right opposition has dropped from over 41 percent in 1989 to under 37 percent in 1993 (Drake 1993, 4; Auth 1994, 347). The Concertación comprises some seven distinct parties, but it is heavily dominated by the center-right Christian Democrats (DC), which controls more than twice the seats (and popular votes) of its next-largest coalition partner, the Partido Socialista (PS). The Christian Democrats have controlled the presidency since Pinochet stepped down, first through Patricio Aylwin (who took office with 55 percent of the popular vote in 1989) and now through Eduardo Frei (who garnered a healthy 58 percent of the popular vote in December 1993; Auth 1994, 341).

In the leadup to the 1989 elections, the Concertación sought avoid conflict and promote consensus. Since Aylwin assumed the presidency, the Concertación has turned more clearly toward economic liberalism and the economic model promoted by Pinochet's regime (Godoy Arcaya, 305). There are sound reasons for doing this: For one thing, Chile's economy has been doing well. Moreover, to undertake radical changes in the economy would have meant risking the wrath of the military and important economic (national and international) economic actors. The results of such provocation could be

economically and politically disastrous. In fact, the current crop of government economic technocrats looks a lot like the old one, foreign trained and dedicated to economic stability. In essence, the Concertación represents a compromise wherein its more left-wing members of have given up many of their traditional economic and political goals in favor of the center right's version of capitalism and democracy (Drake 1993, 4).

Table 4
Chile: Electricity Generation
(thousands of kWh)

Year	Total
1989	17,727,469
1990	18,321,400
1991	19,807,554
1992	22,167,280
1993 ^p	23,331,924

Source: Instituto Nacional de Estadísticas 1994, 169, Table 234 01.

^pPreliminary.

Drastic changes in regulatory policy or goals, therefore, are unlikely in Chile. The political actors who might oppose current policies are shut of political power and, if 1993 electoral indications are any indication, voters approve of the liberalizing bent of the current government. Further, even if forces in favor of rolling back liberalization were to capture some of the reins of power, the institutional setup virtually assures strong representation to opposing parties—enough to make changing policy to something less liberal extremely difficult, if not impossible.

It is difficult to measure directly whether electricity prices in Chile are higher or lower than they “should” be. Cross-national comparisons are problematic—local conditions can have a profound impact on consumer prices, as is clear from the high degree of regional price variation within Chile (see Spiller and Martorell 1994, 46, Table B:XII); and if it were straightforward to estimate desirable rate structures, one might suppose the CNE would have done so already. It is problematic as well to isolate the amount of output that is sold on either the regulated or the unregulated market. It is certainly true that the amount of electricity generated has been rising steadily, as can be seen in Table 4. It is also true that for the most part prices remained fairly steady throughout the 1980s (see Table 5). Interestingly, ENDESA—Chile’s largest electric power supply company—has been quite profitable over the same period.²¹ More to the point, electricity self-generation—which has increased steadily throughout the postwar

Table 5
Chile: Average Electricity Prices and ENDESA profits, 1982-1990

Year	Node (Apr\Oct)	Residential (Apr\Oct)	Small industry (Apr\Oct)	Large industry (Apr\Oct)	Endesa profits (US \$millions)
1982	4.74\3.59	12.25\8.80	10.69\7.55	6.68\5.52	
1983	3.60\3.52	7.59\7.45	6.55\6.45	4.87\1.78	101
1984	3.41\3.20	7.37\6.18	6.32\5.31	4.67\3.84	33
1985	2.90\2.76	6.70\6.40	5.79\5.56	3.97\3.78	-65
1986	2.86\2.75	6.53\6.48	5.70\5.62	3.91\3.81	50
1987	2.85\3.14	6.58\7.06	5.73\6.19	3.93\4.29	62
1988	3.35\3.62	7.34\8.23	6.45\7.60	4.53\4.78	179
1989	3.92\4.13	8.78\9.24	8.19\8.62	5.18\5.45	106
1990	4.39\3.92	9.84\8.77	9.18\8.18	5.80\5.17	104

Source: Spiller and Martorell 1994, 43, 47, Tables B:IX and B:XIII.

²¹ The dip into unprofitability in 1985 coincides with bad economic times in general.

period—has continued to increase since privatization (see Spiller and Martorell 1994, 41, Tables B:VI and B:VII). As I noted with respect to Argentina, this suggests that prices in the unregulated segment of the market are still high enough to make it worthwhile for relatively inefficient producers to continue generating electricity rather than buying it off the grid.

In the final analysis, Chile's electricity regulatory system is innovative and seems to be performing its assigned task of moving the electricity sector toward economic efficiency. Indeed, it looks like what it is—a regulatory system defined by highly trained economists, the vaunted (and much maligned) *Chicago Boys* who came to the fore under Pinochet. It does not perfectly approximate the effects of a pure free market, but it does succeed in eliminating price distortions (Covarrubios and Maia 1994a, Attachment 4, 1). If it weren't for the fact that there is only one high-density distributor in the country, CHILECTRA, which accounts for over half the system on almost all measures (it covers slightly less than half of all customers served by distribution companies, but more than half of distributing capacity and energy delivered (Spiller and Martorell 1994, 34, Table B:IV), or the incentive for collusion that is inherent in linking regulated prices to unregulated ones, Chile would have the unique distinction of having achieved full, free-market efficiency in a regulated system.

Telecommunications regulation in the United States and Japan

The Federal Communications Commission (FCC) is responsible for most telecommunications in the United States. FCC commissioners are nominated by the president and confirmed for five-year terms by the Senate. In addition, the Justice

Department's antitrust division is responsible for rooting out anticompetitive practices in the telecommunications industry. State regulators play a role as well, generally through the same PUCs that oversee electricity (and other utilities). The authority, selection, tenure, and procedures of the PUCs vary from state to state (Noll and Rosenbluth 1995).

In Japan, telecommunications regulation falls under the jurisdiction of the Ministry of Posts and Telecommunications (MPT). Prior to 1985, telecommunications was the province of Nippon Telegraph and Telephone (NTT), a state-owned monopoly. Formal regulation of the industry therefore was unnecessary: the NTT's budget and prices were decided through legislation in the Diet. Since 1985, with the introduction of competition and the privatization of NTT, the MPT has had to become much more thorough. For the most heavily regulated class of services, the MPT sets prices, approves company investment budgets, sets rules for entry, exit, and service, and sets technological standards. Regulations for other types of service are only slightly less restrictive.

Regulatory process differ greatly in the two countries. In the United States, the FCC is governed by the Administrative Procedure Act, which mandates notice and comment and sets generous criteria for qualifying for standing to seek redress for agency actions in court. Nearly anyone, from service providers to customers to suppliers to third-party intervenor groups, can sue the FCC (and most other federal agencies, for that matter) on procedural grounds. Moreover, the Communications Act stipulates that the burden of proof in the licensing process is to be borne by the FCC—that is, the agency must be able to demonstrate why a license should be denied (as opposed to having to argue simply that it sees no good reason to grant one). The same is true for pricing: utility

prices stand unless the FCC overturns them. In Japan, by contrast, the burden of proof is always borne by the firm, not the MPT. Grounds to bring suit against the MPT are rare, and the only real redress for damaging MPT actions is through the Diet. The MPT is far less constrained by procedural requirements than the FCC, and not only are public hearings seldom required in Japan but, like MITI, the MPT is under no obligation to respond to concerns that are raised in them.

In Japan, then, a single regulator maintains tight control over the activities of regulated firms and is not constrained by a bureaucratic maze of procedural requirements. In the United States, regulatory responsibility is shared and duplicated by federal and state authorities, who not only are heavily constrained by congressionally mandated structure and process but also share their authority with the courts. This contrast makes perfect sense when superimposed on the political context: regulatory stability in the United States is achieved through a system of checks and balances (multiple regulators plus the courts) and by extending veto authority with respect to policy change to the regulated firms and even to users. In the United States, this has led to price reductions for long-distance and LATA calls, but increases to typical, residential consumers' phone bills. In Japan, regulation is subject to the discretion of the MPT: there are no real structural vetoes or procedural checks that militate *against* policy change. From the perspective of regulated firms, therefore, the MPT could be "trusted" to stay the course—as long as its political master did not change.

Telecommunications regulation in Argentina

Telecommunications in Argentina is regulated by the National Telecommunications Commission (Comisión Nacional de Telecomunicaciones, CNT). When Carlos Menem took over the Presidency in 1989, Argentina's economy was in shambles. In spite of his populist, Peronist roots, Menem promised to attempt to revive the economy through liberalization. One consequence of this promise was the privatization of the telecommunications industry.

As a first measure, the CNT was created specifically to regulate the sector. This move separated telecommunications regulation from regulation of radio and television broadcasting, and was designed to give telecommunications regulators the resources they needed to oversee this technically complex, rapidly evolving sector. This included providing the CNT with dedicated funding so that it need not depend entirely on appropriations from the Congress.

In spite of its financial independence, the CNT is hardly apolitical. It is governed by a board of directors, mainly presidential appointees, who also are subject to removal by the president. Three of the four regular members are appointed by the president to serve a 5-year term. The fourth member, who represents the Federal Communications Council, serves a 1-year term. This last member is chosen indirectly by the provinces: he or she is chosen by the president from among three nominees named by the FCC, in which all the provinces are equally represented. Hence, though the board is weighted heavily in favor of the president, the provinces retain a modicum of the influence.

When the CNT was created in 1990, Argentina needed a regulatory structure for privatizing the telecommunications industry. But the historical instability of Argentinean politics meant that potential investors would need iron-clad guarantees and protections before committing resources to an industry that might be expropriated by the next government to come into power.

Argentina's solution to this dilemma was to regulate by contract. The CNT is authorized to grant licenses for indefinite terms. These licenses then are revisable every five years. It is important to note that these licenses are written as specific contracts, with rate guidelines included. Because the CNT oversees compliance with prenegotiated contracts, it does not actually set rates. Instead, it is charged with enforcing the contracts, which it can choose to do through either closed-door proceedings or public hearings. This enables investors reasonably and accurately to assess the price risk of making an investment in Argentine telecommunications.

In principle, licenses to operate in the telecommunications sector are not exclusive. Indeed, the CNT is charged with promoting competition. At the same time, however, the President has the authority to grant regional monopoly licenses. Indeed, the initial contracts by which telecommunications were privatized guaranteed monopoly status for an extended period. Currently, two regional monopolies operate in Argentina, one in the north, the other in the south, with monopoly status slated to end in 2000 ("La Argentina a medio camino," *El Clarín*, August 14, 1994, 6-7).

Regulation of each regional monopoly is exercised through contracts. The initial contract, which was part of the terms of sale, specified that the newly privatized

companies would enjoy protected monopoly status for at least five years (and potentially longer) and set out the regulatory framework for the first two years after privatization in great detail. At the heart of the contract is a formula for rate of return on capital that was to hold for the first two years after privatization—the so-called transition period, after which the contract was to be revised to reflect the implementation of a requirement that the new companies achieve a 2 percent per year decline in real phone rates after the transition period ended (cf. Decree No. 506, 1992). Compliance with this required rate shaving was a prerequisite for the extension of the five-year protected monopoly for another three years (during which time real rates are to drop by another 4 percent per year).

The terms of the original contract allowed the Sociedad Licenciataria Norte²² an impressive 16 percent rate of return on capital (inventory transferred from ENTel, as valued by a 1990 decree—decree 575/90—*plus* new investment directed at the goals defined in the call for bids, minus amortization.) It is worth noting, particularly in light of Argentina's past exchange-rate and inflation problems, that the rate of return was indexed to both the inflation rate and the US dollar exchange rate.

The intent here was to give companies the incentive to invest heavily in developing telecommunications and free rein to do so. Indeed, rate of return regulation generally tends to lead to overcapitalization (as it did in both Japan and the United States), and here Argentina is no exception. As can be seen in Table 6, investment grew

²² And hence the southern regional monopoly as well, as both companies shared the same regulations (Gerchunoff et al. 1992, 38).

dramatically after privatization, from nearly 140 billion pesos as of September 1991 to just over 977 billion in September 1993 (for Sociedad Licenciataria del Norte), even as the number of phone-company employees dropped by nearly 18 percent (17 percent in the southern region) over three years. Indeed, according to virtually all the indicators (except perhaps "personnel") shown in Table 6, privatization and regulation seem to have had a positive effect on the industry.

There are two aspects of Argentine regulation of telecommunications that are worthy of note. First, to be active in the sector a company has to hold both a license and a regulatory contract. One or the other is not sufficient. This adds some uncertainty to the

Table 6

Argentina: Indicators of Telecommunications Sector Activity and Performance, 1990-93

	Nov 90	Sept 91	Sept 92	Sept 93
Telecom Argentina Stet-France Telecom S.A. (Sociedad Licenciataria del Norte)				
Investment (millions of pesos)		130,974	604,202	977,053
Installed lines	1,570,964	1,606,861	1,998,872	2,301,061
Subscribers on service	1,391,460	1,416,835	1,673,698	1,878,478
Installed Pay phones	9,800	11,048	15,814	20,524
Subscribers out of service	61,481	31,097	10,918	6,866
Repair time (average days)	30	6	3.6	2.5
Network digitalization (percent)	11.5	12	32.4	54.4
Personnel	19,002	17,179	17,041	15,638
Subscribers on service per employee	73.2	82.5	98.2	120.12
Lines in service per 100 inhabitants	10.2	10.3	10.8	11.3
Net sales income (millions of pesos)	n/d	881,786	1.2	1,468.90
Gross profit (millions of pesos)	n/d	258,825	405,913	510,177
Net profit (millions of pesos)	n/d	55,202	150,333	196.2
Telefonica de Argentina S.A. (Sociedad Licenciataria del Sur)				
Installed lines	1,915,231	2,023,078	2,257,771	2,666,527
Lines in service	1,695,504	1,782,355	2,008,447	2,213,317
Pay phones	12,749	14,642	20,686	26,036
Personnel	21,770	18,107	19,252	18,098
Lines in service per employee	77.9	98.4	104.3	122.3
Lines in service per 100 inhabitants	12	12.6	12.6	13.6
Network digitalization (percent)	14.6	18.1	24	38.2
Pending line requests	n/d	109,627	193,352	233,222
Pending failures	90,259	16,218	4,111	3,965
Delay in line repair (average days)	16.4	4.6	1.67	n/d
Investment (millions of pesos)	n/d	206,778	609,808	925,300
Operating Income (millions of pesos)	n/d	1,151	1,583	1,784
Gross profit (millions of pesos)	n/d	452,455	620,803	736,562
Net profit (millions of pesos)	n/d	121.23	219,118	300,543

n/d: non determined

process, since a contract with a company need not be renewed no matter what the status of that company's license. Hence, if one or the other parties to the contract doesn't like the form it takes when renewed, it can be terminated quite easily. Second, this uncertainty combined with the incentive to overcapitalize inherent in rate-of-return regulation should push companies to invest heavily in capital that is relatively short-lived—i.e., that can be amortized over the space of a few years, thus minimizing the risk that politically motivated *de facto* or *de jure* expropriations will do great harm to a company's balance sheet. The political risk of investing in Argentina only exacerbates this problem.

To achieve prolonged economic development, Argentina must develop a reputation for having a stable political system. The orderly transfer of presidential power from Afonsín to Ménem was an important step toward such a reputation. Ménem's (successful) efforts to change the constitution so that he could succeed himself, however, have raised warning flags to observers concerned about leaders who seek to hold on to power and shut out their opponents. If the upcoming elections in Argentina go smoothly, with all parties calmly accepting the results whether Ménem wins or loses, I would view that as strong evidence that Argentina has managed to cast off the mantle of political instability. Until (and unless) that happens, however, I would hedge my bets. I suspect that investors will do the same.

Telecommunications regulation in Chile

The ups and downs of telecommunications regulation in Chile closely parallel the ups and downs of Chilean politics. From 1930 through 1970, Chile's domestic telephone company—Compañía de Teléfonos de Chile (CTC)—was a privately held company.

Government regulation of telecommunications was achieved through five-year contracts between CTC and the regulating body. In 1964 the government created the Empresa Nacional de Telecomunicaciones (ENTEL) to provide and control domestic and international long-distance service. ENTEL was not designed to compete with CTC but rather to complement it. Indeed, in 1967 the government holding company, CORFO, bought 49 percent of CTC as part of a policy of ensuring that basic utilities remained under the control of the State. Then, in 1971, President Allende's government took control of CTC, albeit without actually nationalizing the company; in 1974 Pinochet's military government bought the rest of CTC from its original owner (ITT). In 1982, Chile began to put in place the legal framework for reprivatizing the telecommunications industry, and it sold off both CTC and ENTEL in 1988 and 1989, respectively.

In October 1982, Chile's governing junta enacted a General Telecommunications Law (no. 18.168). This law essentially set the foundation for privatizing the industry, by a) defining licensing and operating requirements and obligations; and b) outlining the range and objectives of future government regulation. Law 18.168 lacked specific detail in almost every respect, but it did stipulate that operating licenses would be open for renegotiation every five years. In other words, the law envisaged regulation by contract, the terms of which would be negotiated on issuance of the original license and subject to revision every five years.

The 1982 telecommunications law was significantly revised by Decree 1, 1987 (Ministry of Transport and Telecommunications, MTT). With DFL 1, 1987 in place, the Chilean telecommunications sector was given fairly detailed procedures for handling

disputes and setting prices, as well as for licensing. As might be expected, the telecommunications regulation law divides regulation into three, distinct areas: licensing, dispute resolution, and tariffs. Nonetheless, the law is far less detailed than that for electricity, perhaps because it leaves more detail to specialized studies.

Permits. Operating permits are valid for ten years and are renewable. Permit holders are required to provide service to all who request it, although if they have to go outside of their service area (into a zone not covered by another company) they may charge for the cost of installing new lines. Failure to do so could result in the revocation of the company's license. A license can be revoked at any time, but the burden of proof in a finding that one should be revoked for failure to provide the requisite service is borne by MTT. Further, there is no guarantee that obtaining a permit means protection from competitors.²³

Conflict resolution. A party, individual or corporate, whose interests would be directly damaged by the granting of a proposed permit, has the right to submit objections to the Undersecretary of Communications. Doing so in no way prejudices actions taken in court as a result of said damage. Similarly, a company that has supportable objections to MTT-proposed tariffs is given thirty days to either adapt to the new rates or submit a formal objection. MTT is required to act within thirty days of receipt of an objection.

²³ Law 18.168, 1982, Art. 12, states that "the granting of permits and licenses shall not be subject to restrictions or limitations with respect to their number, type of service, or location, as it is allowable for more than one concession or license for an identical service within the same geographical area."

although unlike U.S. regulators it is under no obligation to support whatever action it takes.

Tariffs. Telecommunications rates, ideally, should be unregulated (DFL 1, 1987, Art. 29). Where competitive markets do not exist, however—and telephony in Chile has been anything but competitive (Coloma and Herrera 1990; Hachette et al. 1992, 233)—it falls to the MTT to regulate prices. Unlike Chilean electricity rates, but like telecommunications in the United States,

Japan, and Argentina, *Chile's telecommunications regulation is based on rate of return on capital.* The details of rate bases and structures are contained in special studies outside the law itself. It seems reasonable to suppose, however, that these studies are quite favorable to utility companies. The reason to suppose this is that the recently privatized CTC and ENTEL set the agenda on rates. As the law

describes, “definitive rates for regulated services shall be proposed by the concessionaire” (DFL 1, 1987, Art. 30J).

The allowable rate of return on the rate base (as defined in these studies) for CTC and ENTEL was set at 12 and 14 percent, respectively (Galal 1994, 19), much lower than the 16 percent allowed for their Argentine counterparts. Unlike investors in Argentine

Table 7
Chile: Quality of Telephone Service

Year	Percent main lines connected to digital exchanges	Percent unsuccessful local calls
1984	32	n/a
1985	34	n/a
1986	37	n/a
1987	36	n/a
1988	38	n/a
1989	51	n/a
1990	64	n/a
1991	71	2
1992	76	1

Source: World Bank. N.d. N.t. Typescript tables.
n/a: Not available

telecommunications, however, the buyers of CTC and ENTEL-Chile could be fairly confident that agreements reached at the outset would be safe from political meddling. The basis for this confidence is the same as the reasons for price and regulatory stability in Chile's electricity sector—the structure of the new Chilean constitution and the conservative bias within Chile's political institutions that was part of Pinochet's legacy.

Given this confidence, then, along with the well-known incentive to overcapitalize provided by ROR regulation, I would expect to see a strong surge in investment in telecommunications after privatization in 1987. It comes as no surprise that such a surge did occur, not only in capital formation and improved service (number of lines) but also in the quality of capital installed. Capital formation in both the CTC and ENTEL increased dramatically in the late 1980s, with the CTC's jump coming right with the initiation of privatization in 1987. In 1986 CTC fixed capital formation was (in 1977 dollars) was around \$25 million, having fluctuated between approximately \$20 million and \$45 million between 1960 and 1986; it took a sharp upturn in 1987, however, and by 1990 (when it actually began to turn down somewhat) it had reached \$150 million (Galal 1994, Figure 3). The timing of ENTEL's increase was off—it actually appears to have begun two or three years *before* privatization (but after the promulgation of the 1982 telecommunications law)—but it too increased from a low of around 500 million 1985 Chilean pesos in 1984 to just under 2 billion pesos in 1986, up to nearly 6 billion pesos in 1989 (Galal 1994, Figure 6). Basic network expansion and the number of telephones in service (Galal 1994, Figure 1) were increasing generally prior to 1987, but they too surged after then. In 1968, the CTC had about 200 thousand telephone lines in service,

rising steadily to about 400 thousand lines in 1982 and nearly 600 thousand in 1986. The number of lines in service took off between 1986 and 1990: by 1990 there were about 800 thousand lines in service, rising to around a million lines by 1991 (Galal 1994, Figure 2). With respect to quality, Table 7 shows that the percentage of main lines connected to digital exchanges increased dramatically after 1987 (for reference, in the United States in 1990, 50 percent of main lines were connected to digital exchanges, as contrasted with 64 percent in Chile).

Conclusion

It has been observed elsewhere that regulatory institutions often are consistent with a “mirroring” principle. That is, they are designed to mirror the political environment obtaining at their creation. The essence of the mirroring principle is that those who create an agency seek to ensure that it operates in a way consistent with *their* interests, even after they have left or been removed from power.

Specifically, the enabling legislation should seek to combine sanctions with an institutional structure to create pressures on agencies that replicate the political pressures applied when the relevant legislation was enacted. Here, the point of administrative procedures is not to pre-select specific policy outcomes but to create a decisionmaking environment that mirrors the political circumstances that gave rise to the establishment of the policy. (McCubbins, Noll, and Weingast 1989, 444)

This mirroring principle is very much in evidence in utilities regulation in Argentina and Chile. Argentina’s regulatory regime, biased toward labor but open to participation on all sides (and to conflict), reflects Argentine politics as that country works to shake off its turbulent political past. And Chile’s regulatory regime, insulated from politics and largely

free from the need to respond to conflict, reflects Pinochet's position and power at the time "el legislador" set it into law. Chile's privatized utilities have been quite successful, and I certainly hope they stay that way. However, precisely because regulatory bodies are insulated from the give and take of day-to-day politics, and because of the institutional barriers to changing that (or any other policy that is already in place), there exists a very real danger that they could become like a fish out of water. If political forces change, and regulations do not keep pace, a gap could open up between politicians and regulators that might be very painful to close.

Chile's success in privatizing telecommunications and electricity utilities has been seen as a victory for institutional engineering. Chile's privatized electricity sector was developing steadily and healthily over time, while Argentina's development looks much more erratic. Now that Argentina has privatized electric utilities, the question arises as to whether its development will begin to parallel that of Chile. And the answer is a definite, albeit not resounding, "no." Why not? First, because as Spiller and Martorell argue, Chile has had the time to develop calmly, with "strong political support for maintaining the financial viability of the companies," and because Chile has decentralized electricity regulation while in Argentina it remains centralized in the federal government (Spiller and Martorell 1994, 49).

There is undoubtedly much truth to this view. The level of price risk, after all, is tightly linked to the ease with which regulatory procedures allow regulators to force utilities to reallocate the incidence of charges, for example.

I have argued here, however, that there is a much more basic source of risk that will color investment strategies. This is *political* risk, which has been marginal in the United

States throughout this century, was marginal in postwar Japan at least until 1993, and is distant in Chile today—but which is a very real concern still in Argentina. Political risk cannot easily be eradicated in the absence of constitutional reform, but it can be managed. A case in point is Argentina, which did an admirable job of managing the fear of political risk in telecommunications by setting a high ROR on a generous rate base for the newly privatized utilities (thus allowing them to recoup their costs quickly, even for long-term capital investments). Compared to political risk, regulatory risk is just a relatively minor stone around the neck of economic development. In order to achieve the kind of long-term, deep-rooted economic development that scholars such as North (1981; North and Weingast 1989) and Olson (1982) have identified as inextricably linked to secure property rights and calculable investment risks, governments need to be able to commit to respecting policies and political regimes. That is, countries need to create political institutions that establish political commitment to economic institutions; without such *political* commitment, even the most well-designed economic institutions will be tenuous at best. While in Chile we can see that political structures militate against drastic or unforeseen changes in economic (or any other) policy, the jury is still out on Argentina.

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