INSTITUTIONAL CHANGE IN THE ELECTRICITY INDUSTRY: A COMPARISON OF FOUR LATIN AMERICAN CASES

Carlos Rufín

John F. Kennedy School of Government
Harvard University
Cambridge, MA 02138
E-mail: rufinca@ksg.harvard.edu

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the other extreme, Bolivia has been wracked by patronage, labor, and regional conflicts. Brazil and Argentina lie nonetheless very close to Bolivia on the scale of distributional conflict, in the former country as a result of clientelism and federal politics, and in the latter as a result of long-standing political confrontation and territorial politics as well.

The four cases provide substantial evidence about the factors that shaped institutional change in the ESI in each country. Of the three causal variables, ideology has the greatest explanatory power. In particular, ideological considerations appear to play a leading role in determining competition outcomes. Distributional conflict also plays an important role in shaping institutional change, most often in the form of side payments to influential groups that alter the post-restructuring ownership structures. Judicial independence has the weakest effect on either ownership or competition. This may be due to the transformational nature of the institutional changes that have been examined above. The reform of the ESI and similar infrastructural sectors entails the creation of entities and forms of public sector behavior *ex novo*, that is without precedent in the country's political and legal history. Policymakers may therefore disregard institutional precedents, such as the country's prior record of judicial subservience, because they provide a poor guide for shaping the new institutions, or even as providing an example of what *not* to do.

The analytical framework presented in the paper can be extended in several ways: to restructuring experiences in other countries and in industries of similar technology, such as water, telecommunications, or natural gas supply; more generally, to processes of institutional change, by focusing on historical legacies, the power of ideas, and the role of distributional interests; to examine systematic differences, if any, between developed and developing countries in such processes; and to extend the temporal framework of the analysis to consider longer-term institutional dynamics.

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1. Introduction. The research questions.

This paper seeks to shed some light on the process of institutional change in the ESI by examining two key economic institutions, property rights and competition, in the context of this industry. The key institutional design challenges of the ESI originate in the physical and technological characteristics of electricity production, transmission/distribution and use, together with electricity's role as a key input in modern industrial economies. Electricity generation, transmission and distribution facilities are highly capital-intensive, durable, and immovable. In the cases of transmission and distribution, economies of scale and high sunk costs create conditions of natural monopoly, where a single network of facilities can provide transmission or distribution services more efficiently than duplicative systems. Furthermore, electricity is nonstorable and there are important network externalities in its use, which reinforce the advantages of monopoly and vertical integration over competition and contractual transactions. As a result, the institutional framework of the ESI revolves around two paramount matters: the problem of organizing investment in electricity supply when, once carried out, such investment can be appropriated by others without loss of its economic value; and the problem of limiting the allocative inefficiencies arising from monopoly power. This study purports to explain the responses to these problems in different countries by answering two major questions:

1. What explains the degree of reliance on public versus private property in the reorganization of the ESI in countries where ESI restructuring has taken place?

2. What explains the choice of mechanisms used to allocate resources (competition vs. monopoly) in the ESI in countries that have restructured this industry?

Three variables are proposed in this paper to answer the two research questions: (i) judicial independence, (ii) ideology, and (iii) distributional conflict. The explanatory power of the hypothesized answers is assessed through the comparison of ESI restructuring cases in four countries: Argentina, Bolivia, Brazil, and Chile. The next section provides an overview of existing and current research on institutional change, including the specific case of the ESI. This is followed by a presentation of the analytical framework and the research hypotheses, as well as the translation of these hypotheses into empirically testable statements. Another section discusses the research design. Next, the four cases are presented, first focusing on the dependent variables, then on the explanatory variables and finally tying hypothesized causes and observed effects together. The last section concludes.

2. Current research on institutional change

The first major contribution to the analysis of electric sector restructuring originates in economics. This literature focuses on the study of conditions under which competitive markets are viable, and on the design of regulatory mechanisms where monopoly is inevitable. The main limitation of this literature is that it is highly normative, seeking to derive optimal decision rules for regulators and policymakers. This contrasts with the questions addressed in this paper, which are eminently positive, concerning the determinants of actual institutional mechanisms.

Another important set of theories fall under the label of the "new institutionalism," although often their only common characteristic is the interest in the emergence, reproduction, and modification of institutions. While exact definitions of "institution" vary among the scholars included above, the meaning of this term corresponds in general to the following definition, which is the one used in this paper (North, 1990): the formal and informal arrangements setting out the rules of economic and political exchange in a society, such as constitutions and parliamentary rules, norms of business conduct, or private organizations created to address collective action problems.

This paper builds on several perspectives within the new institutionalism. From the neoclassical view of institutions, in which institutions are seen as emerging from competition among states or autonomous political entities for power and territory, institutional change is influenced by competition among rational actors for political office and for economic resources. From sociological formulations of institutional dynamics, the role of ideologies is taken into account as a powerful determinant of institutional choices.

The theory of repeated noncooperative games has led to the emergence of "positive political economy" models of institutional outcomes. Spiller has developed (*e.g.*, Spiller, 1996) specific models of institutional change in the ESI and similar industries such as telecommunications. The major limitation of this approach is that, having originated in reference to the U.S. political system, it is often naïvely extended to other political systems where behavioral patterns are very different. Closely related to the positive political economy perspective is transaction cost economics (e.g., Williamson, 1985), which points attention to the role of asset specificity, bounded rationality and opportunism in the emergence of economic institutions. But transaction cost economics offers little insight into how are actual outcomes shaped, at least where several alternatives are available. This paper seeks go beyond the narrow framework of US political structures and beyond the mere identification of transaction costs by examining the bargaining processes that affect these costs.

Empirical studies of restructuring do not abound, in part because of the still nascent experience of electric sector restructuring throughout the world. Likewise, the political economy of judicial and quasi-judicial institutions—a key element of the U.S. regulatory system—lies largely unexplored for other countries. On the other hand, extensive attention has been given to macroeconomic adjustment, since these processes have affected a large number of countries over the last fifteen years (Suleiman and Waterbury, 1990; Haggard and Kaufman, 1992). These studies are useful because they deal with similar problems, such as structuring coalitions of political actors that can overcome resistance by entrenched interests, and this paper borrows from the analytical perspectives and research insights of this rich literature.

3. Analytical framework and research hypotheses

Existing research on the process of institutional change suggests modeling it as a game in which groups of actors with different interests or preferences vie for their preferred

institutional makeup for the ESI: politicians who aspire to rule and who have their own ideological preferences; voters who make electoral choices on the basis of their own ideologies and the personal benefits they may derive from the platforms promised by competing candidates; suppliers of inputs to the ESI who cannot vote, but who can make valuable contributions to the politicians; and lastly, the investors in the ESI whenever industry assets are privately owned. Restructuring outcomes result from the interplay among these actors, where each group can reasonably anticipate others' responses and therefore take interdependence into account for purposes of deciding on courses of action.

The results of the model, which are derived in a companion paper, emphasize the importance of the ideological preferences of both politicians and voters. The following paragraphs explain how each one of the causal variables identified in the model affects the institutional outcomes for ownership and competition in the ESI.

Ownership

Public ownership enhances the ability of politicians to extract rents from the ESI, and the ability of consumers to obtain lower prices, since public firms are not subject to hard budget constraints and can therefore subsidize prices. As a result, there are strong rent-seeking pressures in favor of public ownership, which means that private ownership can only be sustained by favorable ideological preferences of voters or politicians, and by an independent judiciary or constitutional arrangements, like the division of powers between the executive and the legislature, that make policy reversals less likely (Spiller, 1996). The need for such guarantees is particularly important for the ESI, because the highly capital-intensive and illiquid nature of ESI assets subject investment in the industry to potentially large expropriation risks. Since judicial independence is the main mechanism through which property rights have historically been protected, we can focus the analysis of institutional change on the degree of independence of the judiciary, together with consideration of voter and policymaker ideological preferences, and of the degree of distributional conflict. Where competition among interest groups for economic rents is more intense, the higher value of patronage will increase politicians' interest in controlling sources of rents.[1] Adverse distributional impacts of privatization on suppliers of inputs (labor, equipment and materials) and on consumers (who may experience price increases as subsidies are eliminated, or as the new owners exercise monopoly power), will also hamper privatization.

Competition

A viable competitive market structure promises consumers low prices without present or future tax liabilities,[2] but it decreases the ability of politicians or private firms to extract rents from consumers, or of consumers to obtain subsidies, since competing firms earn no rents and cannot recover the cost of subsidies from other types of consumers. Distributional, or

[1]Note that my hypothesis is more concrete than Spiller's (1996) concerning political conflict. I refer to a specific type of political conflict, conflict over the distribution of economic resources.

[2] If competition is to remain viable, public enterprises cannot subsidize final prices, or else private firms would eventually exit and competition would disappear. Hence, viable competition is only possible with hard budget constraints for public firms if any such entities participate in the market.

rent-seeking, pressures should favor monopoly. As with private ownership, the implementation of competition may require that such pressures be reversed by ideological preferences in favor of competition as a superior mechanism for allocating resources and stimulating economic growth. But the implementation of competition does not end with the relationship between distributional interests and ideology. Sustaining competition in a capital-intensive industry like the ESI requires that abuses of market power and oligopolistic tendencies be monitored and checked. In turn, this necessitates technically competent enforcement entities that cannot be easily captured by parties interested in altering the dictates of economic efficiency. Traditionally, these objectives have been pursued through the creation of independent regulatory agencies, so a country's record of creation and respect for such entities, which is most clearly reflected in the record of judicial independence, will matter in making competition viable.

Application of this framework therefore yields the following hypotheses:

i. Privatization will be more likely to occur, other things being equal, where any one of the following conditions holds true:

   (a) there exists a tradition of judicial independence from the executive or legislative powers; or
   (b) voter and policymaker preferences favor private ownership; or
   (c) distributional conflict is less intense, or parties adversely affected by privatization are less influential.

ii. Deregulation will be more likely to occur, other things being equal, where any one of the following conditions is present:

   (a) there exists a tradition of judicial independence from the executive or legislative powers; or
   (b) voter and policymaker preferences favor competition; or
   (c) distributional conflict is less intense, or parties adversely affected by competition are less influential.

4. Research design

The complexity of the political bargaining game outlined above, and the difficulty of measuring the hypothesized causal variables, call for a case-oriented empirical test. Since the case approach is necessarily restricted to a small number of observations, it is better to choose cases with the intention of obtaining maximum explanatory leverage, than to rely on random selection. I have relied on a "most similar cases" selection criterion, subject to the constraint of minimizing selection bias. In practice, this criterion has meant choosing cases that display sufficient variation in the outcomes (the structures of property rights and monopoly power regulation in the restructured ESIs), yet contain sufficient commonality in other dimensions so as to allow controlling other factors. Latin America meets these criteria, since electric sector restructuring is already displaying significant outcome variability in the region. At the same time, the region's mixture of common cultural and colonial traits with

diverse political and historical trajectories can yield enough controls to test the proposed hypotheses. Within Latin America, the comparison of Argentina, Chile, Bolivia, and Brazil is particularly appealing because, as shown in the following section of the paper, it provides significant contrasts in the outcomes of the ESI restructuring process while keeping the number of cases at a manageable level.

Having chosen the methodology and empirical observations, a third element in the research design is the operationalization of dependent and explanatory variables. The former must refer to the specific context of the ESI to ensure the validity of the analysis, since the research question is about the institutions of the ESI. The ESI has technological characteristics that set it apart from other productive activities, namely great capital intensity (leading in some cases to natural monopoly, or at least to oligopoly), nonstorability of electrical energy, and the use of electrical networks to deliver the main output, electrical energy.

Property refers to the control over productive assets, where control includes several dimensions—operation, modification, disposition, exchange for money or other valuables, and control over the output produced with the assets (particularly the freedom to set prices). Also, the ESI has three major types of assets according to the function they perform in the electricity supply chain: generation, transmission and distribution. Since the technology of control may bias ownership towards either of the two possibilities in different ways for each type of asset, it may be necessary to examine property for each type separately.

Competition refers to the conditions that affect economic freedom of participants in a market, particularly the pricing (or production) and entry/exit decisions. Although in the ESI the possibilities for full competition are limited to the generation side, a number of mechanisms can be deployed in the other segments of the industry to stimulate competitive behavior.

In contrast to the dependent variables, the explanatory variables posited by the hypotheses are of a general nature within a given polity, affecting the process of ESI restructuring as well as other political and economic outcomes. The key empirical evidence to be sought in the case studies concerns the specific manifestations of the explanatory variables in the ESI restructuring process.

Judicial independence [or autonomy] can be defined at two different levels: formally, independence refers to the mechanisms for the appointment and removal of judges, the financial means of the court system, the common or code basis of law, and the career paths of judges; in practice, independence concerns the means for the implementation of the formal mechanisms listed above and for the enforcement of court decisions, together with the degree of actual compliance; finally, an indirect indicator of judicial independence is the degree of autonomy granted to public enterprises and other governmental entities by the executive or the legislature, as a measure of the willingness of political elites to give up control over decisions and resources.

Ideology is a set of ideas about (i) what is desirable for a society or community to attain (hence it can be distinct from "interests," which would refer to desirable goals for a narrower

group or the individual) and (ii) how to get there. The logic of the hypotheses refers primarily to the second part, *i.e.* how to organize the ESI in order to maximize its benefits to society. We can safely assume substantial agreement on (i) for the ESI, at least in a developing-country context, as the widespread availability of electricity (both in terms of price and physical access to the network), which is commonly understood to be essential for economic development because electricity is a key input for many productive processes and for many welfare-improving household items like lighting, heating or cooking.[3]

Distributional conflict is taken, according to the logic of the hypotheses, to be broadly synonymous to the level of rent-seeking activity in a society—in other words, the attempt to use the coercive power of the state to alter the distribution of income produced by the economic system, and the reaction against such attempts by negatively affected actors. Two major phenomena are covered by this concept: explicit income and wealth redistribution conflicts, like bargaining over wages or over ownership of productive assets such as land; and patronage-related pressure on distribution of income (the use of public resources to buy the loyalty of political clients, who are not otherwise politically mobilized and hence would not register in the explicit measures considered above). This variable thus aims to measure the incentives that policymakers may face to maintain control over resources in order to derive political benefits.

5. Dependent variable observations

This section provides some summary descriptions of the ESI restructuring outcomes in Argentina, Bolivia, Brazil, and Chile regarding the allocation of property rights on ESI assets and the degree of competition introduced in the industry.

5.1 Ownership

A summary of the distribution of property rights in the ESI of each country is shown in Table 5.1 below. The table provides information on the major components of property rights identified in the preceding section: the right to operate assets, to modify them, to dispose of them, to exchange them (buy or sell), and rights (such as the right to freely set sale prices) over the outputs produced with such assets (which comprise, in the case of the ESI, electrical energy as well as transmission and distribution of electricity, plus related services such as billing and meter reading).

Table 5.1. Distribution of ESI property rights at completion of restructuring process

	operation	modification	disposition	exchange	output
Chile	100% private 1986-1998 (a)	same	same	same	same
Argentina	G: 100% private (b) T:100% private D: mostly private (b)	same	G: same T: all public (c) D: all public (c)	G: same T: all public (c) D: all public (c)	G: 100% private (b) T: 100% private D: mostly private (b)

[3] The only significant critical perspectives about (i) are those of environmentalists, but they are arguably less influential in developing countries.

Brazil	G: majority private (d) T: mostly private (d) D: mostly private (e)	same	G: mostly public (c) T: all public (c) D: all public (c)	G: mostly public (c) T: all public (c) D: all public (c)	G: majority private (d) T: mostly private (d) D: mostly private (e)
Bolivia	G: 100% private (f) T: 100% private D: 100% private (f)	G: 60% private (f) T: 100% private D: 70% private (f)	same	G: 60% private (f) T: 100% private D: all public	G: 60% private (f) T: 100% private D: 70% private (f)

Notes:

(a) By the end of the Pinochet regime in 1990, all major generation, transmission and distribution assets in Chile's Central Interconnected System (the main generation, transmission and load system in the country) had been privatized. Originally (ESI privatizations were announced in 1985), only sales of minority stakes in ESI firms were envisaged (Hachette and Lüders, 1993, Table 3.1). Concessions are required in Chile to distribute electricity, but only for purposes of acquiring rights of way, and they are awarded for an indefinite period of time (DFL 1, Art.30).

(b) As of end 1998, the Yaciretá binational dam and two nuclear stations remained in government hands, but the government intends to sell them. Concessions for a majority of distribution companies in terms of load, number of customers and number of companies had been awarded by end 1998 (in 1996, about 60% of energy was distributed to final users by private sector concessionaires, according to the Argentine government).

(c) Hydroelectric plants and T&D assets are operated under long-term concessions.

(d) At end 1998, only Gerasul (8% of total installed capacity in the south-central system) and scattered projects under completion were in private hands. The two nuclear plants (Angra I and II) and the Itaipu binational dam (totalling one-third of the south-central system) will remain in the public sector. Contracts between independent power producers and distributors are subject to regulatory approval.

(e) Concessions for most distribution companies had been awarded by end 1998. Major exceptions are CEMIG (Minas Gerais) and COPEL (Paraná).

(f) All government-owned generation and distribution companies were capitalized starting in 1994 (50% of equity sold to private investors with rights of operation); COBEE (owner of a generation company and two distribution companies) remained in private hands, as it had been since its founding in 1927.

Source: various, elaborated by author.

The table shows a clear ranking of the cases, from greatest reliance on private property rights in Chile to least in Bolivia. In Chile, all dimensions of ownership were allocated to private actors. Although the privatization process was not complete by the end of the Pinochet regime in 1990, the main entities in the country had already been transferred to the private sector, and the process continued until its completion in 1998, when the last assets in public hands were privatized.

Argentina and Brazil have chosen to rely on concessions rather than outright property transfers for transmission and distribution companies. Under concessional agreements, the assets of these utilities remain under the property of the state, so only the right to operate, modify and sell outputs is transferred to non-governmental entities. In Brazil, the process has proceeded far more slowly and reticently than in Argentina. Whereas the Argentine government still intends to privatize its nuclear plants, the Brazilian government has rejected such a possibility. Also, Brazilian unwillingness to pursue means of privatizing its share of Itaipu dam (jointly owned with Paraguay) will leave a major generation asset (more than

25% of total capacity in the south-central interconnected system) in public hands[4] (*GPR*, 5 February 1999).

Bolivia has been the most reluctant privatizer of the four cases. Instead of opting to fully privatize its ESI assets, it chose to "capitalize" them through the sale of a 50% stake of each firm to a strategic investor in exchange for investment targets in each capitalized company, as well as the award of operating control to the strategic investor. Although the public stake in the capitalized utilities has been transferred to pension funds for financial management purposes, the pension system remains a public assistance program rather than a true old-age savings scheme. The benefits provided by the funds are not linked to prior contributions to the funds, but are instead universally defined for any Bolivian citizen that reaches the age of 60. Such a disconnection between contributions and benefits, and governmental definition of pension benefits, is typical of public social security systems rather than private pension funds. It is therefore fair to characterize the Bolivian capitalization process as retaining a significant component of public ownership of ESI assets.[5]

As pointed out in the preceding section, even when assets are in private hands, they may be subject to restrictions that limit the freedom of decision over the assets and hence the owners' property rights. The following table summarizes the major such restrictions applied to privatized ESI assets in the four cases: on the ability of foreigners to own the assets or act as concessionaires (foreign investment), on the maximum share of ownership allowed to private investors, on the ability of owners or concessionares to freely price the output of ESI assets, regarding the requirement of private owners or concessionaires to provide public services, such as supplying output to any buyer willing to pay the price, and finally regarding the requirement to invest according to pre-specified targets. Restrictions relating to mitigation of monopoly power have been excluded, since they can be fairly justified by a concern for the negative welfare effects of monopoly, which is the subject of the next subsection dealing with competition outcomes.

Table 5.2. Restrictions on property rights conferred to private owners (other than related to mitigation or prevention of market power)

	foreign investment	ownership share	output price	public service obligations	investment obligations
Chile	none	none	system operator sets hydro prices	G, T: none D: obligation to serve	none
Argentina	none	none	limitations on hydro pricing	G, T: none D: obligation to serve	indirect, for D only (quality standards)
Brazil	none	none	system operator sets hydro prices	G, T, D: obligation to serve	yes (D and concessions of unfinished

[4] Argentina faces a similar situation with the joint Argentina-Paraguay Yaciretá dam , but unlike the Brazilian government in Itaipu, Argentina appears to be set on privatizing its share of Yaciretá.

[5] In the worlds of Bolivia's then president, G. Sánchez de Lozada: "When you read their [the capitalization investors'] press release, they make it sound like they simply bought 50% of the company from the Bolivian government. (...) No. It's a capital contribution" (Hendrix, 1995: A15).

			(a); undefined regulatory framework		hydro plants)
Bolivia	none	ownership of capitalized companies restricted to 50% of equity	system operator sets hydro prices	G: none T: obligation to meet plans D: obligation to serve	acquisition amount to be fully invested in physical and service assets

Notes: (a) Also, hydrology risk is pooled among all hydro generators.
Source: various, elaborated by author.

Again, the interpretation of the table's information is that, in general, Chile imposed the least restrictions on the rights of private owners, with the exception of pricing of hydroelectric generation, which is freer in Argentina than in Chile. Moreover, in the Argentine case investment considerations were much more explicit than in Chile for distribution companies. In Argentina, the regulatory framework includes a detailed set of quality of service parameters that, at the time the distribution concessions were awarded, implied a substantial investment requirement since existing quality of service levels were far below the standards defined in the concession agreements and sectoral regulations.

With regard to Brazil, it is essential to note the impact of centralized pricing of hydroelectric generation. Since 91% of Brazilian generation capacity is hydroelectric, compared with 64% in Chile, 46% in Bolivia, and 37% in Argentina, restricting the freedom of hydro operators to submit price bids for their plants' output implies a very significant curtailment of property rights in the generation sector as a whole, and of the positive dynamic efficiency effects of competition among generators. This restriction, combined with the lack of a well-defined ratemaking system for distribution and transmission systems,[6] and the investment obligations imposed on distribution concessionaires, means that Brazil can be characterized as more restrictive of private property rights than Argentina and Chile for the dimensions used in Table 5.2. As for Bolivia, the limitations on ownership shares, hydro pricing, and investment levels makes this case equally or more restrictive than the Brazilian case.

Another instance of manipulation of property rights by policymakers is the provision of subsidies and giveaways on ESI property rights to particular groups, i.e. the creation of special claims on assets during the privatization process (in the sense that such claims are not acquired through fair trades in financial markets, but by government fiat). Table 5.3 shows the various groups to whom ESI property rights were allocated in the four cases in the course of their respective restructuring processes, and on what terms were the rights allocated.

Table 5.3. Ownership composition of privatized or capitalized electric utilities

	pension funds	foreign investors	employees	other dom. investors	central government
Chile	yes, with subsidy	yes	yes, with subsidy	yes, esp. military and civil servants, with subsidy	government assumption of "stranded assets"

[6] No transmission concessions have been awarded yet. As for distribution, at the time of the concession auctions only temporary rate conditions were defined for an initial 5- or 7-year period.

Argentina	yes	yes	yes, with subsidy	yes, incl. some subsidized transfers to provinces	government assumption of "stranded assets"
Brazil	yes	yes	yes, with subsidy	yes	government assumption of "stranded assets" see also (a)
Bolivia	public pension fund system (b)	yes	yes, with subsidy	yes	government assumption of "stranded assets"; see also (b)

Notes:

(a) The Brazilian Development Bank, BNDES, has taken equity positions in some privatizations to stimulate private participation and guarantee the success of the share auctions. For Rio Light, for instance, "the government continued to be the largest shareholder of Light. Adding the shares which were not offered and remaining in the hands of the government electricity holding company, Eletrobrás, and the shares bought by BNDES (through its subsidiary BNDESPar), the government retained a total of 39.1% of Light's shares" (Baer and McDonald, 1998: fn.42).

(b) Bolivian pension funds are not true pension funds in that they do not distribute pensions according to accumulated obligations, but according to universal benefits defined in advance by the government.

Source: various, elaborated by author.

Table 5.3 reveals a more complex picture than the previous tables. In Chile, members of the military and the civil service were in some cases given subsidies for the purchase of shares in the privatized companies. Additionally, as in all other cases, the government absorbed differences between accounting and market valuations of the assets, such as accounts receivable (mainly unpaid customer electricity bills) of the Santiago distribution company, Chilectra Metropolitana, that were in practice uncollectible because of the low incomes and lack of assets of the residential customers in arrears. In Argentina, certain generation, transmission and distribution assets owned by the federal government before privatization were transferred to the provinces. In Brazil, the government development bank (BNDES) has invested in privatized utilities (Hinchberger, 1996).

Finally, an examination of the mechanisms for the protection of the property rights of private investors shows Chile to offer the least protection with regard to the structure of the Chilean regulatory system, which is of a purely political nature. However, the greater risk of political intervention faced by Chilean investors has as a counterweight a more explicit reliance on judicial and para-judicial mechanisms[7] (mandatory arbitration), while in the other countries the regulatory entity or even the government is the first instance of appeal against regulatory decisions, which may reduce the protection of investors against adverse regulatory actions.

Table 5.4. Protection of investors from arbitrary regulatory action or regulatory capture

	staggered	regulator	funding of	commissi-	judicial	public

[7] "Chile has highly detailed benchmark regulation with explicit mechanisms for resolving disputes between the regulator and the utility, with the judiciary as final arbiter. These restraints are credible because the country has a long tradition of judicial independence that has restrained government discretion in areas of property rights and contracts" (Bitrán and Serra, 1995: 3).

	regulator terms	appointment /removal	regulatory commission	on budget approval	recourse	hearings
Chile	no; commis-sioners are cabinet ministers	no restrictions	general budget	legislature	yes, including arbitration	no
Argentina	yes	legislative approval (a); "justified" removal only	power market tax	effectively executive (b)	indirect (1st instance is executive agency)	yes
Brazil	yes	legislative approval/ for criminal or similar reasons	power market tax	legislature	indirect (1st instance is regulator)	under conside-ration
Bolivia	yes	legislative selection (c)/ for criminal or similar reasons	power market tax	legislature	indirect (1st instance is general regulator)	no

Notes: (a) Two commissioners proposed by Federal Electric Energy Council, a joint federal-provincial entity; another three directly designated by the federal executive; all approved by the legislature.

(b) Legislative approval of budget, but in case of a budget shortfall, the executive can approve an extraordinary charge on electricity transactions to raise the extra funds.

(c)President selects general regulator from a list of three candidates chosen by two-thirds of senators.

Source: various, elaborated by author.

5.2 Competition

As the primary determinant of competitive behavior, the market structures that emerged in each country after the restructuring process (or in Brazil, that are envisaged by the government) are the most important indicators of the decisions made by the respective governments concerning the choice of competition vs. monopolistic systems for the production and allocation of electrical energy. These structures are described in Table 5.5.

Table 5.5. ESI market structure in the four cases

	vertical integration	generation market structure	transmission market structure	distribution market structure
Chile	yes; Endesa owns most transmission lines in SIC, affiliated w/ largest distr. (Chilectra)	concentrated; Endesa owns 59% of capacity in main system (SIC)	one major transmission company in each system (SIC, SING)	several companies, but dominated by Santiago metro utility (Chilectra, 37% of SIC cust.)
Argentina	no	very fragmented; largest units in public sector	one major transmission company, several regional ones	several companies, capital metro area split into two companies
Brazil	partial (generation and distribution)	concentrated, although largest units in public sector	undecided, probably single entity	several companies, 2 largest urban areas each split into several companies
Bolivia	no	five generators only due to small market size	one major transmission company	several companies, no asymmetry

Note: the Chilean Central Interconnected System (SIC in Spanish) comprises about 75% of generation capacity in Chile; rest is mostly in the Great Northern System (SING in Spanish).
Source: various, elaborated by author.

Chile presents the most monopolistic market structure among the four cases. A single investor group controls Endesa, which owns 59% of installed capacity, 82% of the transmission line mileage, and provides distribution service to 37% of customers—through control of Santiago's only distribution utility—in Chile's main interconnected system.[8] By contrast, the Argentine generation sector was sold to a large number of separate entities, and the major metropolitan areas of Argentina and Brazil are served by several distribution concessionaires, which facilitates comparisons of performance and hence stimulates efficiency in distribution services.

While the Argentine case lies at the opposite end of the market structure from Chile, with fragmentation at all three ESI levels (generation, transmission and distribution), Brazil and Bolivia represent intermediate situations, with Bolivia being more competition-oriented than Brazil. The reason for such a characterization is that while in Bolivia competition in the generation sector is limited by the small size of the country's interconnected system, in Brazil a very limited splitting of control over generation assets is planned relative to the very large size of Brazil's main interconnected network,[9] although public ownership of Itaipu, by far the largest single generation asset, may limit market power.

From a dynamic perspective, the existence of barriers to entry and exit is also an important determinant of the strength of competition, at least in the long run. As shown by Table 5.6, Chile presents a substantial number of barriers to entry and exit. The major generator in the country, Endesa, controls water rights and transmission in the central system, and there is no prohibition against vertical integration in the country. This contrasts with the rest of the cases, where there exist explicit prohibitions or limitations on both vertical and horizontal market power. Further differences among the cases of Argentina, Brazil and Bolivia are unclear, for each has different limitations to entry and exit. Argentina did not impose service expansion obligations on its transmission concessionaires, which together with a deficient system for identifying expansion beneficiaries has created bottlenecks in the transmission system; in Brazil, the ongoing Petrobrás monopoly on wholesale gas and oil production and distribution is hindering entry of thermal generators; and in Bolivia, small market size limits efforts to mitigate horizontal market power.

Table 5.6. Barriers to entry and exit

	access to fin., phys. capital	access to fuel sources	access to trans-mission	barriers to exit	vertical integration constraints	horizontal concentra-tion limits
Chile	none	water rights	restricted: no	none	none until	none

[8] For evidence of self-dealing between Chilectra, the distribution company, and Pehuenche, a generation affiliate, see Blanlot (1993).
[9] While it is true that the large size of many of the generation assets themselves (mainly large dams) is an obstacle to splitting ownership of generation assets in Brazil, the size of the ownership packages proposed by the government is substantially larger than that of any individual generation station in the main interconnected system other than Itaipu.

		in SIC controlled by Endesa	obligation for service provider		recently (a)	
Argentina	none	none	restricted: no obligation for service provider	none	G&D allowed (without physical integration)	yes, 10% of capacity control limit
Brazil	none	access to gas hindered by Petrobrás monopoly	restricted: rules not yet defined	none	allowed in G and D, subj. to overall limits	yes, 20% of cap. or load nationwide limit
Bolivia	none	none; extensive gas reserves in country	rate base incentive but unstable tolls	small capital market	vertical integration limited (b)	yes, 35% of capacity control limit.

Notes: (a) After a recent antitrust case against Endesa, it has been ordered to maintain separate accounts for its generation and transmission operations.
(b) Distribution companies may own up to 15% of their generation capacity needs.
Source: various, elaborated by author.

A look at the antitrust enforcement mechanisms in each country leads to similar conclusions. In Chile, the lack of legal limitations to horizontal and vertical market power prevents the regulator from taking actions to change the market structure created during the restructuring process and its aftermath. At most, the regulator could intervene through the rate-setting process to mitigate market power, but the authority of the regulator to do so is not clearly delineated in the acts that regulate the ESI, which deal mainly with regulation of the distribution component of electricity rates.[10] As a result, mitigation of market power falls mostly on the general antitrust system.[11]

Brazil suffers from significant limitations too because the regulatory framework of the ESI has not been fully defined yet, thus creating substantial ambiguity about the powers of the regulator to mitigate market power. On the other hand, the limitations on ownership included in Brazil's Electricity Act do provide Brazilian authorities with greater legal grounds for antitrust interventions than in Chile. In Bolivia, the control of market power is once again limited by market size, but the regulator is equipped by the Bolivian Electricity Act with powers to check abuses of market power. Finally, Argentine regulators are in the best position to enforce antitrust policies, because the law imposes strict limits on the control over generation resources, and also because the executive power (through the Secretaría de Energía) has the capacity to alter the rules of the wholesale market and the regulator can terminate concessions in extreme cases.

Table 5.7. Antitrust enforcement mechanisms and entities in ESI.

	antitrust agency	instruments or mechanisms
Chile	regulatory commission (CNE)	limited, since Electricity Decree does not set limits, and existing structure is concentrated; CNE has limited freedom to alter

[10] Distribution concessions can be terminated by the President of Chile for quality of service reasons (DFL 1, Art.40), but quality standards are not clearly defined, unlike in Argentina.
[11] To be sure, there is no a priori reason why such an approach should be less able than sectoral regulation to prevent or correct market power abuses. In fact, "light handed regulation," as this approach is known, is used in some countries, such as Germany, New Zealand and Australia.

	and competition commission	regulated rates; antitrust commissions can order divestitures, penalize abuse of market power
Argentina	regulatory commission (ENRE)	extensive, due to rate-setting and antitrust powers of ENRE, and to concession conditions
Brazil	regulatory commission (ANEEL) and competition commission	moderate; rate-setting power limited by privatization contracts and lack of clear ratemaking framework; concessions can be revoked for public interest reasons; ANEEL empowered to penalize abuses in coordination with general antitrust commission
Bolivia	regulatory commission (Superintendencia de Electricidad)	extensive power of regulator to terminate concessions in case of market power abuses and general antitrust powers of regulator, but conflict between market size and legal limits

Source: various, elaborated by author.

The need to balance electricity supply and demand at every instant to avoid quality of service problems requires a system operator (SO) in any electrical system. Since the operator must, to carry out its duty, determine the dispatch of individual generating units, its decisions have the potential of affecting market outcomes very significantly. Control over the SO is therefore an important indicator of the viability of competition in the ESI. The governance, or control, structure of the system operating entities in each country are summarized in Table 5.8.

Table 5.8. SO governance structures

	SO name	board composition	decision making	staff	regulations
Chile	CDEC	1 director for each generator of more than 62 MW	unanimity, Min. of Econ. arbitrates in case of conflict	no staff of its own; relies on member resources	Electricity Decree and internal regulations
Argentina	CAMMESA	2 gov't, 2 gen., 2 transm., 2 distr., 2 large users	majority, Secretary of Energy has veto power	own staff	Electricity Act, implementing regs. and exec. decrees
Brazil	ONS	concessionaire formed by market participants	not known	not known	not issued
Bolivia	CNDC	1 regulator, 1 gen., 1 transm., 1 distr., 1 large users	majority, regulator can only vote to break ties	own staff	Electricity Act, implementing regs. and internal regs.

Source: Gatica and Skoknic (1996), Maia (1998)

Chilean disregard for potential market power abuses is also evident here. Unlike the rest of the SOs, the Chilean CDEC is a "generators' club" and as such is much more subject to manipulation by existing club members to exclude new members or otherwise manipulate the rules of the game. In contrast, the Argentine and Bolivian SOs include in their boards representatives from the major stakeholders in the ESI, use majority decision rules, and have their own staff, traits which are more likely to give them the impartiality that competitive power markets require. In Argentina, the government has veto power over SO board decisions, while in Bolivia the public sector is only present through the regulator, and then only in a tie-breaking role. While public sector involvement in SO governance need not stimulate competition, it is unlikely to be as favorable to the exercise of market power as a generators' club. Chile can therefore be classified as having the least pro-competitive SO governance structure.

At a greater level of detail, restrictions to bidding into the electricity spot market that are not justified by the objective of curtailing market power decrease the scope of competition and may thus be regarded as indicative of lower commitment to competition. On the other hand, requiring cost-based bids for thermal plant bids and central dispatch of hydro units can limit market power when structural conditions for competition are not present, as in the Chilean case, so they cannot be taken as necessarily anticompetitive under these circumstances.

Table 5.9. Regulation of spot market bids by generators

	bidding by thermal plants	bidding by hydroelectric plants
Chile	actual auditable cost of production	centrally dispatched using linear program
Argentina	essentially free	essentially free
Brazil	free, but only uncontracted portion	centrally dispatched using linear program
Bolivia	reference fuel prices	centrally dispatched using linear program

Source: Gatica and Skoknic (1996); Contente and Calou (1998).

The format of thermal plant bidding across the four cases does not reveal any particular ordering with respect to competition, since each case appears to be tailored to its specific conditions: a less competitive market structure in Chile, a very competitive market structure in Argentina, or a potentially competitive market in Bolivia that only requires partial restrictions on bids. The same can be said about hydro for Chile and Argentina. But it is not at all justified for Brazil and Bolivia, where hydroelectric plants could perfectly well be allowed to bid freely.[12] In fact, the extreme reliance on hydrogeneration in Brazil means that centralized pricing of hydroelectric energy, together with the restriction of thermal plant bidding to uncontracted capacity, effectively eliminates price competition from Brazilian generation markets (Coopers & Lybrand, n.d.: 11).

In the ESI (as in telecoms and gas), metering and other costs limit but do not impede access to direct trading in wholesale markets by small users. The absence of minimum size limitations for market access can therefore be interpreted as indicative of the desire to maximize the scope of competition. The limitations to market access by users in the four cases are as follows:

- Chile: 2 MW
- Argentina: 100 kW, to be eliminated by 2002
- Brazil: 10 MW to 2000, 3 MW to 2003, then at regulator's discretion
- Bolivia: 2 MW

Thus by this measure Argentina is the most pro-competitive of the four cases, with Brazil the least favorable to competition.

Distributor purchasing regulations limit the freedom of action of these utilities and may thus reduce market efficiency, although if combined with a lack of clear quality standards, purchasing freedom confers additional monopoly power to distributors over captive customers. The pattern here is similar to most of the other competition indicators examined so far: the Chilean case displays a favorable bias towards the incumbent suppliers of distribution services, which are not subject to any clear or indirect purchasing standards; in Argentina, the recourse to quality of service standards (whereby penalties are applied to distributors for service interruptions) strikes a balance between direct intervention and

[12] In Brazil, it has been argued that the location of dams along only three major river basins (Amazon, São Francisco, and Paraná) creates too strong interdependencies (externalities) among dams to make a free market workable. But the hierarchical position of the dams in any given basin (from upriver to downriver, which means that decisions by dam operators are not simultaneously affected by hydrology), and the possibility of creating markets for water rights, makes such an objection untenable.

potential abuse of monopoly by the distributor; and in Brazil and Bolivia, a heavy-handed approach of mandatory minimum contract coverage levels mitigates monopoly power but at the cost of stifling distributors' initiative in meeting service obligations:

- Chile: no regulations
- Argentina: no direct regulations, but quality of service standards and penalties, as well as price regulations limiting passthrough of purchase costs; transitional contracts for the three Buenos Aires distribution utilities formerly owned by the federal government with nearby thermal plants, for about 55% of total needs and a term of eight years
- Brazil: distributors required to purchase 85% of load under long-term contracts
- Bolivia: distributors required to purchase 80% of load under long-term contracts

The last indicator of reliance on competitive mechanisms considers the recourse by policymakers to various ways of replicating market forces for the ESI segments operating under natural monopoly conditions, which is again indicative of a desire to maximize the scope of competition in the ESI. Under the umbrella of "performance-based regulation" we can include the following elements of the regulatory framework in each of the four cases:

- Argentina: use of productivity improvement factors ("X factors") to adjust rates over time; quality standards based on industry experience
- Chile: use of "model company" to determine distribution rates, and of X factors in distribution rates; return on rate base fixed, but subject to benchmarking per average rate of return of all distribution companies in Chile
- Brazil: no specific mechanisms—regulator decides level of rate indexing[13]
- Bolivia: X-factors in distribution rates; return on rate base taken from actual returns of US utilities

The list shows that Argentina, Bolivia and Chile rely on "market-like" mechanisms to induce competitive behavior in the monopoly segments of the ESI. The most comprehensive approach is the Argentine one, which uses both productivity factors and quality standards to induce increasing efficiency and productivity improvements in the concessionaires, and to pass these improvements to ratepayers through lower rates and improved quality of service. The Chilean and Bolivian frameworks are more limited, particularly in the Chilean case where the model company results must be reconciled (by law) with the parameters estimated by the distributors. Brazil differs from the other cases in lacking any market emulation mechanisms.

Among the substitutes for actual competition, "competition for the market" through franchise bidding deserves special attention because it has received extensive attention since it was originally suggested by Demsetz (1968). The degree of recourse to this method in the four countries is as follows:

[13] X-factor adjustment proposed by Coopers & Lybrand (now PricewaterhouseCoopers), who prepared the ESI restructuring blueprint for the Brazilian government.

- Chile: no franchise bidding under Pinochet
- Argentina: most competition-oriented system
  T and D concessions periodically retendered for bids
- Brazil: D concessions tendered for bids
- Bolivia: all capitalized/privatized utilities tendered for bids

We can observe yet again that in this regard Chilean policymakers relied the least on this substitute for competition, while Argentina's used the most sophisticated design, by requiring the periodic rebidding of concessions (with the possibility of bidding by the concessionaire itself) to avoid the incentive problems that can occur when the end of the concession period nears (Williamson, 1985). Brazil and Bolivia are intermediate cases.

To conclude, it is clear that Chile has relied most extensively on private property, while the greatest reliance on public property occurs in Bolivia, where even the word "privatization" has been replaced by the term "capitalization" to convey the idea of a different arrangement. Argentina and Brazil are intermediate cases, with Argentina closer to Chile in reliance on private property and Brazil closer to Bolivia, since it plans to retain a set of large generation assets in public hands. Concerning competition, the pattern that emerges from most of the estimators of this variable is fairly clear. The Chilean restructuring process has in general neglected market power issues, facilitating in effect the emergence of private oligopolies. Close to this end lies Brazil, where public sector interventionism remains in the form of centralized dispatch of hydro resources and extensive restrictions on the actions of distribution companies. Bolivia displays a greater reliance on competition, being limited more by a small electricity market size than by policy choices that lessen the scope of competition. Finally, in Argentina reliance on competitive or "para-competitive" arrangements is most extensive.

To provide a visual summary of the four cases, we can place them in a simple 2x2 matrix for each dependent variable:

Table 5.10. Classification of cases by dependent variable

	←monopoly	competition→
↑ private property	Chile	Argentina
↓ public property	Brazil / Bolivia	

6. Explanatory variables

This section provides general information about the explanatory variables for each one of the four cases under consideration. Each one of the three variables is discussed in turn.

6.1 Judicial Independence

Since there is little published information about the mechanisms for appointment and removal of judges, funding of the judiciary system, and career paths of judges in the four cases, the best indicators of relative levels of judicial independence are the indices published by a variety of sources, which are shown in the table below. These indices measure either judicial autonomy directly, or related variables such as the quality of the judicial system (a major indicator of judicial quality is freedom from bias), and the protection of property rights (which is generally enforced by the judiciary).

Table 6.1. Indices of judicial autonomy, various years

note: higher value indicates higher autonomy	analysts' score, 1945-75	median tenure of Supreme Court justices (years)	judicial independence perception, 1997	judicial quality perception, 1997	property rights security, 1995-96	property rights protection, 1998
Chile	277	5.72 (1951-94)	5.18	4.76	2	4
Argentina	231	4.36 (1946-94)	3.73	2.40	2	3
Brazil	230	7.15 (1963-96)	4.89	3.85	1	2
Bolivia	150	no data	no data	no data	1	2

Notes and sources:
Analysts' score developed by K.F. Johnson, based on codings of qualitative assessments by analysts of Latin American politics (Johnson, 1976), as reported by Verner (1984: Table 1). Sample comprises Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Guatemala, Haiti, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay, Venezuela. Maximum sample score is 306, minimum 115.
Median tenure of Supreme Court justices from Henisz (1998). Numbers in parentheses indicate period used to compute median tenure figures for each country.
Perceptions of court independence, ranging from 0 to 7; from *Global Competitiveness Report 1997*, Table 8.08.
Perceptions of judicial quality, ranging from 1 to 10, from *World Competitiveness Yearbook 1997*, Table 3.37.
Security of property rights, from 1 to 3, from *World Survey of Economic Freedom 1995-96*, Table 4.1.
Protection of property rights, from 1 to 4, from *1998 Index of Economic Freedom* (scale inverted from original for ease of comparison).

The degree of autonomy of governmental agencies from executive control may reflect the willingness of political elites to give up control over decisions and resources, or their inability to exercise such a control. Since unwillingness or inability of this kind may be rooted in the institutional framework of the country, it should be correlated with higher judicial independence. In turn, autonomy of governmental agencies from executive control should possibly be associated with higher levels of civil service quality and lower levels of corruption, insofar as it means that agency staff are less subject to political pressures. Table 6.2 presents the comparison across cases for these variables.

Table 6.2. Comparative levels of bureaucratic quality and corruption.

note: higher value indicates higher quality/ less corruption	corruption perceptions, 1998	impartiality of public sector, 1997	indep. of civil service, 1997	corruption, 1982-95	quality of bureaucracy, 1982-95
Chile	6.8	4.45	3.34	3.18	3.36
Argentina	3	3.41	2.48	3.61	3.00
Brazil	4	3.56	3.33	3.79	4.00
Bolivia	2.8	no data	no data	1.68	1.14

Notes and sources:

Corruption perceptions, from 1 to 10. From Transparency International (1998).
Public sector competence and civil service independence, from 1 to 7. From *Global Competitiveness Report 1997*, Tables 2.07 and 2.09 respectively.
Corruption and bureaucratic quality: from 1 to 10. From IRIS (1997).

Judicial independence is clearly greater in Chile than in the other countries. Chile had a stable democratic political system for a substantially longer period of time than the other three countries up to 1973 military coup. Political stability in a democratic setting meant respect for the rule of law and therefore for the judiciary. The 1973 coup brought a further weakening of judicial independence: the Constitutional Court was dissolved right away, the Supreme Court accepted the numerous violations of human rights and obvious violation of the then-prevailing constitution by the new regime, and under the 1980 Constitution, Pinochet gave himself the right to appoint and dismiss justices and to determine the court's jurisdiction (Verner, 1984). But the judicial system was not subject to a sweeping reorganization. The judicial machinery survived political instability and the coup relatively intact by contrast to the other cases.

Argentina is a much clearer instance of a weakened judiciary. Apart from the damage to rule of law inflicted by repeated purges of the Supreme Court since the rise of Perón in the 1940s, the legitimacy of the court in the restored democratic regime had been weakened by its "willingness to recognize and legitimize new military regimes" (Verner, 1984: 487-488). The major blow in the current democratic era came after Menem's accession, when he appointed four new members of the Supreme Court in addition to the existing five justices. Ongoing cases of corruption and impropriety throughout the court system have continued to weaken judicial authority in the country, with ample evidence of corruption, the resignation of two justice ministers in 18 months, and low public confidence. The main reason is the manipulation of judicial appointments and bribery of judges by the Menem government[14] (Sims, 1997; Warn, 1997).

Brazil's courts were also enfeebled by the ongoing manipulation and abrogation of the law by the military regime as the regime found it convenient (Verner, 1984). Despite the persistent inability, lasting to the present, to enforce the rule of law in rural and remote areas of the country, a difference with Argentina is that Brazil has maintained a stronger façade of continuity and even respect for the decisions of the Supreme Court by the military rulers. Even after the approval of a new constitution in 1989, the Supreme Court was not replaced or eviscerated as in Argentina.[15]

Bolivia's record number of coups and other unconstitutional government changes relative to the rest of Latin America is indicative of the lack of rule of law and hence of judicial

[14] In 1994, a major constitutional modification was agreed with the main opposition party (UCR) as part of the "Pact of Los Olivos" to create a new council to nominate all judges prior to their appointment, as well as a new General Accounting Office to audit governmental accounts and prevent corruption (Domínguez and Giraldo, 1996). But the council was not actually created until 1998.

[15] Indirect evidence provides a similarly mixed picture. Schneider (1993) shows that relative to Mexico and developed countries, the Brazilian federal civil service is insulated from outside pressures by widespread circulation of personnel within the bureaucracy at large but limited exchange with the private sector. At the same time, extensive presidential appointment powers put great pressure on weak presidents to yield to patronage criteria for filling senior civil service positions.

autonomy.[16] Indeed, prior to the 1952 revolution, which for a while resulted in greater respect for the rule of law, the Supreme Court's independence "was violated with impunity" (Verner, 1984: 495). While military rule was associated with the lowest levels of judicial independence, even during democratic periods territorial and party politics determined the appointment of Supreme Court justices (Gamarra, 1991: 55, 64). The return of democracy in 1982 did not end the politicization of judicial appointments and the disregard for the rule of law: the MNR[17] government of 1984-88 appointed the entire Supreme Court during its tenure, and carried out its economic reform program under emergency powers in order to thwart union opposition. More recently, the newly-minted regulatory system has suffered the consequences of lack of respect for the autonomy of judicial and quasi-judicial entities: the telecoms regulator was removed by the Supreme Court in 1997, after he required the telephone monopoly to begin interconnecting competitors; the regulator was replaced by a senator from the government party, ADN[18]; there have also been attacks against the banking superintendent (Friedland, 1997b). Altogether, these pieces of evidence show the low level of judicial independence in Bolivia.[19]

This subsection has clearly established that judicial independence at the time of ESI restructuring in each country was highest in Chile, followed by Brazil. Argentina had a slightly stronger tradition of judicial independence than Bolivia, which actors involved in ESI restructuring are likely to have taken into account. The conflicts between the government and the Supreme Court in Bolivia under the democratic regime have been no less severe than the manipulation of court appointments in Argentina under Menem. International rankings of judicial independence and related indicators also place Argentina ahead of Bolivia in judicial independence.

6.2 Ideology

As Table 6.3 shows, most of the parties in power at the time of ESI restructuring in the cases under study were, at least on paper, of a center-left persuasion. In the case of Chile, the absence of party competition does not preclude the positioning of the regime at the time of restructuring along a left-right axis, since the ideological preferences of major regime decision-makers are well known and documented. For Chile the table therefore documents the overall regime orientation, and instead of competing parties I have listed competing factions within the regime, as identified by several different analysts of policymaking in the Pinochet regime.

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[16] Bolivia had 17 Supreme Courts between 1950 and 1990. Wholesale dismissals of the Supreme Court occurred during this period in 1952, 1957, 1961, 1964, 1967, 1972, 1974, 1979, 1980 (twice), and 1982 (Gamarra, 1991: 64 and 86, footnote).

[17] Movimiento Nacional Revolucionario.

[18] Acción Democrática Nacionalista.

[19] As in Argentina, recent changes may herald an unprecedented increase in judicial independence: an ombudsman's office, a constitutional court, and an independent judicial commission were recently created, and seven new Supreme Court justices appointed by President Bánzer under the new arrangements "owe their seats to professional competence and hard work, not to political connections" (*The Economist*, 10th April 1999: 34).

Table 6.3. Party/regime ideology and position relative to other major parties/factions

	party in power	ideology	competing parties and relative position
Chile	Pinochet regime. "Chicago boys"	far right	business community (at left)
Argentina	Partido Justicialista [Peronists]	center-left	Partido Radical (at right); FREPASO (at left)
Brazil	Partido Social Demócrata Brasileiro	center-left	PFL (at right), PMDB (at right), PT (at left)
Bolivia	Movimiento Nacional Revolucionario	center-left	ADN (at right), MIR (at left)

Notes and sources: ideology positions taken from Derbyshire and Derbyshire (1996), the *Political Handbook of the World* (various editions) and E. Silva (1996b).

Another important qualification to Table 6.3 is that in some of the countries factional or party rivalry is not only, or even not primarily, oriented along a left-right axis. In particular, at the time of ESI restructuring populist and clientelist attitudes pervaded, in ascending order, the Argentine, Bolivian and Brazilian cases. Both populism and clientelism are hostile to private property and competition, because both rely on the extraction and distribution of economic rents to sustain winning political coalitions, to which in the case of populism are added—at least in its traditional incarnations—a substantial amount of nationalism and emphasis on the state as an engine of national development.

As with judicial independence, ideological influences are found at their purest in the Chilean case. Extensive documentation by scholars of the influence of the "Chicago boys" has demonstrated a direct linkage between market-oriented policy initiatives in Chile during the military regime and the economic theories elaborated at the University of Chicago[20] (E. Silva, 1996, ch.5; Moulián and Vergara, 1980). It is important to remark that the "Chicago" doctrine followed in Chile is strongly libertarian, in that it mistrusts all forms of government intervention, including regulation, and worries very little about market power issues in a private-property context because it believes that monopoly or oligopoly is very hard to sustain for long. Thus restructuring under the "Chicago boys" would favor privatization without much concern for preventing the abuse of market power.

There is evidence that in general, the Chilean military had nationalist inclinations that set them apart from the radical internationalism of the Chicago boys. For a regime that placed the return of assets expropriated by the socialist Allende administration (that it had overthrown) to its former private owners, the military junta strikingly nationalized the telephone company CTC in 1974, when the "Chicago boys" were not yet in control of the regime's economic policy. Later, the radical liberalization policies pursued by the "Chicago boys" from 1975 on[21] were opposed by many military officers, and indeed their implementation was only possible in parallel with the consolidation of Pinochet's personal rule (Moulián and Vergara, 1980; E. Silva, 1996: 109).

[20] Under an agreement concluded in 1955, the Catholic University of Santiago began sending students to Chicago for their Ph.D. training in economics.

[21] "[I]n 1973 (...) the Armed Forces advocated a strategy of "inward looking" national economic development as a requirement of territorial defense" (Moulián and Vergara, 1980: 105).

Among Chilean business interests, there was widespread consensus on privatization: in 1974, "business leaders demanded more than a simple return to the status quo ante [prior to the Allende nationalizations]. They also wanted the privatization of companies that had always had majority public ownership" (E. Silva, 1996: 104). And after regaining influence on Pinochet regime in 1985, "more privatization" was one of the "substantive policy demands" of business groups. Business preferences were also tinged with nationalism ("defense of national production") (E. Silva, 1996: 193, 195, 205).

In Argentina, President Menem's weak ideological attachments enabled Minister of the Economy Cavallo to pursue an orthodox economic program within the government of a historically populist, labor-centered party. As governor of La Rioja province before he became president of Argentina, Menem followed traditional Peronist policies favoring industry and social welfare programs for workers administered by unions (Palermo and Novaro, 1996: 20). His platform for the 1989 presidential election offered more of the same: "Menem pledged that if elected, he would faithfully adhere to the Peronist creed, which postulated economic nationalism, strong state regulation of the economy, resumption of economic growth through direct investment, and social justice in the form of income redistribution in favor of salary and wage earners." (Molano, p.100). Yet the many and significant shifts in Menem's policy stances throughout his political career reveal his willingness to place personal advancement ahead of ideology.

Menem had been a founder of the Peronist party's reformist wing in 1984, which was characterized by ideological flexibility (such as the admission of Cavallo, his future economic affairs minister and a defender of free trade and economic orthodoxy) (Corrales, 1996: 310). However, Menem was quick to rejoin the orthodox faction when he was unable to lead the reform group (McGuire, 1997: 208). After his election to presidential office, his administration's economic policy was still hesitant for more than a year after its installation. Full-blown orthodox reform did not come until the failure of half-hearted measures to tackle the country's economic problems led to the appointment of Domingo Cavallo as minister of economic affairs in 1991. Menem was thus willing to abandon prior commitments if they did not help is position and experiment with new policies. This explains why he allowed Cavallo to implement orthodox economic policies that ran counter to traditional Peronist doctrine.

Cavallo's ideological commitment to privatization and competition is very well documented. He had previously established a think-tank, IEERAL,[22] through which he applied to Argentine problems the perspectives learnt while a doctoral student in the U.S. The think tank recruited and trained the future members of Cavallo's team during his effort to radically reshape the Argentine public sector (Domínguez, 1997: 18; Yergin and Stanislaw, 1998: 242-243). Moreover, Cavallo was also a committed internationalist who reversed nationalist economic policies favoring domestic producers and investors. In contrast to Chile, where the military could not be entirely ignored, the strong nationalist element in the Peronist movement appears to have been entirely overcome by Cavallo's internationalism.

[22] Instituto de Estudios Económicos de la Realidad Argentina y Latinoamericana.

International influence was also present in Argentina during the early 1990s through loans from multilateral institutions to organize the public sector restructuring process, and through the extensive use of consultants to supplement the meager resources of the Argentine public purse at the time (World Bank, 1993: 17).

In Bolivia, ideological ambiguity prevailed among the major Bolivian parties due to very strong patronage component of party politics: the MNR, for instance, supported the dictatorial regime of general Bánzer in exchange for spoils during the years 1971-74 (Gamarra and Malloy, 1995: 407). During the 1985 presidential campaign, the MNR's platform was still its traditional "nationalist revolutionary" model of a mixed economy formed by public, private, and communal sectors, including "rationalization" of SOEs but also agreement with labor unions. But by this time, the MNR's presidential candidate and longtime leader Paz Estenssoro was personally disenchanted with this confused, populist approach (Conaghan and Malloy, 1994: 127).

As in Argentina, orthodox policies were only accepted in Bolivia after a period of contestation. The tension between traditional and "neoliberal" policies within the MNR made it split on the issue of privatization during 1985-89, with technocrats like in favor and old-line politicians against (Gamarra, 1990; Conaghan and Malloy, 1994: 191). Sánchez de Lozada, under whose mandate the Bolivian ESI was restructured after his election in 1989, had resided and studied (philosophy) in the U.S. As minister first (under the previous MNR leader, Paz Estenssoro) and president later he brought in technocrats with solid training in neoclassical economics.[23] Sánchez de Lozada was a European-style social democrat, concerned with income distribution issues but willing to accept the need to work within a market economy context (Yergin and Stanislaw, 1998: 232).

More strongly than in any of the other three cases, business groups played in Bolivia an important ideological role. The Bolivian peak business association (CEPB[24]) hired economists to increase its ideological coherence against the state-oriented ideologies of most political parties and the unions, and produced in 1984 a policy paper recommending elimination of price controls and consumption subsidies (Conaghan and Malloy, 1994: 125). In turn, the CEPB's positions influenced the MNR's main rival, ADN, and were subsequently borrowed by the MNR. Several ADN economists had been trained at Harvard and worked with Jeffrey Sachs there to design an economic policy plan (Conaghan and Malloy, 1994: 127-128). When the MNR government of Paz Estenssoro looked to ADN for policy directions, Jeffrey Sachs came to play a key advisory role in the design of a successful economic stabilization program. Other sources of foreign ideas in Bolivia came through the assistance of US AID and "other Washington-based privatization groups," although privatization of the state-owned electric utility ENDE was not included in earlier reform blueprints (Gamarra, 1990: 202-203). The strong international connections of Sánchez de Lozada and his collaborators, as well as his own background of several years of residence in the U.S., would indicate that nationalism was not a significant force under his administration.

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[23] "Sánchez de Lozada's involvement in politics [the government of Paz Estenssoro, 1982-86] had a profound impact on the course of economic policy and the entire ideological climate in Bolivia. He became one of the most effective advocates of the free market" (Conaghan, 1995: 122).

[24] Confederación de Empresarios Privados Bolivianos.

Of all four countries, Brazil displays the least influence of neoclassical economics. The large size of Brazil in geographic, demographic, and economic terms has meant for Brazil a lower degree of interdependence with other countries and thus a more inward-looking orientation of its politics and policy-making, which has in turn translated into a greater strength of economic nationalism. Brazilian politics also reflect a long historical tradition of clientelism. Some of the major Brazilian parties (e.g. the PMDB[25] in its current composition) are machines oriented almost exclusively to the attainment of government office and its attendant spoils, which can then be distributed to constituents in exchange for votes. The Brazilian congress has therefore been very reluctant to authorize privatizations and other measures to reduce the role of the public sector, such as reform of the national pension system.

Brazilian president Fernando Henrique Cardoso has little of the ideological background that could be expected to draw him to market-oriented policies. Cardoso invites certain parallels with Menem in that he appears to have placed pragmatism above the prior ideological baggage of his *dependentista* writings. His pragmatic embrace of pro-market policies came prior to the presidency, when as finance minister he was the author of the successful Real plan. As president, "[Cardoso] has built a solid center-right coalition heavily dependent on the economically conservative Liberal Front Party (PFL). (...) In recent years he has proven to be more a pragmatist than an ideologue" (Maxfield, 1999: A15). However, Domínguez writes (1997: 43) that "Cardoso has always been suspicious of the 'magic' of the market" and "found it difficult to celebrate a market-oriented economic policy." The difference with Menem is that Cardoso's acceptance of market-oriented reforms appears, as with Bolivia's Sánchez de Lozada, rooted not in ambition alone but also in European social democratic thought, which seeks a combination of free markets and private property with public sector programs for the reduction of inequality and poverty (Yergin and Stanislaw, 1998: 258-259).

Below the executive and legislative powers, Brazilian technocrats have slowly evolved from interventionist to more liberal views (Sola, 1994), particularly at the national development bank, BNDES[26] (Molano, 1997: 47, Schneider, 1993). But the military origin of many SOE managers and technocrats in Brazil has imbued them with a nationalist ideology that believes in the economic leadership of the state (Sola, 1994). As in Cardoso's case, their shift towards orthodoxy is purely pragmatic (Schneider, 1993: 320, 327): "pragmatic officials, many of whom favored a continued strategy of state-led development, have pushed privatization in order to rationalize state intervention and streamline government administration."

Surveys conducted in the four countries on the public's attitudes towards competition and private property prior to ESI restructuring are too limited to reveal any significant differences among the cases. In general, there seems to be some support for economic orthodoxy, but contingent upon the ability of markets to improve upon the performance of the public sector (Stokes and Baughman, 1998). In Argentina, surveys begin showing support for privatization in 1987-88. Surveys prior to the presidential election in 1989 showed 70% support for privatization in general. In a 1992 opinion poll, 59% of respondents supported

[25] Partido do Movimento Democrático Brasileiro.
[26] Banco Nacional de Desenvolvimento Econômico e Social.

competition, and 65% supported private provision of social services (Bartell, 1995). In 1990, there was strong support for privatization in Brazil, with 43% in favor; also, 49% gave priority to the private sector for the country's economic development, while 33% assigned such a role to SOEs, although "nearly two-thirds of the respondents in the survey did not have a clear definition of privatization" (Molano, 1997: 42). By contrast, in Bolivia opposition to NEP focused on privatization, "which originally garnered considerable public support due to the perception that it would combat corruption, but (...) [now] political opposition and the media express fears that the sale of public companies will benefit only government functionaries rather than private entrepreneurs" (Morales, 1996: 133; Sims, 1998). Hence with the possible exception of Bolivia, public opinion appears to have been substantially non-ideological about ownership and competition, preferring to vote for whatever arrangement would work best in practice. This means that the key ideological preferences to consider would be those of policymakers and not of the electorate.

Finally, the overall ideological orientation of a polity, reflecting a combination of policymakers' preferences, those of political and economic elites, and public opinion, should also be reflected in the outcomes of the political process with regard to the extent of reliance on private property and competition. Table 6.4 shows some indicators of such overall orientation, as measured by various cross-national databases: the scope, or extent of involvement, of the public sector in economic activity, the relative size of state-owned enterprises in the economy, the ability of foreigners to own productive assets in the country, the degree of reliance on price controls, and the degree of regulation of labor markets. The general criterion behind the selection of these indices is that greater public sector intervention or participation in the economy is typical of left-leaning governments or polities.

Table 6.4. Indicators of ideological orientation of the polities

note: higher score shows greater role of the state	scope of government, 1946-86	SOE activity as %GDP, 1985-90	foreign ownership restrictions, 1998	extent of price controls, 1995	labor market regulation, 1997
Chile	5.25	14.4%	1	1	3.48
Argentina	5.31	2.7%	2	3	6.60
Brazil	7.00	7.6%	3	4	5.37
Bolivia	6.17	13.9%	2	6	no data

Notes and sources:
Scope of government, from 1 to 10. From *Polity II* dataset.
SOE activity level: from *World Development Indicators 1998.*
Foreign ownership restrictions, from 1 to 4. From *1998 Index of Economic Freedom.*
Price controls, from 1 to 10. From *Economic Freedom in the World 1997*, Table II.C. Scale inverted from original to facilitate comparison.
Labor market regulation, from 1 to 10. From *World Competitiveness Yearbook 1997*, Table 3.35. Scale inverted from original to facilitate comparison.

The table's figures match the preceding discussion about the influence of orthodox economic ideology among the four cases. With the important exception of SOE activity (no doubt caused by public ownership of CODELCO, the copper mining giant), Chile scores lowest in the scope of government, restrictions on foreign investment, extent of price controls, and labor market regulation. Argentina is second (excepting in this case the ranking for labor

market regulation, a legacy of Peronism), while the relative positions of Brazil and Bolivia change depending on the variable (Brazil is more orthodox than Bolivia in SOE activity level and extent of price controls, while the ranking is reversed for scope of government and restrictions on foreign investment).

To summarize, an analysis of ideology, both at the level of decisionmakers and of public opinion and polity orientation in general, shows that public opinion has not in general been strong enough to sway the restructuring process in any specific direction. At the level of senior policymakers, Chile was the country where the most radically laissez faire ideas prevailed, hostile even to the need for regulation of market power, but also under strong nationalist influence. In Argentina, orthodox ideas about competition and private property were fully implemented, although only after the failure of the historical legacies of state interventionism. In Bolivia, a similar ideological tradition combined with a more social democratic orientation of the major decisionmaker to produce a weaker commitment to private property and competition than in Argentina. And finally, in Brazil the ideological preference for orthodox solutions was weakest due to the social democratic background of the policymakers and a greater role of clientelism and nationalism in the political system, which favored public property and monopoly.

6.3 Distributional conflict

Table 6.5 presents comparative values for a range of indicators of distributional conflict, both in terms of actual conflict over the distribution of income, such as labor disputes, and in terms of elements of the polity that are more likely to produce such conflict, e.g. the degree of decentralization of a country, which other things being equal should be related to the level of conflict among the different territorial units of a country over public policy, or the sheer degree of economic inequality in the country.

Table 6.5. Indicators of distributional conflict

note:higher scores indicate higher likelihood of conflict	Gini coefficient	annual lost workdays/ 000pop, 1993-5	no. of strikes or lockouts, avg. 1987-91	T&D losses, % energy gener., 1995	SOE losses, %GDP, avg 1985-90	degree of decentralization, avg. 1946-94	avg. public sector deficit, %GDP	perceived degree of labor conflict, 1997
Chile	56.5 (1994)	33.78	129.8	10%	8.6%	1	1% 1972-88	2.45
Argentina	no data	221.66	no data	18%	no data	2	6% 1980-89	2.55
Brazil	60.1 (1995)	4.81	1889.7	17%	0.6%	3	8% 1980-90	2.76
Bolivia	42.0 (1990)	no data	137.6	12%	7.6%	1	13% 1982-91	no data

Notes and sources:
Gini coefficient is one minus the ratio of the actual cumulative distribution of income to a uniform (i.e. egalitarian) distribution of income. From *World Development Indicators 1998*, Table 2.8.
Lost workdays: from *World Competitiveness Report*, various editions, Table 6.25.
Number of strikes and lockouts: from *Yearbook of Labor Statistics*, various editions, Table 9A.
Transmission and distribution losses, and SOE losses from *World Development Indicators 1998*, Tables 5.10 and 5.8, respectively.

Decentralization, from 1 to 3. Source: *Polity III* dataset.
Public sector deficit from World Bank dataset.
Industrial relations perception, from 1 to 7. Source: *Global Competitiveness Report 1997*, Table 7.14.

In general, Chile appears to have a more moderate level of distributional conflict than the other countries. Chile ranks highest in level of SOE losses, and second in Gini coefficient and lost workdays. But its transmission and distribution losses in the electricity grid (which are indicative of pilferage and theft, since differences in technical losses on electricity lines can usually account for a limited range of variation only) are the lowest. It also ranks lowest in decentralization, budget deficits, and perception of labor conflict. The other three cases are difficult to rank. Bolivia could arguably be placed next, since it has the lowest Gini coefficient, it was until very recently a centralized country, and its major distributional problem seems concentrated in SOE and public spending. Brazil is perhaps the case with the most acute distributional conflicts, as it has the highest level of income inequality as measured by the Gini coefficient, the highest perception of labor conflict, and it is the most decentralized of all four (but it ranks lowest in number of lost workdays). The ranking of Argentina is complicated by the absence of data for three variables. It has the highest number of lost workdays and electricity losses (even several years after ESI restructuring), but does not stand out in other dimensions.

Chile had a strong tradition of political and labor mobilization that played a major role in the breakdown of the democratic political system and the subsequent military coup in 1973. Under Pinochet, however, distributional conflict was suppressed through the repression of labor and the exclusion, at least under the Chicago boys, of most business interests from access to major economic policy decisions (E. Silva, 1996). Also, the alliance between capital and labor in import-substituting sectors that had increased their political weight under the pre-1973 democratic regime was weakened by the exclusion of labor from the Pinochet regime (E. Silva, 1996b: 80-81). Policies with an obvious distributional objective, from import tariffs to subsidized prices of SOE outputs, were largely eliminated before ESI restructuring began. While the onset of the debt crisis in 1982, and the draconian adjustment policies it led the regime to adopt, caused a resurgence of political and labor contestation, the military regime remained fairly impervious to distributional pressures.

Argentina's recent history has been characterized by distributional conflict along three major dimensions: class (strong labor unions), sector (agriculture vs. industry) and geography (the provinces vs. Buenos Aires). The advent of Peronism in the 1940s is generally considered the onset of distributional conflict along these lines: the strength gained by industrial and service unions under Perón allowed them to block adverse wage and employment decisions, leading to significant wage-price inflationary spirals; nationalist interest in industrialization, together with rising industrial labor costs also made it necessary to protect domestic manufacturing, at the expense of agriculture; and lastly, the rise of industry relative to agriculture benefited Buenos Aires at the expense of the provinces.

The use of patronage to buy political support in a country of vast wealth and income differentials has been a common feature of Brazilian politics at least since the "Old Republic" (1888-1930). The return to democracy exacerbated even further these pressures as the political elites that had supported the military resorted to even greater use of patronage in

order to survive electoral competition. The result has been a system of fluid, non-ideological parties vying for the spoils of state patronage in a fragmented congress. As Werneck writes (1991: 71), "[c]ontrol over public enterprises has been seen as an important source of power by ministers, top public officials, and politicians—power to appoint managers and even employees, power to affect large investment programs and the enterprises' procurement policy, and power to capitalize on successful public enterprises." There is also a strongly territorial dimension of clientelism in Brazil—the loyalty of legislators is generally greater to their district and state than to their party. Electoral law reflects and reinforces the role of patronage, with an open list system in large electoral districts (the states) that makes all candidates virtual "write-ins," pushing them to target areas within their districts in exchange for patronage promises.

After the restoration of democracy in the mid-1980s, the nature of distributional conflict in Brazil became more complex as a result of the emergence of new, militant unions and an aggressive land redistribution movement. The "new unionism" was an important element of intense labor conflict in the late 1980s. It is fair to say, however, that the impact of the new unionism on the political arena and in particular on economic policy at the federal level appears to be slight. As Brazil's economic crisis deepened after 1990, and even more once the economy began to be opened to foreign trade and investment, the bargaining power of the unions was sharply curtailed since firms could no longer accommodate union demands, and Brazil's vast "reserve army" of underemployed and unemployed labor made any extreme positions by the unions—mostly representing relatively well-paid industrial workers—increasingly untenable.

In contrast to the "new unionism," patronage politics has remained dominant in much of rural Brazil, where local notables, which are generally the large landowners, control governmental matters, including police and justice. Mobilization efforts, such as the land redistribution movement (MST[27]) have had limited success, not only because of the power of the large landowners but also because land redistribution is constrained by economies of scale in agricultural production and the extremely low human and financial capital levels of the landless population.

Distributional conflict with regard to privatization and competition has thus taken a mainly clientelistic scope, being centered on the opposition to privatization from "employees of state enterprises, earning salaries that were substantially higher than market averages; private firms that sold goods to government enterprises at great profits; firms that received goods and services from public enterprises at subsidized prices; and politicians who made use of public enterprises for their own purposes". (Baer and Villela, 1994: 8; also Sola, 1994).

In Bolivia, more than in Brazil, a combination of clientelism, militant unionism, and strong regional identities has made distributional conflict particularly severe. "In Bolivia, (...) a central dynamic of politics has been to circulate the commodity of government positions (*cargos, puestos, y pegas*) among the dependent middle class" (Gamarra, 1990: 122; Conaghan and Malloy, 1994; Gamarra and Malloy, 1995). As in Brazil, Bolivia has a large number of parties with parliamentary representation because election to the legislature can

[27] Movimento dos Sem-Terra.

allow trading of legislative votes for state patronage (Gamarra and Malloy, 1995). The clientelistic nature of the polity is also evident within the MNR itself, where patronage was the primary source of party cohesion through a clientele drawn from the middle class and a peasantry dependent on state support (Conaghan and Malloy, 1994: 126). The MNR's patronage orientation continued under Sánchez de Lozada's administration, with the replacement of previously hired civil servants with party loyalists (Conaghan and Malloy, 1994: 230).

Militant unionism led to a high level of labor conflict in Bolivia under first democratic government[28] (1981-1985) (Conaghan and Malloy, 1994: 123). Labor conflict was only mitigated by a mixture of force (the declaration of a state of emergency, which enabled suppression of strikes by the police and military) and rewards, particularly severance payments and temporary public works programs (*ibid.*, 149-150). Although fierce conflicts during the 1980s weakened unions through loss and exhaustion of their members (Morales, 1996), the peak labor organization COB[29] was still willing to go on strike against privatization (Sims, 1998).

The upshot of these various dimensions of distributional conflict was intense controversy about privatization. Distributional conflict had over time resulted in very high levels of public employment to placate the demands of the different claimants, leading one commentator to remark that "[p]rior to the NEP [the New Economic Policy of reform pursued by Paz Estenssoro], Bolivia was probably the Latin American country (with the exception of Cuba) that had the largest proportion of its urban labour force employed by the public sector"[30] (Morales, 1996: 41). This made privatization "a central issue of political and economic debate in Bolivia. (...) [T]he most delicate aspect of privatization lies in its redistributive implications" (Morales, 140-141). Privatization was opposed by political parties, regional civic committees, and as already noted, the COB (Gamarra, p.112), and indeed privatization attempts by the Paz Zamora administration of the MIR and ADN parties (1987-1991) due to such opposition.

To summarize the preceding discussion of distributive conflict, it has been least prevalent in Chile, largely as a result of the political regime, which both suppressed labor conflict and avoided the use of patronage to stay in power. At the other extreme of the ranking, Bolivia appears to have been wracked by conflicts over political patronage, over employment and employment conditions, and over the regional impact of economic policy. Brazil and Argentina lie nonetheless very close to Bolivia on the scale of distributional conflict. Argentina has also suffered historically from significant distributional conflict, mainly of a class nature and to a lesser extent of a territorial nature, while patronage politics have been tempered by a more cohesive party structure than in the other cases. In Brazil, patronage and its territorial dimension have created very intense pressures over economic resources regardless of the political regime, but especially with the restoration of democracy that took place after 1985. On the basis of the stronger party structure of the Argentine polity, it would

[28] Nine general strikes were launched between December 1983 and March 1985 (Conaghan and Malloy, 1994: 149).
[29] Central Obrera Boliviana.
[30] 245,000 public sector employees, or some 11% of the labor force, in 1985 (Morales, 1996, Table 2.3).

make sense to rank Argentina below Brazil in the degree of intensity of distributional conflict.

The review of the independent variables conducted in this section shows the following rankings for the four cases under consideration:

Table 6.6 Ranking of countries by explanatory variable

	Judicial independence	Influence of laissez-faire ideology	Absence of distributional conflict
Chile	1	1	1
Argentina	3	2	2
Brazil	2	4	3
Bolivia	4	3	4

The clearest conclusion from the analysis is that Chile ranks highest in judicial independence (despite the authoritarian nature of the Pinochet regime), influence of laissez-faire ideology, and absence of distributional conflict. At the other extreme of the Chilean case lies Bolivia, which ranks lowers in judicial independence and has the highest level of distributional conflict, being only above Brazil in the degree of influence of economic orthodoxy. Argentina's overall rank is second to Chile only, since it is only below Brazil with regard to judicial independence. This leaves Brazil in third place with regard to the overall likelihood of espousing competition and privatization in the restructuring of its ESI.

7. Putting the pieces together: ESI restructuring in Argentina, Bolivia, Brazil and Chile

This section ties the observations on the dependent and explanatory variables together, tracing out the effect of each one of the explanatory variables. Although the section is organized by explanatory variable, the interaction between explanatory variables is pointed out where necessary.

7.1 Effect of judicial independence

Recall the mechanism through which judicial independence affects outcomes. Judicial independence decreases uncertainty about the future actions of regulators and politicians because it limits their freedom of action in accordance with previously promulgated statutes. In particular, arrangements based on private property and competition will face lower chances of reversal when judicial independence is greater, thereby eliciting the commitment of private investors and hence the success of the arrangements. In testing the effect of this variable, we should look then for specific elements of ESI restructuring outcomes that rely on judicial enforcement in countries with higher judicial independence, or conversely that keep enforcement in the hands of the executive or the legislature in cases of low judicial independence.

Chile

There are several elements of the Chilean ESI restructuring that imply a substantial degree of reliance on judicial enforcement. First comes the vagueness of the legal texts regulating the restructured ESI. In general, greater vagueness of legal statutes requires greater judicial interpretation to clarify specific instances of the law. While the basic Chilean ESI restructuring act, DFL No.1, is fairly detailed about the various aspects of rate-setting and other matters, implementing regulations were never written, which increases the possibility of disagreements between regulators and utilities over the least defined aspects of the decree. For instance, disputes over distribution rates between the regulatory commission and the utilities are to be solved by means of a "Salomonic" weighted average of the rate-setting parameters obtained by each side, rather than through more specific ratemaking instructions. This has invited, of course, high cost of service claims by the utilities, sometimes even 50% higher than the CNE numbers, which has in turn increased mistrust between the CNE and the utilities and led to numerous requests by the utilities for court injunctions against the CNE (Blanlot, 1993). The vagueness of legal statutes in issues such as this one indicates that the drafters of the decree were confident of the ability of Chilean courts to inspire trust in ESI investors (investors have indeed been willing to go to the courts rather than to attempt to circumvent them, of which there is no evidence whatever).[31]

Even more strikingly, the Chilean ESI reform eschewed entirely the attempt to create a quasi-judicial independent regulatory entity and simply relied on the courts and quasi-judicial mechanisms like arbitration to protect the rights of investors and other stakeholders. Faced with a regulatory commission (the CNE) entirely formed by government ministers (three of whom head "political" ministries) and thus devoid of any semblance of independence,[32] the subsequent privatization of utilities could have failed if private investors did not have the confidence that arbitration and the courts would protect their interests adequately. Investor confidence in the courts is demonstrated by the fact that acrimonious fights between utilities and the CNE over issues such as the passthrough of productivity improvements to ratepayers have been solved through the courts rather than through political expedients such as lobbying the government to obtain preferential treatment[33] (which has not prevented the government, after the resolution of some of these disputes, from acknowledging imperfections in the law and making amendments to correct the flaws).

The promotion of competition also displays extensive reliance on the independence of judicial and quasi-judicial bodies. The antitrust system, created in 1973, consists of a series of antitrust commissions organized along the same pyramidal structure of the courts. As explained in the next subsection, the ideology of the Pinochet regime's decisionmakers, the "Chicago boys," led them to create a highly concentrated ESI market structure. When

[31]The regulatory framework for telecommunications is similarly ambiguous, and disputes about regulatory ambiguities have also been taken to the courts (Galal, 1996: 136).

[32] Decreto Ley Nº. 2.224 de 1978 [CNE constitutive act].

[33] This issue was resolved by the Supreme Court of Chile in 1997 after a lengthy court battle (*GPR*, 11 July 1997); another protracted lawsuit involved the unsuccessful attempt by the Chilean Government to break up the ENDESA-Enersis group on antitrust grounds (Raineri and Rudnick, 1998); for several other instances of litigation, see Blanlot (1993). By contrast, I am not aware of any disputes between the Argentine regulator and distribution concessionaires having yet reached the courts, nor I am aware of any such cases in Brazil or Bolivia, although the more recent chronology of reform in these countries biases the record against Chile (the longer the time elapsed since restructuring, the longer the probability of a lawsuit, all else equal).

subsequent governments and competitors hurt by ENDESA's market power sought to reverse the situation, they made use of the antitrust system rather than seeking to sidestep it through new legal acts or even extralegal measures.

The fact that decisionmakers under Pinochet chose to rely on a fairly independent judiciary might seem puzzling, since authoritarian regimes are by definition interested in controlling all levers of power. However, it is less puzzling when we consider the avowed objectives of the regime and its allies, such as the "Chicago boys." Pinochet and the "boys" saw their tenure in power as a transformational period, in which they would radically alter the economic and social structures of Chile to prevent the future recurrence of the pre-coup political and social conflict. They were thus keenly interested in creating or strengthening institutions that would preserve their policies after the end of the Pinochet regime. As Horn (1995) has pointed out, the usual channel for ensuring the permanence of institutional transformations is to delegate decisions and policies to independent bodies, so that future executives and legislatures will find it harder to reverse such transformations. The existence of a relatively independent court system in Chile offered the Pinochet regime a useful commitment mechanism for its project of economic and social transformation.

Argentina

As shown in the preceding section, Argentina has a history of political manipulation of the courts. Even the creation of the independent ESI regulatory commission, ENRE, was plagued by problems over the appointment of commissioners. The entity representing provincial interests, CFEE, wished to follow its own selection procedure for its allotted commissioner appointments, which conflicted with the government's attempt to control the appointment process; Menem further strained the spirit of the Electricity Act by imposing a candidate without congressional consensus (Bastos and Abdala, 1993: 264). Furthermore, in the Act itself and its regulations, the executive asserted its will to intervene in the regulatory process by making the sectoral executive agency (the Secretariat of Energy) the first instance for appeals of regulatory decisions, with judicial review only at higher instances. The executive also retained veto powers over decisions by the system operator (CAMMESA), which has been a cause of concern among ESI stakeholders (Bastos and Abdala, 1993: 274). The fact that such a context offers fewer assurances to ESI stakeholders than Chile's is not, however, reflected in either the ownership or competition choices made in the restructuring process.

Despite the fact that a high level of political intervention in the regulatory system diminished the degree of protection of investors' interests, the government chose to privatize its ESI holdings to the greatest extent possible. Likewise, a highly competitive market structure was created, together with extensive reliance on mechanisms to emulate competition wherever possible, even when the regulatory commission (ENRE), which is also the primary antitrust agency for the ESI, had been the object of political manipulation.

But if there was little assurance that their property rights would be respected and competition would be fair, why did private investors accept to participate in the Argentine market? The interaction between the explanatory variables can answer this question. As shown in the

preceding section, the architect of Argentina's economic reform, Cavallo, was fully committed to privatization and competition. His determination to privatize and introduce competition in spite of the lack of judicial independence was meant as a strong signal about the strength of his ideological commitment, which could at least partially substitute for the lack of judicial independence.[34] Investors would not mind a certain potential for government influence on regulation (and hence on property rights) and on competition if they were reasonably assured that the current government would take a position in favor of private property and competition, and future changes in government would not affect risk very much (either because the opposition party shared a similar ideology, or because investment was expected to be recouped quickly).[35] This possibility is also supported by the observed lack of lobbying of the executive by ESI participants since restructuring was undertaken. A government with a strong ideological position in favor of property rights and competition is unlikely to overturn judicial and regulatory decisions because judicial and regulatory independence is needed to support private property and competition. Thus market participants are unlikely to lobby the government if they perceive it to be ideologically committed to private property and competitive forces.

Brazil

Stakeholders in Brazil's ESI have ample precedent not only of political influence on the courts but more directly on the deleterious effects of political control over ESI regulation. DNAEE,[36] the predecessor of the current regulatory agency, was perceived as highly politicized;[37] of special importance was the meddling of the Ministry of the Economy to try to control inflation during the 1980s, because it decreased electricity rates in real terms so much that by the mid-1990s most electricity distribution utilities were practically bankrupt (Kirkman, 1997), which in turn motivated subsequent ESI restructuring efforts.

To deal with such precedent and the absence to this day of a regulatory framework that sets minimal ratemaking and other criteria (such as, for instance, the statutes enacted in Argentina, Bolivia and Chile), the Brazilian government has relied instead on concession contracts that offer very generous margins and limit regulatory intervention during a transitional period, so as to allow concessionaires to recover their investment quickly. Although contract enforcement falls under the responsibility of the courts, this type of arrangement actually involves *less* reliance on the judiciary than regulation by commission. The reason is that the concession contracts executed by the Brazilian government are less discretional than regulatory supervision (as allowed in Chile, Argentina, Bolivia or even Brazil after the transitional period), and therefore limit the potential need for court interpretation substantially. Rather than stating general principles of ratemaking that are then

[34] Interview with Alfredo Mirkin, former Secretary of Energy, Buenos Aires, 10 August 1999.
[35] By contrast, it would not have made sense to privatize with a competitive market structure if all the government wanted was to maximize privatization revenue due to budget deficit pressures. And an anti-inflationary goal could have been met more simply through a monopoly concession with a price cap.
[36] Departamento Nacional de Águas e Energia Elétrica.
[37] "Many [of DNAEE's] decisions were based not on improving operations or on making efficiency gains, but on alleviating political situations or repaying political favors" (Kirkman, 1997: B2).

interpreted by a regulatory commission and overseen if need be by the courts, the Brazilian concession contracts specify rigid pricing formulas based on official price indices.[38]

The restriction of competition in Brazil's restructured ESI matches the fact that Brazil's courts are not as autonomous as Chile's. Brazil's generation asset structure requires greater market power monitoring than that of the other cases, thereby making the need for judicial independence potentially greater too. Brazil's generation structure is almost unique in the world: it is dominated by a relatively small number of huge dams (including the largest dam in the world, Itaipu, which at 14,600 MW of capacity constitutes more than one-fourth of installed capacity in Brazil's main interconnected system); and the dams are located on just three river basins and have relatively little storage capacity. Dams like Itaipu affect market prices due to their sheer size, while upstream hydro facilities can affect the behavior of downstream units. This creates a higher degree of market concentration and interaction among generating units, and with it a greater potential for collusion, than in Argentina or Chile, where the role of thermal generation is greater[39] and (in Chile only) hydro plants are less concentrated in a few basins (Bolivia faces other difficulties due to small market size). A more aggressive antitrust stance is therefore needed in Brazil to make a competitive generation market work. But with relatively low historical levels of judicial independence, an impartial antitrust system may not be attainable.

Bolivia

In Bolivia even more than in Brazil or Argentina, the regulatory system began its life already politicized, as Sánchez de Lozada filled regulatory commissioner positions with his own appointees (Bowen, 1997). The consequences were soon evident: transmission rates were increased without a proper regulatory process prior to the privatization of the transmission company, to make it more attractive. Moreover, as shown in the preceding section the politicization of the regulatory system was not limited to electricity but was even worse for telecoms and banking regulators.

Given the magnitude of political meddling in the judiciary and in regulatory commissions, capitalization provides additional safeguards to private investors about future governmental behavior towards the utilities. Recall that capitalization involved not simply keeping 50% of utility shares in public hands, but using them to fund a pension plan for all Bolivians. By putting at stake the ability of the government to deliver on its pension promises—promises, because the pension plan is based on defined benefits, not on past contributions—the Bolivian government created a powerful commitment to respect the property rights of investors in the capitalized utilities, which included effectively all Bolivians. Therefore the establishment of a formally independent regulatory commission, which by itself would have been rightly regarded with skepticism by private investors, was powerfully supplemented by a mechanism that put the future pensions of all Bolivians at stake.

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[38] Hence a macroeconomic anti-inflationary goal cannot explain the choice of the concession terms, since indexing would defeat such a purpose. Note also the logic of the argument on the specificity of regulatory laws or concession contracts: more specific texts limit disputes over their interpretation, and hence diminish *both* regulatory *and judicial* intervention.

[39] Hydro plants account respectively for 93%, 60% and 44% of capacity in Brazil, Chile and Argentina.

Bolivia chose to promote competition in generation through a diversified ownership structure, and in distribution through yardstick competition. But keeping competition vigorous in a small market like Bolivia's[40] also requires aggressive monitoring and sanctioning by the regulator of any signs of market power abuse or collusion, as it would in Brazil although for different reasons. The choice of competition is thus hardly compatible with the very low judicial independence tradition of Bolivia.[41] Also, ideology is a less powerful predictor for Bolivia than for Argentina, so interaction with other explanatory variables cannot be argued in the Bolivian case.

Other predictions of the analytical framework are, however, borne out by the evidence. As the analytical framework predicts, generators have protested adverse regulatory decisions directly to the government rather than to the judicial channels specified in the regulatory commission statute (*GPR* 98/06/13: 16-17), since undertaking litigation under a politicized judiciary is less efficient than trying to influence the government directly. In contrast to the Argentine case, the lower ideological commitment to private property and competition of Bolivian policymakers encourages lobbying by private actors to obtain favorable outcomes in disputes with other participants or with regulators. The Bolivian government clearly overestimated investors' perceptions of judicial independence.

To conclude, three of the four cases confirm the hypothesis about the relationship between judicial independence and ownership choices, while competition and judicial independence are more weakly related. The relationship between judicial independence and competition is affected by ideology to a greater extent than judicial independence and ownership, perhaps reflecting the smaller role of the judiciary in protecting competition.

7.2 Effects of ideology

Countries with a stronger influence of orthodox economic ideas should show a greater reliance on private property and competition, while greater influence of nationalism or economically unorthodox ideas, such as structuralism or socialism, should be more inclined toward public ownership and monopoly.

Chile

The key ESI restructuring act (DFL No.1 of 1982) was issued at peak of radical orthodox influence, as shown by E. Silva's analysis of policymakers' backgrounds and decision structures in the Pinochet regime (1996, ch.6). Since a major hallmark in the law is the introduction of the competition in the activity of generation, and the use of a theoretical benchmark or "ideal company" for distribution ratemaking, issuance of DFL No.1 clearly confirms the hypothesis linking ideology and choices. The result is further confirmed by the

[40] "Small" in relation to the typical scale of efficient generation plants. Total installed capacity in Bolivia's interconnected system is about 600 MW, the size of a high-efficiency coal plant or of a single gas-fired cogeneration plant, although the minimum efficient scale for the latter can be as low as 50 MW.

[41] For the same reasons as in Argentina, it is also incompatible with macroeconomic goals of deficit and debt reduction, or of inflation reduction.

fact that in 1982, deregulation of generation activities was still a purely theoretical possibility, since no country in the world had tried it yet. The willingness of Chilean policymakers to test uncharted waters adds further evidence about the strength of their pro-competition ideology.

Likewise, ESI privatization took place in 1985 and beyond, confirming also the relationship between property choices and policymaker ideologies. In Chile, however, belief in the superiority of private property was not the only motivating ideology behind ESI privatization: nationalism also played an important role. Among the forces that opposed ESI restructuring were the military, who saw a strategic role for utilities (Bernstein, 1995; see also Allende, 1988, for "national security" opposition to privatization). The major ESI privatization decisions made under Pinochet were carried out in 1985-88 by a commission (formed by ministers of finance economy, planning, the development bank CORFO, and a representative of Pinochet), in which "the only civilians were the ministers of finance and economy" (E. Silva, 1996: 195). There is thus a very explicit linkage between the major privatization push under Pinochet and the influence of nationalist ideology during this period. The heavy presence of the military, most likely imbued with nationalism, in the privatization commission may explain the low participation of foreign investors in this process as implemented under Pinochet,[42] and shows that although privatization was carried out after the outset of Chile's debt crisis (which began in 1983 with the government's assumption of much of the foreign debt of domestic firms), the macroeconomic objective of debt reduction was not a primary motivator for privatization.

As the data in section 2 made clear, privatization created an oligopolistic market structure. This raises the puzzle of why would an orthodox, pro-competition regime produce such a skewed market structure. To solve this paradox, we need to recall from section 3 that the antitrust thought emanating from the University of Chicago has always been consistent with the rest of "Chicago" economic doctrine, which is notoriously libertarian. Chicago school economics is suspicious of natural monopoly arguments, and even more suspicious of the effectiveness of monopoly regulation and antitrust interventionism. As a result, in this school there is far less concern for market concentration and vertical integration than in other streaks of neoclassical economics. This explains why were the "Chicago boys" impervious to the privileged position given to the post-privatization ENDESA.[43]

Argentina

That ESI restructuring in Argentina bears the stamp of Cavallo is clearly shown by the sequence of events that led to the restructuring program. As the discussion of ideology in Argentina showed, policies favoring privatization and deregulation (that is, to increase competition) were not implemented immediately upon accession of the Peronists to the

[42] Stakes by foreign pension funds only appear in Enersis in 1989, and in Endesa in 1990 (Moguillansky, 1997: Tables 2 and 3).

[43] A similar disregard for market power was shown towards financial institutions prior to the 1982 debt crisis. Note also that the acceptance of a concentrated market structure is inconsistent with a macroeconomic goal of inflation reduction, since greater market power would in principle make it easier for generators to pass general price increases on to their customers.

presidency in 1989. State interventionism and public monopoly, or tolerance of private oligopoly if a consequence of import substitution, were still popular ideas in the Peronist party. Menem's own preferences appeared to lie with such ideas so long as they proved effective. The Menem administration was therefore reluctant to accept ESI privatization and deregulation for more than a year, until there were few alternatives left. In 1990, a first reform attempt was undertaken along the lines of the French state monopoly model: there would be a single wholesale price for the entire country, with differences only in distribution charges, since they were provincially controlled, there would be no privatization, but instead creation of a holding SOE, run through management contracts. This reform attempt failed because public finances were too weak to provide the required physical capital and retain the managerial expertise of the reform due to lack of capital for new investment, while there were few incentives for the efficient use of electricity (Bastos and Abdala, 1993: 81).

The new restructuring program, as described in section 5, was implemented upon Cavallo's accession and under his close supervision as Minister of Economy, Public Works and Services (Rausch, 1994), with the assistance of his appointee, Secretary of Energy Carlos Bastos, an academic and longtime associate of Cavallo from the think tank IEERAL (Friedland and Holden, 1996). Other domestic influences in the program were minimal: although the program was carried out under the special powers delegated to the executive under the Emergency Act, and as such it was subject to congressional approval (Emergency Act, Arts. 8 and 9), federally-owned electric utilities had already been pre-approved for restructuring (including privatization if necessary) in the Emergency Act (Annex I); also, a requirement for further legislative approval of the privatization process that had been included in the Electricity Act (Art.93) was eliminated in the Electricity Act's implementing regulations (Decree 1398/92).

Brazil

Available evidence indicates that the Brazilian ESI restructuring process is under substantial influence from technocrats in the former public monopoly Eletrobrás[44] and in the state development bank, BNDES, which is in charge of the privatization side. The old regulatory agency, DNAEE, and the new one, ANEEL, have had a limited impact, because they have not—so far, at least—been equipped with the level of technical expertise needed to provide a credible input into restructuring initiatives. The highly technical nature of some of the issues raised by restructuring in Brazil, such as the possibility of competition among large hydroelectric generators sited on a common hydrological basin, have kept the number of ideologically influential actors small.

The only other major participant in the restructuring debate has been a foreign consulting firm, Coopers & Lybrand (now Pricewaterhousecoopers or PWC), which was commissioned by the Ministry of Energy and Mines to draw a restructuring blueprint for the ESI in 1995. But the role of Coopers & Lybrand is itself debatable, for it amended its original report

[44] See the reactions by Eletrobrás staff to the original Coopers & Lybrand report, and the changes introduced in response by this consulting firm, in Coopers & Lybrand, n.d. See also Thomas and Tiomno T., 1997.

recommending an English-style structure[45] in order to please the anti-competition stance of Eletrobrás' staff and management (Thomas and Tiomno T., 1997). Whatever the reasons of Coopers & Lybrand for doing so, its willingness to accept Eletrobrás' views diminished very substantially its ability to make an independent ideological contribution to restructuring in Brazil.

The ideology of the *técnicos* (technocrats) of Eletrobrás and BDNES was explored in section 6. Eletrobrás is opposed to competition and privatization, while BNDES favors private property but is cooler to competition, since greater competition will make it more difficult for BNDES to get high prices for the assets put on the block. As an example of the tension between the two agencies, Eletrobrás is trying to keep transmission under its control, against wishes of BNDES (Dyer, 1997b; Friedland, 1997a). Also, in a privatization advertisement published in 1998, Eletrobrás' Chief Operating Officer Mário Santos was quoted as stating: "The strategy for expanding production must be kept under government control from the outset" (Government of Brazil, 1998a). The result of having left the major restructuring initiatives to Eletrobrás and BNDES is thus determined by the juxtaposition of the ideological interests of the two entities: in the area of privatization, where ideologies conflict, overall objectives have been muddied, while competition has been significantly restricted because the ideologies of the two entities in this regard are quite similar.

Bolivia

Bolivia's restructuring blueprint—and particularly the capitalization program—emerged as a compromise between a strongly nationalistic and collectivist ideology, still present in sections of the MNR and the main labor unions, and the market-oriented ideas of foreign-trained officials with international backing as well as Bolivian business associations. Although by 1989 a consensus had emerged among the major parties favoring orthodox ideas, preferences for public monopoly or concentrations of private ownership in import-substituting sectors were still common in the government party and especially in the union movement. As the urgency of new reforms diminished, the value of compromise increased, given the high political costs of direct confrontation in a fragile democracy. ESI restructuring is thus the product of compromise, introducing competition but leaving a element of public ownership through the capitalization program. And even in the case of competition, some restrictions were introduced to appease ideological opponents: the utilities were given a three-year initial monopoly in order to boost privatization revenues and preempt accusations of "selling cheap" (Hendrix, 1995).

The existing evidence points to Sánchez de Lozada as the undisputed originator of the idea of capitalization, rooted (according to his own statements in published interviews) on the traditions of kinship-based exchange of Bolivian society and dissatisfaction with the various methods of privatization in use around the world, especially in former socialist economies (Yergin and Stanislaw, 1998; Government of Bolivia, n.d.; *The Economist*, 1997). The social democratic credo of Sánchez de Lozada would make him comfortable with the compromise

[45] In 1991, the British government privatized the ESI in England and Wales and created a competitive electricity pool with mandatory participation for all generators and distribution utilities, as well as voluntary participation by large consumers.

of capitalization; at the same time, Sánchez de Lozada's international background, and extensive international connections with foreign and multilateral institutions gained as finance minister, make it possible for him to accept foreign investment as part of the capitalization program, and to promote competition in the ESI following the models of Argentina and Chile, which had already been implemented at the time of restructuring in 1995.[46]

The effects of ideology on ESI restructuring are therefore strong: in all cases, there exists a documented connection between the ideology of the main actors involved in the restructuring process, and the outcomes of the process.

7.3 Effects of distributional conflict

In countries with higher levels of distributional conflict, a higher level of public ownership and monopoly organization should be present at the end of the ESI restructuring process. Distributional conflict induces policymakers to preserve higher levels of public ownership and higher levels of monopoly, since they facilitate the extraction of rents to appease the parties involved in the conflicts.

Chile

Since political repression under the Pinochet regime kept levels of distributional conflict low relative to its previous history and to the other cases in the study, the allocation of subsidized utility shares to employees and other domestic interests during the ESI privatization process of 1985-89 would seem to contradict the hypothesis regarding distributional conflict and ownership. To some extent, this is the case: the onset of debt crisis in 1982 forced a sharp contraction in public spending and led to a rise in political and labor contestation, thereby inducing the government to increase redistribution in order to ensure that its reforms would not be reversed after the end of the regime (P. Silva, 1993; E. Silva, 1996: 183). Chilean utility privatizations did have the distributional objective of making the new ownership structure politically irreversible, by widely distributing the property and by buying employees off[47] (Maloney, 1994).

But distributional objectives were not the only objective, or even the main one, of the Pinochet regime in the mid-1980s (many other unpopular measures, particularly of macroeconomic stabilization, were also implemented). The relatively broad allocation of shares was also carried out to avoid the concentrations that led to widespread business failures in 1982 (when dollar interest rates shot up and Chile devaluated its currency) and the subsequent assumption by the government of one of the heaviest foreign debt burdens in Latin America (Hachette, Lüders and Tagle, 1993; Maloney, 1994). Allowing workers and

[46] Unfortunately, there is no similar evidence about the decision-making process that led to the competitive choice for the Bolivian ESI. Note, however, that creating several competitive generation and distribution entities weakens the position of their respective foreign investors relative to the government and is therefore consistent with the wish to placate nationalists.

[47] By contrast, there were no egalitarian intentions *per se*: "In Chile, however, there is simply no mention in any discussions of the [share distribution] program as a means of distributing wealth within society." (Maloney, 1994: 140). Also, survey data show little fear of employers about labor militancy (Payne, 1995).

other Chilean citizens to acquire shares responded as well to the nationalist ideology discussed in the preceding subsection. At the time of the privatizations Chilean stock markets were small (pension fund reform was still recent) and had been adversely affected by the debt crisis (which wiped out important financial intermediaries and caused the withdrawal of foreign portfolio investment); hence, the most practical way of keeping ownership in domestic hands while avoiding undue concentrations of ownership was through the special allocation programs used by the government, rather than through direct offerings in the stock market.

The design of the share allocation policy casts further doubt about the importance of distributional objectives for the government. The policy's effects on the distribution of income were actually rather limited. Preferential sales to employees favored mainly white-collar and management employees because the fragmentation of ownership into many shareholders with small holdings allowed the existing management teams to consolidate their control over the privatized firms in at least one major case[48] (Bitrán and Serra, 1996). The "popular capitalism" program of subsidized sale of shares to the population had even more modest effects on the share of the adult population owning stock. Only the most indirect means of ESI share distribution, the sale of shares to the privatized pension funds, did have a significant income redistribution effect. But even in this case, it is worth noting that in the Chilean case, pension scheme participants comprise only persons with legal employment contracts and thus many individuals who are not particularly poor—in a typical Latin American economy the poorer segment of the working population is comprised of persons working in the informal sector without legally mandated benefits[49] (Maloney, 1994).

Furthermore, ameliorating the negative distributional effects of privatization could not have been a major governmental objective, because prior fiscal restraint had forced public enterprises to adjust their prices and costs to become self-sustaining, so when they were privatized after 1982 the impact on consumers and employees was very limited. A study of the welfare effect of the privatization of Chilgener found modest gains for the domestic population in its "most likely" case. Only for Chilectra (the distribution company for the city of Santiago), did the same study find that privatization was distributionally regressive, since in this case the substantial reduction in theft of electricity that occurred after privatization hurt the poor (Galal *et al.*, 1994: 219, 240, 242, 248, 289).

Finally, it is possible that ESI restructuring in Chile might have had elements of "cronyism" because the privatization of Chilectra Metropolitana gave its control to regime "insiders," who were then allowed to take over ENDESA in 1989, turning these entities into a vertically-integrated conglomerate that dominates Chile's central electric system (Bitrán and Sáez, 1994; Friedland, 1996b; Moguillansky, 1997). Yet such a corruption story does not fit with the agile performance of Enersis-ENDESA after privatization, when energy losses in the distribution networks were cut from 23% to 9% and the conglomerate became a major regional force (Bitrán and Serra, 1995), which points to the competence of the management

[48] In fact, there is a possibility that the allocation of shares was distributionally motivated, but as a case of "cronyism" rather than as an attempt to buy potential opposition off. This possibility is discussed below.

[49] By contrast, the Bolivian "bonosol" program (discussed below) provides defined benefits to all persons 65 years old and older, which makes it more obviously redistributive.

team.[50] The corruption story does not match the chronology either, since ENDESA began to be privatized as a vertically integrated (G and T) utility with a dominant position in the generation market two years before the Enersis takeover.

Argentina

ESI restructuring in Argentina faced actual or potential opposition by strong unions, by provincial authorities, and by utility customers and suppliers. The potential for these forces to derail the restructuring effort was serious enough to influence the manner in which privatization took place.

To overcome the major divides of class, sector and territory, Menem's strategy for privatization "was to build coalitions and provide side payments to ensure cooperation. (...) He also redesigned the privatization program to allow the national industrial groups to participate in the ownership of the companies." (Molano, 1997: 103). An important goal of such measures was to split labor and business groups through a carrot-and-stick approach (Gibson, 1997). The Emergency Act of 1990 provided preferential access to the ownership of privatized companies to all groups benefited by them: minority shareholders, employees, customers, suppliers of inputs, and marketers of outputs (Art.16). It also provided for an emergency public works fund managed by the municipalities created to compensate workers laid off by privatized firms (Art.59), thereby addressing both labor and provincial opposition to the reforms.

Utility employees faced substantial losses under restructuring. Under public ownership, the utilities had offered very favorable employment conditions (Murillo, 1997), and not surprisingly utility employees had opposed privatization when the subject was brought up under the Alfonsín administration (González Fraga, 1991). In fact, privatization was marred by union opposition in several provinces well after the election of Menem and the passage of ESI restructuring legislation. In Río Negro, the privatization of the provincial distribution utility, Energía de Río Negro SA (ERSA), was contested by the local union for fear of job losses, despite the reservation of 10% of shares for the employees (*GPR* 96/08/23). Union opposition is also documented in Misiones, Córdoba, Mendoza and Santa Fe (*GPR* 97/04/18), and in Eseba's case in Buenos Aires province (*GPR* 97/05/02). Workers' concern was justified: just in SEGBA[51] (the metropolitan Buenos Aires utility), almost 5,000 jobs (out of the starting workforce of 17,000) were shed in the first year after privatization.

To defuse the threat of industrial conflict, which could have adversely affected the success of the privatization auctions, the government used a "carrot and stick" strategy. For the privatization of SEGBA (the first one to take place), it reached an agreement with the company union on 29 September 1989, including a provision to set 10% of the shares for the

[50] Further evidence of the standing of Yuraszek and his associates was revealed by the fact part of the strategic value attached by ENDESA Spain to the partial takeover of Enersis-ENDESA (see previous footnote) lay in keeping him and his team in charge of the conglomerate. Such value could not be derived from political connections, since Chile was under the democratic rule of a center-left government, and since ENDESA Spain's strategy concerned not just Chile but Latin America as a whole (*GPR*, various issues).

[51] Servicios Eléctricos del Gran Buenos Aires.

employees[52] (González Fraga, 1991). The unions, and particularly the major sectoral union FATLyF,[53] were subsequently able to negotiate other favorable deals as other utilities were privatized. For instance, FATLyF was able to acquire between 20% and 40% of the shares of fourteen generating plants throughout Argentina and participation in partnerships that own another three generators and a provincial distribution utility (Murillo, 1997). For the recalcitrant unions, the "stick" was the enforcement of decrees passed by the Menem administration that restricted strikes and wage increases (Murillo, 1997; McGuire, 1997: 224-240; Acuña, 1994).

A major problem of the Argentine ESI prior to restructuring was the arrears or even nonpayment of wholesale power purchases by the provincial distribution utilities, which contributed significantly to the cash flow problems of the federally-owned generators and through them, to poor maintenance, equipment degradation, and ultimately a burden on the national treasury. In effect, the distribution utilities enjoyed a "soft budget constraint" because the federal government was unwilling to cut off supply to recalcitrant provincial utilities. But to make restructuring successful, the federal government needed the cooperation of the provinces to impose hard budget constraints on the purchases of electricity of the provincial utilities (thereby avoiding the disruptive potential of higher credit risk and bankruptcies on the wholesale electricity market) and ultimately to privatize the distribution segment in full, as well as privatizing most of the hydroelectric units, which perform important flood control, irrigation and potable water supply functions in the provinces where they are located. In order to compensate the provinces for the need to pay for power purchases, the government created a number of tax and subsidy schemes meant to counteract the most adverse effects of competition for the provinces while preserving the viability of a nationwide wholesale power market.

Another set of interests adversely affected by ESI restructuring were the private subcontractors and suppliers of the public sector utilities, who due to lax audits of the utilities' books, poor managerial practices, and sheer corruption, were able to overcharge the SOEs. Logically enough, they opposed restructuring and lobbied the legislature to derail restructuring. In contrast with Chile (which was at the time of ESI privatization the only case of deregulation in Latin America and one of the few cases in the world), large users were allowed to participate in the wholesale electricity market, and competition was vigorously pursued through fragmentation of control over the privatized generation assets and other means. Also, the government's macroeconomic goal of price stability worked in favor of the interests of utility ratepayers, since the government preferred not to increase rates to get higher bids.

Brazil

The effects of distributional conflict in Brazil have been most clearly reflected in the severe restrictions to competition in the wholesale power market, rather than on ownership

[52] Other measures, of a more general nature that did not affect ownership or competition, included severance payments and voluntary retirement programs funded by the government and the World Bank (Harteneck and McMahon, 1996).

[53] Federación Argentina de Trabajadores de Luz y Fuerza.

outcomes. The highly territorial orientation of Brazilian politics, together with a pre-existing ownership structure of the distribution utilities organized on a state-by-state basis, came together to force the government to maximize the rents obtained from privatization by restricting competition and granting generous concession contracts. The economic and lobbying weight of business conglomerates has also pushed the government in a similar direction, inducing it to sell to the conglomerates the attractive shares of utilities operating in conditions of minimal competition.

In the ESI, union opposition has been minimal, despite the substantial layoffs that have followed the process. Union mobilization did not increase after the massive layoffs of utility employees that followed the first privatizations, such as Light's. In the first 18 months after privatization, Light's workforce was reduced by 40%, a loss of 4,500 jobs (Dyer, 1998), but union opposition never materialized—in fact, Light management's fears of personal harm from disgruntled ex-workers turned out to be unfounded (Moffett, 1998). The result of low labor opposition to restructuring has been that a reduction in the scale of the employee share ownership programs (ESOPs) in at least one major privatization. The employees of Rio Light, one of the first and major privatizations of distribution companies in the country, were only able to obtain 4% of shares at a subsidy, instead of the 10% that had originally been promised by the government (Kirkman, 1997).

The many political benefits of control over electric utilities at the state level have forced the Cardoso administration to negotiate with reluctant legislators in order to pass ESI restructuring laws in a highly territorialized legislature, and with the state governors to privatize the distribution utilities, which are mainly organized on a statewide basis. The need to provide favors in exchange for supporting votes has increased pressure on federal and state governments to provide generous concession contracts to the potential buyers, since favorable terms translate into higher sale prices which can then be used to alleviate the fiscal impact of buying off opponents of privatization.

The government was able to gather business support for restructuring by dangling the possibility of acquiring ownership stakes in the privatized utilities. Although the conditions of purchase were the same of foreign investors, as suppliers to the public sector and thus government creditors, the domestic business conglomerates would have had large amounts of government paper that they could redeem at face value to acquire ESI assets. Since government paper sold in financial markets at a substantial discount, the cost of acquisition was discounted as well. Diversified groups like Votorantim (with a basis in the production of concrete) or Camargo Correa (construction) are as a result becoming significant ESI shareholders.

Bolivia

As explained in section 5, Bolivian politics are also driven to a large extent by patronage. The design of the capitalization pension payoff, the *bonosol*, seems undoubtedly linked to the intention of dispelling public opposition to the restructuring of the ESI and other capitalized sectors. The first distribution of dividends was made two months before the 1997 presidential election (*The Economist*, 1997), although it failed to win Sánchez de Lozada a

second presidential term. Large customers or suppliers, on the other hand, do not appear to have influenced restructuring outcomes in a particularistic sense as they did in Brazil or Argentina, probably because Bolivia's industrial interests are far more limited due to the country's lower level of industrial development.

Given the recent history of militant labor opposition closely experienced by Sánchez de Lozada as finance minister of Paz Estenssoro, he wished to avoid "the way of doing politics in the dictatorship years, based on confrontations and unnegotiable positions" (Morales 1996: 32). To mollify union opposition, the government reserved a package of shares in each capitalization for its sale at book value to company employees for a year prior to the capitalization auction and in a second stage after the auction, still at the original price.

To conclude this subsection, distributional conflict has also played a large role in shaping the choices made by policymakers during the restructuring of the ESI in the four cases, either by limiting such choices or by imposing the need for compensatory payments that have in turn affected the shape of the restructuring programs.

8. Conclusions.

This paper has examined the determinants of institutional change in a specific industrial activity, the production and delivery to final users of electric power, using as empirical basis four case studies from Latin America. The analysis of institutional change has focused on two dimensions: the ownership structure of the various elements of the industry, and the degree of reliance on competitive mechanisms emerging from the change process. Three explanatory variables were posited to explain the outcomes for these two dimensions: the degree of judicial independence in the country, the preferences of policymakers as shaped mainly by their own ideology and where relevant by electoral or interest-group preferences, and the level of distributional conflict in the country. The results of the analysis are summarized in Table 8.1:

Table 8.1 Summary of results from comparative analysis of cases

	judicial independence		**ideology**		**distributional conflict**	
	low	*high*	*left*	*right*	*high*	*low*
ownership						
public	Bol		Bol		Bol, Arg (1), Br (1)	Chile (1)
private	Arg	Br, Chile	Br	Arg, Chile		
competition						
low	Br	Chile	Br, Chile (2)		Arg (1), Br	Chile
high	Arg, Bol		Bol	Arg	Bol	

Notes: shading indicates contradiction of hypotheses.

(1) In these cases, property is private or competition high, but payments of a redistributional nature are made to specific groups during the restructuring process.

(2) In Chile's case, ideology was libertarian rather than left-wing at the time of restructuring. It is included in this cell only to reflect confirmation of the hypothesis given the limitations of the tabular presentation.

Source: author, elaborated from various sources.

The four cases provide substantial evidence about the impact of the hypothesized explanatory variables on the institutional transformation of the ESI. Empirical confirmation is more extensive for ownership outcomes than for competition outcomes. Of the three hypothesized causal variables, ideology has the greatest explanatory power. In particular, ideological considerations appear to play a leading role in determining competition outcomes. The weaker explanatory power of the other two causal variables for competition outcomes may be the result of a lower public policy salience of competition decisions, which would give policymakers greater freedom to follow their own policy preferences. While ownership involves politically charged issues like foreign control and capital flows, competition is a technically more complex problem, particularly in the ESI where technological constraints are very significant. This is exacerbated in developing countries by many decades of import substitution, which accustomed consumers to highly concentrated domestic markets.

Distributional conflict also plays an important role in shaping institutional change, most often in the form of side payments to influential groups that alter the post-restructuring ownership structures. This may contrast with political economy models of interest group competition, in which greater competition leads to the mutual cancellation of the influence of opposing interest groups just like greater competition among firms erodes economic rents. The reality of politics is that greater competition can lead to paralysis and even chaos, as opposing groups resort to strikes, lock-outs, and other forms of protest and mutual punishment. Under these conditions, politicians may prefer to buy off any interest groups that have the potential to disrupt policy making and implementation.

Judicial independence has the weakest effect on either ownership or competition. This may be due to the transformational nature of the institutional changes that have been examined above. The reform of the ESI and similar infrastructural sectors entails the creation of entities and forms of public sector behavior *ex novo*, that is without precedent in the country's political and legal history. Policymakers may therefore disregard institutional precedents, such as the country's prior record of judicial subservience, as providing a poor guide for shaping the new institutions, or even as providing an example of what *not* to do.

The analytical framework presented in the paper should also be applicable to restructuring experiences in other countries and in industries of similar technology, such as water, telecommunications, or natural gas supply. Within Latin America, there are several other experiences of ESI reform that merit a brief contrast with the model. In Peru, the introduction of competition and privatization in the ESI has been tempered by restrictions on foreign ownership, the allocation of utility shares to their employees, and a politicized regulatory regime. This matches the country's recent history of left-wing and labor mobilization, a judiciary system ravaged by authoritarianism and corruption, and the "neo-populist" politics of President Fujimori (Roberts, 1995). In Mexico, nationalism, strong unions, and the key role of electricity in the ruling party's patronage machine have so far blocked attempts by U.S.-trained policymakers to restructure the ESI.[54] In Colombia, nationalism and patronage politics have also led reformers to adopt capitalization rather than

[54] The far-reaching proposal for the restructuring of the Mexican ESI proposed by the government earlier in 1999 has been stalled in parliament because of opposition by unions, parties outside the government, and election-year considerations. At present, the fate of the proposal is very uncertain.

privatization in some cases, and to make extensive compensatory payments to utility employees and other stakeholder groups.

As a rule, the reforms pursued in the ESI in each country parallel those undertaken in other infrastructure sectors; thus, the Chile government privatized its telecoms industry around the same time as the ESI, but as in the ESI failed to introduce competition until after the transition to democracy. Argentina's radical reform program under Cavallo also included hydrocarbons, water and sanitation, roads and railroads, and the mail, while the pre-Cavallo privatization of telecoms is widely acknowledged to be a partial failure. In Bolivia, capitalization involved not only the ESI but also other sectors such as hydrocarbons, telecoms and railroads. Finally, the Brazilian government's restructuring record is uneven, with extensive privatization and competition in telecoms, but not in hydrocarbons.

Moving beyond the application to specific institutions, the paper should also add to general theories of institutional change. First, the notion of judicial independence incorporates the "new institutionalism," since it brings in the past history of the judicial and legal system and cannot be easily changed, or at least improved. The paper also takes into account the power of ideas, which it finds to be a powerful determinant of outcomes. That this is the case in developing countries with weakly institutionalized party structures may seem counterintuitive, but in fact in these situations policymakers may face fewer pressures to bow to party consensus and fewer institutional limitations, such as constitutional doctrine and precedent. Additionally, ideology may be particularly important as a road map in instances of major institutional changes, when prior circumstances may offer little guidance. Finally, the power of institutions to shape the allocation of economic resources means that opposing distributional interests will fight hard to shape institutional change. Where there are many such opposing interests, we can therefore expect institutional transformation to be substantially affected.

The perspective followed above is limited in important ways, however. First, the analysis is limited to how are new institutions created, not to the actual impact of these institutions on economic performance, which has already received enormous attention in debates over privatization. Second, the forces identified and evaluated here may be of greater applicability in developing countries than in developed ones, where judicial independence is generally high, ideological consensus more prevalent, and the distribution of resources more egalitarian. Lastly, the analysis presented has a limited temporal scope. Institutional change is obviously not a one-way process, since institutions influence the distribution of resources, the ideological map of policymakers, and the independence of the judicial system. But analytical tractability requires the imposition of limits on the scope of research questions, while the low frequency and recent chronology of major institutional transformations in the ESI justifies treating ESI institutions as dependent variables.

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