

Deinstitutionalization and Institutional Replacement: State-Centered and Neo-liberal in the Global Electricity Supply Industry

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Abstract

We investigate the replacement of the traditional state-centered institutional model in the electricity supply industry with a market-oriented neo-liberal model in 83 countries. We argue that the societal legitimacy of an institutional replacement is central to its survival during the period following the replacement's adoption. We find that, in adopting countries, governments were more likely to subsequently impede private investors in the industry when the neo-liberal model was deemed to lack legitimacy. We provide empirical evidence on the role of multiple mechanisms that influence the legitimacy of an institutional replacement, including several that link reforms in a country to the influence multilateral lenders such as the World Bank and IMF, as well as to the behavior of peer countries. Specifically, institutional reforms associated with financial support from multilaterals and reforms that diverge from those in peer countries are associated with a higher incidence of ex post government intervention that impedes the process of the state-centered models' replacement with the neo-liberal model.

1 Introduction

Over the last two decades, the traditional state-centered model of electricity industry organization, characterized by state ownership and operation, monopoly structure and ministry oversight, has undergone a process of radical deinstitutionalization. In dozens of countries an alternative neo-liberal model of private ownership, competition and independent regulatory oversight has emerged. However, while 92 countries initiated elements of such a model from 1985-1999, resulting in the transfer of over one trillion dollars of assets to private ownership (Brune, Garrett, and Kogut, 2004; Kogut and Macpherson, 2004), the process of institutional replacement—the replacement of the state-centered model with a neo-liberal one—has in many jurisdictions met considerable resistance by specific organized domestic interest groups as well as society at large (Walton and Ragin, 1990; Campbell, 2004; Henisz and Zelner, 2005). In many countries around the globe, the resultant political pressure has led initially supportive governments to halt, reverse or renegotiate neo-liberal reform programs.

In this paper we adopt a neo-institutional perspective to examine the factors that have led governments to intervene in previously initiated reform programs in the electricity supply industry. We empirically demonstrate that, consistent with the predictions of neo-institutional theory, the perception of the neo-liberal model as legitimate is a critical determinant of the model's enduring survival as an institutional replacement.

Several conditions in particular affect the incidence of government intervention. First, in periods of financial or macroeconomic crisis, disaffected interest groups can more easily assemble a broad coalition in opposition to a neo-liberal reform program by portraying the program's adverse distributional consequences as *prima facie* evidence of its illegitimacy, increasing the pressure on government to intervene. Second, a reform program's association with

the influence of multilateral lenders such as the World Bank and IMF, which fosters perceptions of dependence and coercion, also reduces the program's legitimacy, increasing its susceptibility to government intervention. Finally, the occurrence of government interventions in influential peer countries—either trading partners or competitors in trade—has this effect as well

Other factors reduce the likelihood of government intervention by increasing a reform program's legitimacy. These include the passage of time since the program's adoption, improved industry performance, the internal consistency of the program, and the adoption of similar reform programs by peer countries.

In addition to examining the effect that these country-level, international system-level and industry-level conditions have on a neo-liberal reform program's sustainability, we also examine the effect of investor characteristics on the susceptibility to government intervention of investment projects initiated under such a program. We find that investor coalitions with greater local experience, with greater international experience in countries with similar reforms, that originate from home countries that have similar reform programs, and that originate from home countries that are large relative to the host country, are better able to avoid government interventions.

The most significant theoretical contribution of our analysis is the insight that the mechanisms of deinstitutionalization—in this case, the relative weight of domestic forces versus external ones such as the World Bank and IMF in compelling the elimination of the old state-centered model—influences the success an institutional replacement—in this case, the neo-liberal model. We also contribute to the debate on the efficacy of multilateral lenders' "conditionality" policies, which require borrowing countries to adopt market-oriented structural reform. While the World Bank and the International Monetary Fund are increasingly aware of

the importance of political as well as of economic conditions for the success of their lending programs (Dollar and Levin, 2005), our arguments and empirical findings suggest that multilateral lenders should also take into account influences identified by neoinstitutional theory by placing greater weight on mechanisms that enhance the legitimacy of desired reforms.

2 The Deinstitutionalization of the State-Centered Model

2.1 Antecedents of Deinstitutionalization

The reform of the state-centered model of electricity supply is consistent with Oliver's model of the prototypical political and functional "antecedents of deinstitutionalization" (Oliver, 1992: 566). State-owned enterprises (SOEs) in the electricity supply industry in many countries, especially those at developmental stages, have faced a "mounting performance crisis" of electricity shortages and blackouts; "conflicting internal interests" between the political objectives of equitable and affordable supply and full employment and the technical objectives of reliability, cost-recovery and macroeconomic growth; "increasing innovation pressures" in the form of new generation and control technology; and "unexpected, irrefutable events...[that] discredit[ed] or challenge[d]" the underlying model such as supply failures.

Performance deterioration was frequently a result of cumulative investment and hiring decisions that served political rather than economic objectives (World Bank, 1995; Savedoff and Spiller, 1999). For example, SOE power plant construction decisions in many jurisdictions placed greater importance on providing electricity and jobs to consumers in outlying areas than on economic cost-benefit calculations. Pricing decisions tended to reflect political goals which, in the long run, undermined sectoral performance: retail pricing schedules subsidized certain classes of consumers, often increasing rates for industry. Political actors also shored up electoral

support by freezing nominal electricity prices for long time periods so that full cost recovery became impossible. Years of uneconomic construction and operation in which SOEs' costs had exceeded their revenues eventually necessitated cutbacks in new construction and even the maintenance of existing facilities, resulting in increasingly obsolete plants and equipment and high network line losses (International Energy Agency, 1999). Exogenous shifts in factor input and demand conditions during the 1980s further strained state-owned systems, while sharp increases in fuel prices resulting from the twin oil shocks increased the magnitude of sectoral budgetary pressures.

By the 1990s, the economic and performance consequences of decades of politically-motivated management had reached a level in many countries that threatened the physical and financial stability of the electrical supply system. Sectoral deterioration also had implications for broader macroeconomic growth due to mounting public sector debt burdens (Little, et al., 1993), partially driven by the borrowing of state-owned electricity companies (Petrazzini, 1995). Indeed, this burden was so large in some countries that it precipitated a full-blown macroeconomic crisis.¹ Even in the absence of an indirect effect on economic growth via a debt crisis, economic growth could still come under direct threat from reduced system reliability that generated brownouts or even blackouts – as was especially apparent in Central Europe following the collapse of the communist bloc in 1989. In sum, clear performance shortfalls, growing conflicts between political and both sector-level and economy-wide economic objectives, higher factor prices and, frequently, the trigger of blackouts all combined to contribute to the eventual deinstitutionalization of the state-centered model (Oliver, 1992).

¹ For example, public electricity debt accounted for over one quarter of all government-issued debt in Thailand in 1990 and in Argentina in 1999 (Badaraco, et al., 1996; Ryder, 1997).

During the period when many countries were struggling with sectoral management and performance, an alternate, neo-liberal model for the electricity industry emerged from Chile and the United Kingdom. This model combined the separation of regulatory from operational authority, depoliticization of regulatory control, privatization of state-owned electricity assets (especially generation), and the liberalization of entry into electricity supply. The emergence of new gas-fired small scale power plants radically altered the minimum efficient scale of electricity generation and coincided with the development of control technology that allowed better coordination among independent generation facilities. For the first time, this enabled the generation component of electricity production and distribution to be organized as a competitive rather than monopoly business.

The international financial community and multilateral lenders rapidly championed structural reforms based on the neo-liberal model. These institutions were able to provide financial resources to national governments facing imminent or actual sectoral or economy-wide crises and who required new funding options to operate failing electricity systems and to restore liquidity to public coffers. Beginning in 1993, however, multilateral institutions required borrowers seeking loans for the electricity supply industry to initiate institutional replacement with the neo-liberal model.

2.2 Coercion: Legitimacy vs. Power

A substantial body of work argues that a powerful, legitimate actor's sanction of a potential institutional replacement facilitates its adoption by dependent actors (Tolbert and Zucker, 1983). Policy reforms adopted in response to legal coercive influences (such as reforms adopted by state governments in response to pressure from the central government) are often assumed to enjoy an initial positive evaluation by actors in the adopting organization, which

confers “morally-based” legitimacy (Suchman, 1995) on these elements and allows them to survive for a sufficiently long period to undergo the process of institutionalization and to attain “cognitively-based legitimacy” (or “taken-for-grantedness” (Suchman, 1995)).

The issue of subsequent impediments to institutional replacement has received considerably less attention, however. Tolbert and Zucker (1983) write that new elements of formal structure,

“...once legitimated by higher level organizations, through legal mandate or other formal means, [are rapidly incorporated by] dependent organizations. This adoption is seldom problematic when the elements have high face validity and there is common agreement concerning their overall utility. However, under certain conditions, strong resistance can develop.” (Tolbert and Zucker, 1983: 27)

The authors pose as examples of such conditions a lack of consensus on the value of a new element of formal structure and the presence of strong opposing coalitions or interest groups, but they “do not explore the conditions underlying such resistance” (Tolbert and Zucker, 1983).

We focus on the conditions when no such legitimation occurs, and when a powerful actor coerces the adoption of a potential institutional replacement on the basis of its power alone (Weber, 1978; DiMaggio and Powell, 1983). Compared to institutional replacements that the dependent actor adopts of its own accord, a “coerced” institutional replacement is less likely to become institutionalized in the long term, and investors whose activities are governed by this model are more likely to encounter inimical government interventions in their operations.

Prior research has considered how coercive pressures can generate the formal adoption of a reform but a decoupling of the actual behavior of actors from the “myth and ceremony” of

compliance with the letter of that reform (Meyer and Rowan, 1977; Westphal, Gulati, and Shortell, 1997; Staw and Epstein, 2000). In contrast, only two smaller bodies of work consider, as we do, the determinants of impediments to institutional replacement. The literatures on social movements (Barkan, 1984; Griffin, Wallace, and Rubin, 1986; Kerbo and Shaffer, 1992) and procedural justice (Tyler, Rasinski, and McGraw, 1985; Tyler, 1994) have considered the mechanisms that individuals (or interest groups) use to impede the adoption of reforms favored by powerful external actors who lack legitimacy. We build on these micro-level studies by using neoinstitutional theory to analyze the conditions under which macro-level (i.e., country- or industry-level) reforms adopted in response to such influence are likely to face impediments to institutional replacement.²

3 Domestic and International Influences on Institutional Replacement

Neo-liberal reforms implemented in the aftermath of the deinstitutionalization of the state-centered model for the electricity supply industry lacked cognitively-based legitimacy at the time of their introduction because the social process of institutionalization is a lengthy one (Suchman, 1995: 582). “Cognitively-based legitimacy” derives from an entity’s widespread, implicit acceptance resulting from the long-term process of “institutionalization” (Zucker, 1987). Potential replacements to existing institutions can encounter impediments to their institutionalization. Unlike established institutions, whose consequences, procedures and structural type (Suchman, 1995: 579-81) are largely beyond normative evaluation, the consequences, procedures and structural type of a potential institutional replacement are explicitly subject to such evaluation by actors in society. If positive, this evaluation may imbue

² For an analogous treatment of legal systems that are found to develop more effectively if they are developed indigenously as opposed to transplanted see Berkowitz, Pistor, and Richard (2003).

an institutional replacement with “morally-based” legitimacy (Suchman, 1995: 579-81) and investors operating under the rules of that institutional replacement will have greater assurance that it will successfully replace its predecessor. If negative, however, this evaluation may trigger organized resistance to the institutional replacement. Investors operating under such conditions may be the targets of government interventions whose goal is to undermine or alter the institutional replacement.

Such efforts are typically initiated by the organized interest groups (Olson, 1965; Stigler, 1975; Peltzman, 1976; Becker, 1983) that are most dissatisfied with how the institutional replacement accommodates their interests (Holm, 1995; Sjöstrand, 1995; Greenwood and Hinings, 1996; Seo and Creed, 2002). A common source of dissatisfaction is the institutional replacement’s distributional consequences (March and Simon, 1958). When these primary change agents are insufficiently powerful on their own to move the issue onto the policymaking agenda (Kingdon, 1984; Hilgartner and Bosk, 1988), they may enlist the support of a broad range of “secondary” groups—other organized interest groups and diffuse, unorganized groups whose members are marginally affected by institutional replacement—that together are capable of capturing policymakers’ attention (Lipsky, 1968; Schumaker, 1975; Jenkins and Perrow, 1977; Denzau and Munger, 1986; Baumgartner, 2002). The core techniques that primary change agents use to mobilize secondary groups revolve around “framing” (Benford and Snow, 2000) the institutional replacement’s consequences, procedures or structural type (Suchman, 1995: 579-81) as conflicting with pre-existing “cultural preoccupations and political biases” (Hilgartner and Bosk, 1988: 63; McFarland, 1991).

In the context of the electricity supply industry, the replacement of state-owned enterprises with (foreign) private investor organizations in the neo-liberal model offers change

agents a prominent target for such an appeal. Whereas the wholesale repeal of recently adopted laws, regulatory structures and policies is extremely costly³, interest groups can effectively undermine the neo-liberal model by challenging the operations of individual or broad classes of investors. Such challenges impede the institutionalization of the neo-liberal model and lead towards the adoption of a hybrid model in which selective intervention by governments maintains some of the original political purposes of the state-centered model. We now consider the conditions under which we are more or less likely to observe government interventions that impede the institutionalization of the neo-liberal model.

3.1 *The Triggering Role of Crises*

The ability of disaffected interest groups to influence public opinion, and thus to target investors whose activities are governed by an institutional replacement, are greater during times of economic crisis (Campbell, 2004). Crises provide powerful images that these groups can use as “focusing events” (Kingdon, 1984: 106) to develop (or bolster) an “injustice frame” (Gamson, Fireman, and Rytina, 1982) based on prevailing domestic adverse economic conditions. Such a frame serves as an effective tool for enhancing the cohesion of the existing coalition and enfranchising secondary groups whose members did not previously regard the potential institutional replacement as a salient political issue (Andrews, 1997; Hoffman, 1999; Seo and Creed, 2002).

Other actors can assist organized interest groups in their campaign for change during a crisis. “Political entrepreneurs” including incumbent politicians, opposition politicians and non-governmental organizations (NGOs) may exploit crisis events in order to boost their own popular

³ In fact, we observe no such reversions in the 520 country-years in our dataset.

support (Jones, 1978; Schneider and Teske, 1992; Cox and McCubbins, 1993), especially during elections or other periods of political contention. McFarland's cyclical theory of interest group politics (1991) as well as the broader macroeconomic literature on political business cycles, which emphasizes how political actors can opportunistically manipulate policy levers under their control for the purpose of electoral gain (Nordhaus, 1975; Rogoff and Sibert, 1988; Alesina, 1989), are both illustrative. Media organizations with their own political agendas can play a role as well, especially in enfranchising diffuse, previously unorganized groups (Weingast, 1981; Levy and Spiller, 1994). Even members of the original coalition supporting the adoption of the institutional replacement are more likely to defer or compromise if the cost of delayed resolution is high and change in the institutional replacement—up to and including its elimination—appears to be an expedient solution (Alesina and Drazen, 1991; Fernandez and Rodrik, 1991; Drazen and Grilli, 1993).

Crisis conditions thus improve the ability of organized interest groups to impede an institutional replacement. Indeed, the conditions that a crisis creates can play the pivotal role in determining whether such a group is able to secure major (or punctuated) change rather than incremental change which is typically more common in the policymaking arena (Jones, Baumgartner, and True, 1998).

Hypothesis 1: Financial and macroeconomic crises are more likely to lead to government interventions that impede institutional replacement.

3.2 Association with Foreign Coercive Pressures

Despite evidence that nation-states retain substantial policy autonomy (Garrett, 2000), the scale and scope of international economic, political and social pressures that national governments now face is substantially greater than in previous decades (Riain, 2000; Guillén,

2001b).⁴ Multilateral financial institutions such as the World Bank and International Monetary Fund (IMF) have acted as agents of policy change by financing public programs in many countries since their inception in the 1950s. To the extent that multilateral lenders are unwilling to abdicate all aspects of program management to the borrower out of fear of the inherent conflict between the incentives of lender and borrower in the disposition of loan money (Mansuri and Rao, 2004), multilateral lending necessarily includes some degree of external coercive pressure.

However, as early as 1959, Per Jacobsson, the Managing Director of the IMF, asserted that “such programs can only succeed if there is the will to succeed in the countries themselves” (James, 1996: 109).⁵ Multilateral lenders and borrowing countries have disagreed on the meaning of and best means to encourage local “ownership” of required reforms (Helleiner, 2000; Khan and Sharma, 2003; Drazen and Isard, 2004), debating whether ownership means that either loan recipients “...drive the process... [including] the planning, the design, the implementation, the monitoring and the evaluation” (Helleiner, 2000: 2) , “do what [lenders] want them to do but... voluntarily” (Helleiner, 2000: 2), or something in between. Scholars have identified two fundamental sources of national resistance to the implementation of multilateral institutions’ policy prescriptions – the strength of societal national identity and the consistency of proposed reforms with national institutional attributes.

National identity. The process of adoption of an institutional replacement in response to an external organization whose influence derives from its power alone increases its susceptibility to change. A large body of research in the field of political sociology emphasizes the power of

⁴ See Guillén (2001a) for a recent interdisciplinary review of the globalization literature.

⁵ Quoted in Boorman (2001)

national identity and points to the consistency of a regulative institution's formation process with domestic procedural norms as a key determinant of the institution's legitimacy, and implicitly its survival (Lipset, 1959; Bendix, 1978; Razi, 1987; Bienen and Van de Walle, 1991).⁶ The prevalence of nationalism as an organizing force in the modern era (Meyer, et al., 1997) reduces the probability that a potential institutional replacement introduced by foreign actors will be deemed legitimate and thus increases the likelihood of government intervention in the operations of investors whose activities are governed by such entities.

Inconsistency of institutional attributes. Oliver (1991) provides the most complete treatment of this topic to date, arguing that the degree of an adopting body's dependence on the coercive actor, the strength of legal sanctions for non-compliance, uncertainty in the adopting body's environment, and consistency between the institutional replacement and other institutions in the same environment all determine the likely degree of resistance. Of these attributes, the last one—consistency—is especially germane in the current context. The domestic policymaking process, when not subject to external coercive influences, typically produces institutional replacements whose consequences, procedures and structural type are isomorphic to those of legitimate institutions (Campbell, 2004). During periods of crisis, however, domestic actors are more likely to suppress objections they would otherwise voice in the pursuit of an expedient solution (Alesina and Drazen, 1991; Fernandez and Rodrik, 1991; Drazen and Grilli, 1993) and defer to the preferences of external actors promising to deliver such a solution. As a result, externally-coerced institutional replacements are less likely to be isomorphic to legitimate institutions.

⁶ Similar arguments are made at the organizational level by Fox-Wolfgramm, Boal & Hunt (1998) who demonstrate that the consistency of a proposed institutional change with actors' "cognitive schema or perception of their organization's central and distinctive attributes" (Elsbach and Kramer, 1996: 442) is a pivotal factor in determining the level of observed resistance by bank workers to regulatory reform.

In trying to address the issue of why multilateral lenders would impose policies that undermine lenders' socio-political stability and economic ability to repay their loans, a number of contributions to this literature invoke the notion of identity, just as in the political sociology literature.⁷ Simply put, multilateral lenders are not part of the national political system of the lending countries, and exercise their policy influence through a process distinct from the regular national policymaking process. Because the institutional replacements that they put forth are inconsistent with other laws or statutes, they contravene the powerful psychological forces of identity and nationality, and are more vulnerable to government interventions that undermine or alter their form (Jasper and Poulsen, 1993).

On this basis, we propose that institutional replacements whose adoption are more heavily associated with foreign coercive pressures are less likely to be perceived as legitimate, and investors whose activities are governed by these entities are more likely to encounter government interventions in their operations.

Hypothesis 2: Foreign coercion in the adoption of initial institutional reforms is more likely to lead to subsequent government interventions.

3.3 Interventions and Analogous Reform Adoptions in Peer Countries⁸

3.3.1 Normative Emulation

Neo-institutional and world-society theories propose that, in addition to responding to coercive pressures, actors embedded in a social structure may adopt similar behaviors as they seek to conform to shared norms (DiMaggio and Powell, 1983; Mizruchi and Galaskiewicz,

⁷ A somewhat related line of critique explored forcefully by (Babb, 2003; Kogut and Macpherson, 2004) lies in the professional identity of multilateral lenders in the economics and financial sectors. Such professional training and prior experience may pose challenges in accepting the importance of institutional context, the psychological power of identity, and the political force of nationalism and fear.

⁸ This section currently draws heavily from Henisz, Zelner and Guillen (2005).

1993). This concept of “normative emulation” builds on the Durkheimian insight that social density is a determinant of social cohesion and behavioral similarity (Collins, 1994). In their quest to appear appropriate within their shared social context of social relationships (Coleman, 1988; Strang and Tuma, 1993), actors that are strongly connected to one another tend to imitate each other’s behavior patterns.

World-society scholars have long applied the concept of normative isomorphism to the country level of analysis, finding that policymakers emulate each other as a way to conform to shared norms and to maintain legitimacy (Jepperson and Meyer, 1991; Meyer, et al., 1997). Case-study and historical research document that government officials and bureaucrats continuously assess policy and organizational developments in other countries. Westney (1987) provides historical evidence for the Japanese case during the period of Meiji reform in the late 19th and early 20th centuries. Guillén (1994) and Djelic (1998) show that governments in Western Europe sought to emulate American productivity programs before and after World War II. A large number of empirical studies suggest that national-level policies on a wide array of dimensions directly reflect the level of normative conformity within a relevant social structure linking countries to one another.⁹

We propose that normative emulation is more likely to take place among countries that engage in transactions more intensely with one another. Sociologists studying globalization argue that the intensity of trade relationships reflects the density of the social network in which a given country is embedded (Van Rossem, 1996; Albrow, 1997: 25), and therefore the level of

⁹ Empirical studies emphasizing policy emulation among peer countries include Collier and Messick’s (1975) study of the adoption of social security systems, Kobrin’s (1985) study of oil nationalizations, Weyland’s (2003) work on the diffusion of pension privatization, Guler et al.’s (2002) study of the adoption of quality certification, Brune and Guisinger’s (2003) analysis of capital account liberalization, Polillo and Guillén’s (Forthcoming) study of central bank independence, and Fourcade-Gourinchas and Babb’s (2002) and Henisz, Zelner and Guillén’s (2005) studies of the diffusion of neo-liberal macroeconomic policies.

normative conformity within the network. Trade comes hand in hand with “cultural ties” (Waters, 1995: 40), and thus contributes to “establishing a relationship of identification as well as interdependence.” For example, Japanese success in exporting to the U.S. market prompted many American firms to experiment with such Japanese organizational techniques as total quality management and lean production (Strang and Macy, 2001). Moreover, research has shown that globalization is associated with more cohesive trading relationships (Kim and Shin, 2002). We argue that countries exhibiting more cohesive trade relationships are more likely to adopt similar patterns of behavior, either in impeding the adoption of, or in institutionalizing, a potential institutional replacement.

Hypothesis 3a: A country’s degree of trade cohesiveness with other countries that have experienced government interventions is positively associated with the incidence of government interventions in the focal country.

Hypothesis 3b: A country’s degree of trade cohesiveness with other countries that have adopted the same institutional replacement is negatively associated with the incidence of government interventions in the focal country.

3.3.2 Competitive Mimicry

Whereas normative emulation involves the isomorphic impact of the norms shared by socially cohesive actors, competitive mimicry refers to individuals’ and organizations’ tendency to cope with poorly understood technologies, ambiguous goals and unclear cause-effect relationships by imitating others that they perceive as their competitors. Pressure to conform arises from the need to prevent erosion of one’s market position and social and political status. Imitation becomes an effective strategy under conditions of uncertainty and bounded rationality

because it helps decision-makers to keep search costs within reasonable limits, to choose among alternatives and to legitimize their actions (DiMaggio and Powell, 1983; Mizruchi and Galaskiewicz, 1993). While scholars have typically examined emulation pressures at the organizational and individual level, we extend the same principles to the country-level of analysis (Campbell, 2004: 179)

Neo-institutional and network theorists conceptualize mimetic behavior in the context of competitive relationships in terms of either structural equivalence or role equivalence, which are associated with different notions of competition (Mizruchi and Galaskiewicz, 1993). Structural equivalence refers to the extent to which two actors are related to the same third parties (Burt, 1987). Thus, imitative behavior occurs in a context of competition for access to the same third-party countries' markets and suppliers. In contrast, role equivalence describes the degree to which two actors have similar types of relations to third parties (Winship and Mandel, 1984). What matters in this conception is not the specific identities of the nodes (the countries), but rather the nature of their relationship, which we define as trade in a particular type of product. Following the sociology of the world-system (Smith and White, 1992; Van Rossem, 1996), we define a country's role set to include the total amount of each individual product that it exports and each individual product that it imports. Role equivalence is the overlap between two countries' role sets.¹⁰

We employ the concept of role equivalence since it provides a measure of the degree to which countries face present and potential competition with each other in the same category of

¹⁰ Winship and Mandel (1984) define role equivalence using a nested pair of dyad-by-dyad distance measures but note that other approaches are possible.

products.¹¹ Countries that compete with one another in the same product markets are likely to adopt similar patterns of behavior in order not to lose market share to others (Guler, Guillén, and Macpherson, 2002; Pollilo and Guillén, Forthcoming). Suppose that countries A and B trade with the rest of the world in the same product categories, and are thus role-equivalent. Even when countries A and B trade with different third countries, government interventions (matching reform adoption) decisions by country A may increase (decrease) the incidence of government interventions in country B to follow suit for three mutually reinforcing reasons. First, the two countries are more likely to monitor each other and seek to learn from each other if they are competitors in trade. In other words, competitive relationships create a social channel for comparison, communication, and mimicry. Second, because the adoption of neo-liberal reforms sends a positive signal to the international financial and investment community, country B will likely imitate infrastructure reforms by country A if the two are role equivalent. Third, because government interventions transfer resources from private investors to the government, country B will feel pressure to imitate the intervention by country A to maintain competitive parity.

The latter two arguments are analogous to the idea that actors occupying equivalent positions in a social structure (peers) tend to imitate each other in order to enhance their own performance. As Burt (1997) notes, situations in which an actor has “many peers create a competitive frame of reference.” Competition invites the actor to be “tuned to peers’ job performance.” Accordingly, we expect role-equivalent countries to imitate their competitors in

¹¹ Structural equivalence, on the other hand, does not reflect meaningful competition in the context of trade. For example, if countries A and B each trade the same products to a different set of countries, they are role equivalent but not structurally equivalent. Conversely, if they each trade different products to the same set of countries, they are structurally equivalent but not role equivalent. Thus, two countries may be structurally equivalent (that is, trade with the same third parties) without trading in the same goods (Guler, Guillén, and Macpherson, 2002). In contrast, role-equivalent

order to maintain their economic status and social prestige in the network of trade. We therefore predict that:

Hypothesis 4a: A country's degree of role equivalence in trade with other countries whose governments have intervened in the operations of private investors is positively associated with the incidence of government interventions in the focal country.

Hypothesis 4b: A country's degree of role equivalence in trade with other countries who have adopted the same institutional replacement is negatively associated with the incidence of government interventions in the focal country.

3.4 Internal Consistency of the Institutional Replacement

A country-level factor that can influence the observed level of government interventions in an institutional replacement is that replacement's own degree of internal consistency (Lieberman, 2002; Campbell, 2004). The incompatibility of institutional components or the lack of tight coupling among such components (Oliver, 1992; Greenwood and Hinings, 1996; Seo and Creed, 2002) generates tensions and conflicts that can undermine the legitimacy of an institution in the eyes of key actors. We extend this basic argument to the domain of institutional replacements.

In our specific context, the neo-liberal model contains four elements: (1) the separation of regulatory from operational control; (2) the depoliticization of the regulatory authority; (3) the privatization of the operational authority; and (4) the liberalization of entry into and competition within the sector. Failure to implement all of these reform elements can give rise to internal inconsistencies that undermine the functioning of the institutional replacement and heighten calls for its repeal or modification. For example, the separation of regulatory from operational

authority or depoliticization of the regulatory authority, is of limited value when the regulatory agency is charged only with monitoring a state-owned monopoly. In the case of a private monopoly, regulation that has not been depoliticized typically leads to corruption. Moreover, whereas competition among multiple private operators may result in improved service and increased efficiency, entry into a “liberalized” market is unlikely in the presence of a politicized regulatory authority with close ties to a (previously) state-owned utility or powerful foreign investor. Empirical analyses generally find a positive link between clustering and performance of reforms, supporting this conceptual logic (Levy and Spiller, 1994; Gutierrez and Berg, 2000; Wallsten, 2001; Fink, Mattoo, and Rathindran, 2002). We thus predict that:

Hypothesis 5: The internal consistency of an institutional replacement is negatively associated with the incidence of government interventions.

3.5 Performance of the Institutional Replacement

Relatedly, in cases where the institutional replacement is associated with positive performance improvements, demands for government intervention will be muted and their realized incidence diminished (Campbell, 2004). Interest groups directly affected by the reforms in a negative manner will have greater difficulty in convincing secondary groups to join with them to lobby the government to return to the state-centered model or to construct a hybrid model. Objective evidence surrounding the superior performance of the institutional replacement will undermine efforts to frame it as illegitimate. We therefore predict that:

Hypothesis 6: The performance of an institutional replacement is negatively associated with the incidence of government interventions.

3.6 The Moderating Role of Vintage

Although investors whose activities are governed by institutional replacements associated with external coercive pressures are more likely to be confronted with government interventions, the hazard of such an outcome is diminishing over time. The persistence of an institutional replacement allows it to become “retrojected into consciousness in the course of [actors’] socialization” (Berger and Luckman, 1967: 60-61)” through the long-term process of institutionalization.

Hypothesis 7: The vintage of an institutional replacement is negatively associated with the incidence of government interventions.

3.7 Characteristics of the Investor Coalition

The conditions discussed above— the occurrence of a macroeconomic crisis, the extent to which the adoption of an institutional replacement has been influenced by foreign actors, interventions and adoptions in peer countries, the institutional replacement’s vintage, performance and internal consistency—are all country-level attributes that influence the expected level of government interventions faced by investors in a given country.

The prospect of substantial economic loss from conformity to the external mandates of the state creates strong internal pressures for organizations to resist government interventions designed to alter the neo-liberal model. However, investors themselves vary in their susceptibility to such government interventions. An organization’s information-based resources and capabilities affect its susceptibility to government interventions (Boddewyn and Brewer, 1994). Given the difficulty of assessing complex, evolving socio-political conditions, managers that can look to their own past experience for an analogue to guide their current search for an organizational response or for accumulated learning (Baum and Ingram, 1998; Baum, Li, and

Usher, 2000) are better equipped to make viable decisions under conditions of uncertainty. For example, Henisz and Delios (2001) find that prior experience in a specific country reduces the deterrent effect of cultural or market differences on a firm's decision to invest in the country. Lyles and Steensma argue that as a result of the wide diversity of institutional replacements governing infrastructure projects, investors' management of their relationship with the government is an important organizational capability and key "factor of success" in such projects (Lyles and Steensma, 1996: 70).

Prior investor experience in the host country, in third countries with similar institutional structures or in a home country with a similar institutional structure should all enhance the ability of an investor coalition to identify pivotal political actors (Holburn and Vanden Bergh, 2002; 2004), to manage their relationships with the polity, and to seek exemptions from government interventions - thereby reducing the investor coalition's likelihood of experiencing disadvantageous government interventions. The bargaining power literature (Fagre and Wells, 1982; Poynter, 1985; Kobrin, 1987) suggests that the size of the investor coalition relative to the government should also have a negative effect as it provides the investors with greater outside options for investment, smaller negative consequences from failing to comply with government terms and creates a greater dependence on the investor by the host country government. Hence:

Hypothesis 8a: Investor's experience in the host country is negatively associated with the incidence of reactionary government interventions.

Hypothesis 8b: Investors originating from home countries that have adopted the same institutional replacement as the focal country experience a lower incidence of government interventions.

Hypothesis 8c: Investor experience in third countries that have adopted the same institutional replacement as the focal country experience a lower incidence of government interventions.

Hypothesis 8d: An investor's size relative to the government of the focal country is negatively associated with its incidence of reactionary government interventions.

4 Methods

4.1 Sample, Data and Unit of Analysis

In order to test our hypotheses, we examine the investment history of, and incidence of investor-government disputes, in 1,056 private electricity projects in 83 countries during the period 1989 – 1999. These projects constitute the population of global private investments in electricity generation over this time period, as compiled by Hagler-Bailly, a private consultancy that monitors the global electric utility industry. The period chosen is the first decade in which countries began to adopt comprehensive neo-liberal reforms, starting with the U.K. in 1989. Following the lead of the U.K., the neo-liberal model diffused rapidly worldwide among developed and developing countries. In a small subset of countries (e.g., Germany and the United States), a substantial number of private investment projects predate our sampling period and are omitted from our analysis. We augment the Hagler-Bailly dataset with information gathered from international, industry and local news reports available through various online databases. We construct a panel dataset whose cross-sectional unit is an investment in a electricity generation facility by (a coalition of) investor(s). Our unit of analysis is the facility-country-year.

4.2 Dependent Variable

Our primary dependent variable is a dichotomous measure equal to one if according to published newspaper articles, in a given facility-country-year, there existed either a dispute between the government and the investor over compliance with contractual terms, or if the government initiated a policy change that affected the electricity generating facility. 196 such events occurred in our sample of 1056 projects (18.6%). A large team of research assistants compiled this information. Validation of the coding of the dependent variable by the authors and a PhD student indicated a very high degree of reliability. Table 1 illustrates the incidence of these events in selected countries. We provide more examples of the text of several such cases in Appendix 1.

Our coding of events is conservative since our measure captures only those disputes or policy changes severe enough to warrant press coverage. This biases our coefficient estimator downward, reducing the probability of finding a statistically significant relationship. In our sensitivity analyses, we also examine the robustness of our results to the disaggregation of the dependent variable into its two constituent components.

4.3 Independent Variables

Crises. We combine the coding schemes of Frankel and Rose (1996), Detragiache and Spillimbergo (2001), Hamann and Prati (2002), Beers (2003) and Kaminsky (2003), who collectively identify 10 different types of crisis including currency crises, banking crises, stabilization episodes and various forms of default, to construct a dichotomous measure of the existence of a financial or macroeconomic crisis in a given country in a given year.

Association with Foreign Coercive Pressures. We use the exposure of the country to multilateral lenders at the time of the reform to the electricity sector as a proxy for the degree to

which its population associates the institutional replacement with foreign coercive pressure. To avoid conflating the level of development of a country, its macroeconomic condition or its current state of dependence upon multilateral organizations with this proxy we separately control for these factors as discussed below. Where a country has undertaken reforms in multiple years, we calculate the average exposure to multilateral lenders across these various years. Exposure is measured as the loans outstanding between a nation and multilateral lenders as a fraction of the country's Gross Domestic Product., which we obtained from the World Bank's World Development Indicators. Table 2 displays the level of this variable in the year of initial reform as well as in 1999 for each of the 83 countries in our dataset

Normative Pressures for Emulation. We measure normative pressures for emulation by constructing a country-specific trade cohesion index that, for each market-oriented reform element, assigns greater weight to the interventions and adoption decisions of more closely-tied countries. The weight assigned to the adoption decision of each of a given focal country's trading partners is the share of the focal country's total trade with that partner. Trade is associated with the network of social ties between two countries; trade often occurs as the result of such ties, which are themselves strengthened by trade. Our measure of trade-based cohesion has been used by sociologists studying international diffusion patterns (Guler, Guillén, and Macpherson, 2002; Henisz, Zelner, and Guillen, 2005; Pollilo and Guillén, Forthcoming).

Pressures for Competitive Mimicry. We measure pressures for competitive mimicry by constructing another country-specific index in which the weights on the prior adoption decisions of other countries reflect the extent to which they are role-equivalent with the focal country, i.e., compete in similar international export and import markets (excluding petroleum markets). Role-equivalent country-pairs need not be cohesive. For example, country-pairs trading in similar

products to third countries in 1999 are Azerbaijan-Iran, Guatemala-Honduras, United States-Mexico and United States-United Kingdom. Of these four pairs, Azerbaijan-Iran is the least cohesive: only 3.6 percent of Azerbaijan's total trade is with Iran, and less than 0.5 percent of Iran's trade is with Azerbaijan. In contrast, the United States and Mexico are the most cohesive, accounting for 81.1 percent of and 11.3 percent of trade with each other, respectively.¹² Like our measure of trade-based cohesion, our measure of role equivalence has been used by sociologists studying international diffusion patterns. Data on bilateral trade in the industry classifications necessary to compute this role equivalence measure (see Guler, Guillen and Macpherson, 2002) are available from Statistics Canada and were subsequently modified for use by Robert Feenstra and made available through the Center for International Data at the University of California, Davis.

Internal Consistency. The economic literature on “sequencing” identifies four elements of neo-liberal reform that, when not adopted in tandem, are less effective to result in improved industry performance and may even result in reduced performance as the result of corruption. Outcomes such as these would likely reduce the legitimacy accorded to the neo-liberal reform program, increasing the likelihood of government intervention. The four elements are (1) de jure separation of regulatory from operational authority, (2) de facto depoliticization of the regulatory authority, (3) majority privatization of generating assets and (4) liberalization of entry and competition in electricity generation. We construct a series of indicator variables to capture other variations of institutional replacement observed in our dataset, and expect each of these

¹² Prior to the creation of the NAFTA in 1993, the United States-Mexico trade relationship was much less cohesive and role-equivalent than it was thereafter.

variations to have a higher level of government intervention than the “pure” neo-liberal model consisting of all four elements.

Performance. We use the change in the percentage of electricity lost in the transmission and distribution process since the initial reform year as a proxy for the change in the performance of the electricity supply industry.¹³ Data on electricity system line losses were obtained from the World Bank’s World Development Indicators.

Vintage. We create a variable measuring reform vintage that is initially zero for each country and increases by one for each additional year following the initiation of electricity sector reforms. The initial year of reform is that in which (1) regulatory and operational authority were separated; (2) the regulator became depoliticized; or (3) a majority of the shares of the state-owned generating company were privatized.

Characteristics of the Investing Coalition. We construct multiple investor experience measures by (1) calculating for each individual investor¹⁴ the cumulative number of years that it has been involved in each of its projects for each period, (2) summing each investor’s cumulative experience across all projects of a given type for each period, (3) multiplying the resulting figure for each investor by its equity stake in a given project, and (4) summing the resulting figure for all investors in a given investor coalition. Our investor experience variables are thus an equity-weighted measure of the experience of each investing coalition in countries of a given type. The specific types that we include in our specification are host country experience, experience in home countries that have the same institutional structure as the host country (i.e., have adopted

¹³ Lacking price and consumption data by consumer class across 12 years and 83 countries, we were not able to construct a measure of consumer welfare nor do we have the cost data for 1056 generation facilities that would additionally be needed to construct a measure of producer welfare.

¹⁴ Investor names were carefully screened to eliminate multiple names for the same firm as well as to take into account mergers, acquisitions and divestitures. In the latter cases, organizational memory, ties and influence were presumed to survive a change in ownership.

the same cluster of neo-liberal reform elements identified above), experience in other foreign countries if those countries have the same institutional structure as the host country.

We also construct a size measure (generation capacity) using an analogous method and then divide the measure by the total generating capacity of the host country to construct a measure of the relative size of the investor coalition as compared to the host country government.¹⁵

Other Independent Variables. We include the *per capita* income of the country to measure a country's level of economic development. We expect that, independent of our arguments about legitimacy, the material interests of consumers and private investors in poorer countries are more divergent, leading to a greater incidence of government interventions. We also include measures of the value added in a country in the industrial sector and its current level of exposure to multilateral lenders. We expect higher levels of these variables to capture alignment of internal (i.e., industrial users of electricity) or external (i.e., multilateral organizations) constituencies. Controlling for current multilateral exposure also partially addresses the concern that the initial multilateral exposure variable is merely proxying for countries facing severe economic dislocation. At the facility-level, we include a variable measuring the size of a generating facility (in megawatts) to capture its visibility or political salience. Both the per capita and size variables are logarithmically transformed to take into account their extreme skewness. Table 3 provides descriptive statistics and a correlation matrix for all variables.

¹⁵ Alternative measures of size based on financial or employment data are available for only a small subset of the firms in our dataset.

4.4 Modeling Procedure

We estimate the effects of independent variables on the occurrence of a dispute or policy change using an event history analysis, a technique that assesses the influence of a set of covariates on the incidence of an event using a longitudinal record of events in a sample from a population. In our model, each facility is at risk of an adverse event in each time period or until an adverse event occurs. This technique models the rate of a transition from an origin state to a destination state (adverse event) as a function of the covariates. Our primary specification employs a Weibull model,

$$h(t) = \rho\lambda t^{\rho-1}, \lambda = e^{X_{jt}\beta}$$

where $h(t)$ is the hazard function for a facility to transition from no event to an adverse event at time t , with the observed covariate row vectors X_{jt} and parameters to be estimated ρ and β (Blossfeld and Rohwer, 1995). We allow for each type of institutional replacement to have an independent baseline hazard and a different sensitivity to the passage of time, i.e., ρ is subscripted by reform type (Wei, Lin, and Weissfeld, 1989), resulting in a vector ρ . We allow for clustering in the variance-covariance matrix at the level of the facility.¹⁶

Preliminary data analysis uncovered substantial nonlinearities in multiple independent variables across the subsamples of crisis and non-crisis years. Given the extent of these nonlinearities and so as to facilitate interpretation of our results, we present the results for the full sample as well as results for the crisis and non-crisis subsamples.

¹⁶ Our results are also robust to clustering the standard errors by country or a country-year.

5 Results

5.1 Foreign Coercion and Mediating Variables

Table 4 displays our results for the full sample (column 1) and for the subsamples of crisis years (column 2) and non-crisis years (column 3). In all specifications, government interventions are less likely in countries with higher levels of *per capita* income and for smaller generating facilities.

In the full sample, we find statistically strong support for a positive association, as expected, between government interventions in cohesive (H3a) and role equivalent (H4a) countries and government intervention in the focal country as well as weak support for a negative association between adoption of analogous reforms by role equivalent countries and government interventions (H4b). Reforms that include only regulatory separation and depoliticization or the liberalization of entry are positively associated with subsequent government interventions (H5). This effect occurs via shifting the effect of time on the hazard of government interventions from one that is initially low and increasing over time to one that is initially very high and then decreasing over time. Increases in line losses since the inception of reform are positively associated with government interventions (H6). The vintage of a reform is negatively associated with government interventions (H7). Investor coalitions with higher levels of host country experience (H8a) and (weakly) experience in home countries with matching institutional replacements (H8b) experience fewer government interventions. Surprisingly, experience in other countries with matching institutional replacements modestly increases the hazard of government interventions.

Turning to the subsample of crisis years (column 2), we find strong support for almost all of our hypotheses. First, we observe a positive association between exposure to multilateral lenders at the time of reform adoption and subsequent government interventions (H2). We also

find a positive association between government interventions in cohesive and role equivalent countries and in the focal country (H3a & H4a). Consistent with Hypotheses 3b and 4b, we observe a negative association between the adoption of matching institutional replacements in cohesive and role equivalent countries and government interventions in the focal country. We also find a negative association between institutional replacements that lack depoliticized regulatory authorities (H5), the change in performance (i.e., reductions in line losses) under the institutional replacement (H6), the vintage of the institutional replacement (H7) and the incidence of government interventions. Finally, investor coalitions with more host country experience (H8a) and home country experience with matching institutional structures (H8b) are less likely to experience government interventions.

The economic significance of this last set of results is noteworthy. When all other variables (including current exposure to multilateral lenders) are held constant at their mean level and a country is in financial or macroeconomic crisis, investors in countries for which the multilateral exposure at the time of reform adoption is one standard deviation above the mean (e.g., Indonesia in 1996) have a predicted incidence of government intervention 63 percent higher than that for countries in which multilateral lending at the time of reform adoption is equal to the mean. The effect of country peers' decisions is similarly substantive: the predicted incidence of government interventions for an investor in a country whose peers (weighted according to trade shares (cohesion) or similarity in product trade excluding petroleum (role equivalence)) have one standard deviation above the mean government interventions are 35 and 100 percent more likely, respectively, to experience a government intervention. Similarly, the effect of peer countries adopting matching institutional replacements decreases the incidence of government interventions by 43 and 31 percent. Investors governed by institutional replacements

one standard deviation above the mean in vintage (i.e., 8.75 years) such as those in the U.K. or Honduras are 78 percent less likely to face government interventions. Investors governed by institutional replacements with one standard deviation above the mean improvements in performance (i.e., a 1.8% reduction in line losses such as occurred in Colombia up to 1999) are 38 percent less likely to face government interventions. Finally, investor coalitions with one standard deviation above the mean experience in the host country or in home countries with the same institutional structure are 72 and 30 percent less likely to experience a government intervention.

In the subsample of non-crisis years (column 3), we find less consistently strong results: value added by industry is again negatively associated with subsequent government interventions. Exposure to multilateral lenders at the time of reform is now, unexpectedly, negatively associated with government interventions. We also again find third country experience under matching institutional replacements to be positively associated with government interventions. In fact, in this subsample, we find support only for the positive effect of certain internally inconsistent reforms (H7) and the negative effect of the host country experience of the investing coalition (H8a) and the relative size or bargaining power of that coalition (H8d) on the incidence of government intervention.

5.2 Sensitivity Tests

In order to test the robustness of our results, we conduct several sensitivity tests. First, we disaggregate our dependent variable into its constituent components (unilateral government policy changes adverse to investor interests and bilateral disputes between the investor and the government). The results (available from authors on request) are virtually identical for unilateral policy changes but less robust for disputes. The sensitivity might be due to the small number of

cases in which a bilateral dispute was coded without a unilateral policy change (after caseswise deletion of observations with missing values, we have only 64 cases of a bilateral dispute as compared to 98 cases of unilateral policy changes and 132 cases of one or the other).

Next, we rotate in additional independent variables that might plausibly be related to resistance, but whose inclusion in our primary specification significantly reduces the sample size. These include the incidence of change in the political leadership of a country, the extent of a country's democratization and the government's share of national output in a country. Finally, we test the sensitivity of our results to our choice of the Weibull functional form by estimating the model using exponential, Gompertz, and Cox proportional hazard models. For the Cox models we also include country fixed effects. Once again, none of these alternative specifications has any substantive effect on our core results (results available from the authors upon request).

6 Discussion

6.1 The Sustainability of Institutional Replacements

Will the sanction of a new policy instrument by multilateral government institutions such as the European Union, Mercosur or APEC, lead to adoption by member states? What effect will the adoption of an organizational practice by an American firm have on its Japanese or Chinese competitors? How will the adoption of new practices by an American multinational's headquarters affect the organizational practices of its foreign subsidiaries? For policy-makers in public and private organizations, understanding the factors that lead to the adoption of, and resistance to, new institutional arrangements is an important aspect in designing reforms that survive over time.

The empirical phenomenon that we investigate is the institutional replacement of state-centered models for the electricity supply industry in 83 countries with a neo-liberal model. We

argue and find evidence that, particularly during times of crisis, the legitimacy of the institutional replacement in a given country is negatively associated with the incidence of government interventions that undermine or alter that institutional replacement. We find multiple mechanisms that influence the legitimacy of an institutional replacement including its association with multilateral lenders (-), the decisions by peer countries to adopt the same institutional replacement (+) or to undermine it with government interventions (-), the passage of time (+), the performance of the institutional replacement (+) and its internal consistency (+)

These results also speak to a larger class of phenomena. As the constraint of geography weakens due to globalization and technological change, political and economic organizations face increasing stimuli from international political and economic actors to deinstitutionalize many existing structures beyond just state-centered models for electricity supply and to develop institutional replacements that conform more readily to a market-based global economy. The impetus for such institutional change is increasingly distant in terms of identity and increasingly unlikely to enjoy cognitively-based legitimacy. As a result, the persistence of these institutional replacements will frequently be a function of the relative ability of change agents (and disaffected groups) to frame an institutional replacement as legitimate (or illegitimate).

Our results suggest that in each of these cases, resistance to the institutional replacement will be a function of (1) local environmental conditions that help opponents focus the attention of secondary interest groups on the legitimacy institutional replacement (e.g., poor economic results in the focal organization); (2) the association of that institutional replacement with a foreign as opposed to indigenous decisionmaking body (e.g., was the institutional replacement developed within the local organization or by a geographically distant hierarchical structure); (3) the adoption decisions of peer organizations or units (e.g., other countries or subsidiaries); (4) the

vintage of the institutional replacement; (5) the performance of that institutional replacement; (6) the internal consistency of that institutional replacement; and (7) the characteristics of the interested parties that enhance their ability to mobilize or diffuse resistance (e.g., the national identity of a local executive or the political sophistication of a local lobbyist).

6.2 *Multilateral Financial Institutions and the Backlash Against Globalization*

This research also contributes to the scholarly and policy literatures on multilateral conditionality, particularly as these literatures relate to the backlash against globalization observed in a growing number of developing countries. Prior literature within political sociology and comparative political science has examined the resistance to multilateral reforms. The key findings from this literature emphasize the role of urbanization and other local environmental factors in facilitating the organization of resistance (Walton and Ragin, 1990), as well as the role of domestic political structures that restrict discretionary policy change (MacIntyre, 2001). Similarly, the policy literature on means to enhance the domestic ownership of multilateral reforms emphasizes domestic political mechanisms that enhance the legitimacy of a reform. Neither literature considers the international influences on institutional replacement.

As most developing countries are likely to face periods of macroeconomic or financial crises and, by definition, have young institutional replacements, efforts to insure that these replacements are not just internally consistent and efficient but also that they are perceived to be indigenously developed, consistent with reforms in peer countries and otherwise designed to enhance their legitimacy in the host country context. While some internal policy studies of the World Bank and International Monetary Fund now emphasize the need for a greater emphasis on institutional fit in the domestic context, less attention has been paid to the fit with peers and to other factors that can contribute to the legitimacy of the neo-liberal model. While our analysis

focused on readily observable indicators, given the history of the state-centered model, local perceptions regarding equity objectives (e.g., employment, cross-subsidization and rural access) likely also play an important role. Many academics and policymakers, however, continue to cling to the notion that redistributive deviations from economic efficiency are unnecessary or counterproductive. Our results suggest that efforts to build legitimacy by meeting the equity objectives that were prominently addressed – albeit at great cost – by the state-centered model, may be necessary for an institutional replacement to the state-centered model to stand the test of time.

In the absence of such efforts, the political resistance that pure neo-liberal models are generating, despite their higher theoretical economic efficiency, could lead to their unraveling (e.g., the recent renationalization of parts of the Argentine electricity system). Resistance could also lead national governments to rally against the neo-liberal model in general, thus undermining multilateral institutions' ability to secure future institutional change. While multilateral actors may have as their goal the implementation of economically efficient reforms, the enactment and maintenance of these reforms is a political act that requires careful attention not just to the political incentives of fully rational economic actors, but also to the complex interplay of cognitive frames, interest group lobbying and international relations.

6.3 *Limitations and Future Research*

Although we believe that our analysis makes an important contribution, we also acknowledge several shortcomings. First, we did not expect to find such a strong role for financial and economic crises. In fact, in years without such stress and hardship, the majority of our hypotheses are not supported. Further research into the types of crises that trigger resistance and the mechanisms by which they do so is clearly warranted.

Second, we do not identify the mechanisms that opposed interest groups use to rally sympathetic but inactive peers to their cause. Additional research using comparative cases (e.g., Elsbach (1994)) or content analysis of media reports should seek to more closely identify the underlying processes at work. Only such micro-level studies can provide concrete operational guidance to political and economic actors seeking to enhance the survival of institutional replacements, or to their opponents seeking to resist the institutionalization of such changes.

Our results also do not speak directly to the underlying desirability of the adoption and institutionalization of emergent institutions supported by multilateral lenders. Particularly in the context of the normative debate surrounding multilateral conditionality, this is an important omission. Existing research already demonstrates the efficacy of the deregulation, privatization and liberalization of infrastructure services in general (Ros, 1999; Boylaud and Nicoletti, 2000; Fink, Mattoo, and Rathindran, 2002; Jamasb, et al., 2004). However, it is possible that this empirical result is an artifact of a selection problem. Early adopters may possess the requisite institutional structures that support market-oriented reforms, undertake such reforms independent of multilateral influence and subsequently enjoy welfare gains, while later adopters may lack supporting institutional structures, undertake reforms in response to multilateral influence and subsequently suffer welfare losses. The results obtained by analyzing efficiency among early adopters would thus lead to incorrect inferences about the potential gains to remaining countries due to the self-selection of countries with supporting institutional structures into the adopting sample. Further, even after data are amassed on countries that adopt reforms in response to multilateral influence, results obtained by pooling these two groups without distinguishing between them would reflect “mean” results, possibly suggesting the efficacy of market-oriented reforms and supporting further multilateral coercion if the former group dominates the pooled

sample. Future research should thus compare sector-specific economic outcomes (e.g., increases in electricity output, decreases in line losses or reductions in concentration of ownership) in countries that adopted deregulation, privatization and liberalization indigenously versus as a component of a multilateral lending program.

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Table 2: Exposure to Multilateral Lenders at Time of Reform and Currently

country	initial	current	country	initial	current
ANTIGUA	0%	0%	JAPAN	0%	0%
ARGENTINA	4%	4%	KAZAKHSTAN	9%	9%
AUSTRALIA	0%	0%	KENYA	29%	22%
AUSTRIA	0%	0%	KOREA	8%	3%
BAHAMA	0%	0%	LAOS	28%	35%
BANGLADESH	15%	15%	LUXEMBOURG	0%	0%
BARBADOS	0%	0%	MALAYSIA	2%	1%
BELGIUM	0%	0%	MALI	42%	48%
BELIZE	3%	7%	MEXICO	7%	3%
BOLIVIA	19%	17%	MOROCCO	10%	9%
BRAZIL	3%	3%	NEPAL	25%	24%
BURMA	0%	0%	NETHERLANDS	0%	0%
CAMBODIA	8%	9%	NEW ZEALAND	0%	0%
CHILE	10%	1%	NICARAGUA	31%	37%
CHINA	2%	1%	NORWAY	0%	0%
COLOMBIA	7%	3%	OMAN	0%	0%
COSTA RICA	3%	1%	PAKISTAN	15%	15%
CROATIA	2%	2%	PANAMA	6%	4%
CZECH REPUBLIC	1%	1%	PERU	5%	6%
DENMARK	0%	0%	PHILIPPINES	12%	7%
DOMINICA	6%	6%	POLAND	1%	1%
DOMINICAN	5%	2%	PORTUGAL	0%	0%
ECUADOR	7%	5%	ROMANIA	6%	6%
EGYPT	3%	2%	SAUDI ARABIA	0%	0%
EL SALVADOR	4%	2%	SENEGAL	34%	32%
FIJI	1%	1%	SINGAPORE	0%	0%
FINLAND	0%	0%	SPAIN	0%	0%
FRANCE	0%	0%	SRI LANKA	16%	12%
GERMANY	0%	0%	SWEDEN	0%	0%
GHANA	47%	44%	TAIWAN		
GUATEMALA	2%	2%	TANZANIA	46%	34%
GUYANA	58%	52%	THAILAND	5%	5%
HONDURAS	27%	22%	TRINIDAD	4%	1%
HONG KONG			TUNISIA	8%	7%
HUNGARY	5%	1%	TURKEY	4%	1%
INDIA	11%	6%	UAE	0%	0%
INDONESIA	22%	16%	UK	0%	0%
IRELAND	0%	0%	UKRAINE	7%	15%
ISRAEL	0%	0%	VENEZUELA	7%	1%
ITALY	0%	0%	VIETNAM	5%	5%
IVORY COAST	34%	23%	ZIMBABWE	15%	23%
JAMAICA	19%	7%			

Table 3: Summary Statistics and Correlation Matrix

<u>Variable</u>	<u>Obs</u>	<u>Mean</u>	<u>SD</u>	<u>Min</u>	<u>Max</u>
Policy Change or Dispute	(1)	6452	0.12	0.33	0 1
Crisis (0,1)	(2)	6452	0.52	0.50	0.00 1.00
Multilateral exposure at time of reform	(3)	6337	0.04	0.06	0.00 0.58
Cohesion weighted government interventions	(4)	4272	0.02	0.01	0.00 0.14
Cohesion weighted matching reforms	(5)	3906	0.18	0.16	0.00 0.74
Role equivalent weighted government interventions	(6)	4272	0.01	0.01	0.00 0.02
Role equivalent weighted matching reforms	(7)	3906	0.04	0.04	0.00 0.32
Reform Vintage	(8)	6452	3.24	5.50	0.00 38.00
Change in line losses	(9)	4200	-0.10	1.70	-9.69 9.78
Equity weighted coalition experience in host country	(10)	6335	8.52	10.74	0.00 77.00
Equity weighted coalition experience in matching home countries	(11)	6335	0.41	0.43	0.00 1.00
Equity weighted coalition experience in matching third countries	(12)	4473	7.92	9.30	0.00 69.00
Coalition relative (to host government) size (mw)	(13)	4119	21.82	260	0.00 3858
Megawatts (logged)	(14)	6366	4.89	1.41	2.30 8.50
Per capita Real Income (logged)	(15)	6362	8.82	0.90	6.08 10.79
Multilateral exposure (current)	(16)	4277	0.04	0.06	0.00 0.58
Value added by industrial sector	(17)	4224	32.62	7.65	8.94 54.95

<u>Variable</u>	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	
Crisis (0,1)	(2)	0.07															
Multilateral exposure at time of reform	(3)	0.07	0.06														
Cohesion weighted government interventions	(4)	0.17	0.03	0.11													
Cohesion weighted matching reforms	(5)	-0.01	-0.03	-0.12	-0.16												
Role equivalent weighted government interventions	(6)	0.10	-0.09	-0.21	0.56	-0.14											
Role equivalent weighted matching reforms	(7)	-0.07	-0.13	-0.10	-0.20	0.48	-0.15										
Reform Vintage	(8)	-0.11	-0.03	-0.06	0.12	0.01	0.13	-0.18									
Change in line losses	(9)	-0.06	-0.14	-0.13	-0.02	0.08	0.05	0.00	0.13								
Equity weighted coalition experience in host country	(10)	-0.03	-0.04	-0.18	0.18	-0.12	0.37	-0.17	0.12	0.07							
Equity weighted coalition experience in matching home countries	(11)	-0.13	0.02	-0.17	-0.06	0.19	-0.02	0.10	0.03	0.05	0.22						
Equity weighted coalition experience in matching third countries	(12)	0.03	0.02	-0.18	0.23	-0.02	0.40	-0.16	0.22	0.11	0.81	0.07					
Coalition relative (to host government) size (mw)	(13)	-0.03	-0.11	-0.06	0.09	0.06	0.12	-0.02	-0.07	-0.02	0.33	0.04	0.34				
Megawatts (logged)	(14)	0.20	0.04	-0.10	0.06	-0.06	0.07	-0.09	0.07	0.10	0.00	-0.14	0.08	0.06			
Per capita Real Income (logged)	(15)	-0.14	-0.24	-0.65	-0.09	0.01	0.26	-0.05	0.03	0.15	0.31	0.20	0.25	0.12	0.01		
Multilateral exposure (current)	(16)	0.15	0.12	0.89	0.22	-0.11	-0.15	-0.11	-0.11	-0.09	-0.19	-0.18	-0.17	-0.06	0.06	0.66	
Value added by industrial sector	(17)	-0.01	0.27	-0.26	0.00	0.16	-0.04	0.13	0.22	0.19	-0.04	0.03	0.06	-0.02	0.11	-0.21	-0.15

Table 4: Weibull Models Predicting Government Intervention

		<u>All</u>	<u>No crisis</u>	<u>Crisis</u>
Crisis (0,1)	H1>0	0.30 (0.25)		
Multilateral exposure at time of reform	H2>0	-1.18 (3.58)	-56.96** (18.19)	8.18** (2.58)
Cohesion weighted government interventions	H3a>0	19.35** (6.50)	-26.07 (24.63)	29.70** (9.47)
Cohesion weighted matching reforms	H3b<0	-1.00 (1.27)	-0.28 (1.30)	-3.48* (1.54)
Role equivalent weighted government interventions	H4a>0	46.94** (17.15)	-50.62 (27.02)	69.53*** (21.37)
Role equivalent weighted matching reforms	H4b<0	-9.93 (5.42)	-7.64 (8.26)	-9.09* (4.60)
Reform Vintage	H5<0	-0.13** (0.05)	-0.02 (0.02)	-0.28*** (0.04)
Change in line losses (higher line losses = lower performance)	H6>0	0.22*** (0.06)	0.12 (0.13)	0.28*** (0.06)
Equity weighted coalition experience in host country	H8a<0	-0.15** (0.05)	-0.17** (0.06)	-0.12* (0.059)
Equity weighted coalition experience in matching home countries	H8b<0	-0.52 (0.27)	0.17 (0.65)	-0.81* (0.036)
Equity weighted coalition experience in matching third countries	H8c<0	0.04** (0.02)	0.08*** (0.02)	0.028 (0.02)
Relative size (MW) of coalition (as compared to host government) X 100	H8d<0	-1.26 (1.69)	-0.38* (0.16)	-1.14 (0.69)
Megawatts (logged)		0.58*** (0.07)	0.76*** (0.15)	0.58*** (0.09)
Per capita Real Income (logged)		-0.95*** (0.19)	-3.16*** (0.44)	-0.97*** (0.28)
Multilateral exposure (current)		-6.81* (3.13)	-7.26 (15.83)	-15.19*** (2.80)
Value added by industrial sector		-0.05* (0.02)	-0.19*** (0.04)	-0.01 (0.48)
Regulatory Separation, depoliticization and liberalization of entry (0,1)	H7>0	-0.12 (0.82)	0.99 (1.90)	0.29 (1.28)
Regulatory Separation, majority privatization and liberalization of entry (0,1)	H7>0	-1.25 (1.74)	-2.81 (2.23)	0.49 (1.69)
Regulatory Separation and liberalization of entry (0,1)	H7>0	0.40 (0.89)	4.22* (1.77)	-0.44 (1.33)
Liberalization of entry (0,1)	H7>0	1.82 (0.87)	2.35 (0.19)	1.89 (1.30)
Constant		2.68 (2.12)	26.09 (4.69)	2.44 (3.06)
<i>Ancillary Parameters (i.e., differential time varying hazards)</i>				
Regulatory Separation, depoliticization and liberalization of entry (0,1)	H7<0	0.05 (0.24)	-0.23 (0.35)	0.03 (0.36)
Regulatory Separation, majority privatization and liberalization of entry (0,1)	H7<0	-0.23 (0.55)	0.07 (0.33)	-0.86* (0.37)
Regulatory Separation and liberalization of entry (0,1)	H7<0	-0.44 (0.27)	-0.93** (0.34)	-0.54 (0.38)
Liberalization of entry (0,1)	H7<0	-0.44* (0.22)	-0.76** (0.28)	-0.43 (0.34)
Constant		0.76** (0.24)	1.38*** (0.28)	0.73* (0.37)
N		3391	1393	1998
Projects		834	443	610
Failures		132	39	93
Log Pseudo-Likelihood		-338.05	-92.63	-195.35

Note: Hazard ratios reported above standard errors (in parantheses);
 ***, **, and * correspond to p-values < 0.001, <0.01 and < 0.05 respectively

Appendix 1: Examples of Text Leading to Positive Coding of Dependent Variable

[TO BE ADDED]