How Investor Portfolios Shape Regulatory Outcomes: Privatized Infrastructure After Crises

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Summary. — Many developing countries privatized utilities during the 1990s. Their weak institutional environments, however, make them prone to crises that generate incentives for governments to renege on contractual commitments to investors. To understand variation in post-crisis regulatory outcomes in such contexts, scholars must consider investors' prior choices regarding portfolio structure. Investors facing high reputational costs from exit are more likely to remain following expropriation, and those holding diverse assets in their contract jurisdiction, to secure compensation. These factors account for significant unexplained within-sector and subnational variation, for which we provide qualitative and quantitative evidence from Argentina's water and electricity sectors following the 2001 crisis.
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1. INTRODUCTION

Large literatures in comparative and international political economy examine the circumstances under which states can guarantee property rights and protect investors from political risks. Most analyses emphasize the importance of strong domestic institutions or international agreements that can serve as "substitutes" for such domestic institutions: scholars have argued that checks and balances (e.g., Henisz, 2002; North & Weingast, 1989), certain regime types (e.g., Jensen, 2003; Li & Resnick, 2003), and investment agreements (e.g., Büthe & Milner, 2008; Elkins, Guzman, & Simmons, 2006; Neumayer & Spess, 2005), help governments provide "credible commitments" to protect property rights and are thus associated with higher rates of investment and economic growth. [1]

This scholarly emphasis on institutions that provide credible commitments builds upon a classic literature in political economy that highlights important non-institutional sources of variation in political risk and business leverage. Kindleberger and Vernon famously argue that investors in capital-intensive sectors face an "obsolescing bargain" in which governments can renege on original commitments once firms have invested in fixed capital (Kindleberger, 1969, pp. 149–151; Vernon, 1971, pp. 46–53). Similarly, political scientists suggest that investors whose assets are immobile and cannot credibly threaten to exit exert little policy influence (Bates & Donald Lien, 1985, p. 61; Jensen, 2006, p. 3; Lindblom, 1977, p. 180; Winters, 1996). [2]

In this paper, we argue that while the classic focus on asset immobility and more recent emphasis on institutions offer important insights, scholars must examine additional non-institutional sources of variation to understand political risk and business leverage in weak institutional environments, especially the impact of firms' prior investment decisions on their subsequent bargaining power. This focus helps explain within-sector and within-country variation that these dominant approaches cannot explain. The infrastructure and utilities sector illustrates why this is the case. During the 1990s, dozens of developing countries privatized these services, expecting that multinationals would bring much-needed funds and technology: 133 low- and middle-income countries

privatized state enterprises in the telecommunications sector, 107 in the energy sector, 82 in transportation, and 61 in water and sanitation during 1990–2009 (PPIAF-World Bank, n.d.). Governments typically structured these privatizations as long-term contracts so as to allow investors sufficient time to recoup significant upfront expenditures in system upgrades and expansion. Much of the existing literature on utilities and infrastructure privatization has focused on the political rationale for privatization and its welfare effects, rather than on regulatory politics following privatization. [3]

Institutionalist perspectives suggest that private firms' infrastructure and utilities privatization contracts in weak institutional environments would be particularly vulnerable to the obsolescing bargain. Most developing countries have weak political institutions that accentuate economic volatility and susceptibility to crisis (Acemoglu, Johnson, Robinson, & Yunyong, 2003). Investors in utilities and infrastructure are particularly vulnerable to economic crises, which provide governments with incentives to renege on original contractual terms (Post, 2014a). Because utility services are consumed by

the majority of the population (Levy & Spiller, 1996), whose living conditions deteriorate as a result of crises, elected officials focusing on their political survival in the short run are sensitive to calls to revise contractual terms to the detriment of firms (Henisz & Zelner, 2005, p. 370); meanwhile, in weak institutional environments, governments face few barriers to responding to such political pressures.

Standard political economy approaches suggest infrastructure investments are particularly vulnerable in weak institutional contexts—to such an extent that recent scholarship on the obsolescing bargain suggests all firm-government negotiations will take place prior to market entry (Jensen *et al.* (2012, p. 16)). Yet there is significant variation in investor experiences following crises within single countries and sectors. For example, the Argentine government suspended all utility contracts and nullified the exchange rate guarantees they contained during the 2001–02 crisis, thereby reducing investor earnings in dollars by *two-thirds*. The post-crisis status quo thus marked a decided setback for investors. However, in the water and sanitation and electricity distribution sectors—both characterized by large sunk costs—investors varied in their willingness to continue operating in the country and in their subsequent ability to secure compensatory policies to help them adjust to post-crisis realities. One-third of these investors remained in the market until the end of 2009. Meanwhile, one-quarter of the investors present when the crisis hit eventually reached agreements with government authorities providing for rate increases, reductions in investment obligations, and state investment subsidies designed to compensate them for the devaluation and the government's suspension of contracts during the crisis. Scholarship on investor-government negotiations following the Asian financial crisis suggests that such variation is not unique (Wells & Ahmed, 2007, pp. 267–269).

In light of this significant and unexplained variation, we argue that it is important to consider not only levels of capital-intensity and institutions, but also how investor portfolios affect probabilities of market exit and success in negotiations with host governments following expropriation. We highlight two particular aspects of portfolio structure: *reputational exit costs* and *cross-sector diversification* within the contract jurisdiction. These portfolio characteristics vary across contracts, rather than only across countries or sectors, and thus add significant analytic leverage to existing theories.

Consistent with existing theories, we expect that exit costs associated with investments in physical capital will increase investor willingness to stay in the market. However, we also highlight the importance of the *reputational costs of exit*, which can vary significantly within capital-intensive sectors. Investors should be less likely to exit when their reputations with other domestic political actors, foreign governments granting new contracts, and international markets would suffer following departure.

Reputational exit costs, however, do not mitigate the obsolescing bargain. Firms are more likely to obtain policy concessions when they are diversified across sectors *within* the political jurisdiction that granted an infrastructure contract. *Cross-sector diversification* should increase the probability of reaching pro-investor agreements by opening up a wider set of possible negotiation outcomes—including those involving compensation for firms' losses through side-payments that benefit other operations—that may be more politically viable. While such agreements may be technically legal, they may also involve crony capitalism. Sector diversification can also augment firm leverage by increasing the firm's access to information, relevant social and political ties, and opportunities to influence local economic conditions and the quality of other services.

We provide an initial test of our argument's explanatory power through case studies and quantitative analysis in Argentina following its 2001–02 economic crisis. Drawing on an original dataset, we analyze the experiences of 53 investors holding majority stakes at some point in time in the 30 provincial and national contracts in the electricity distribution and water and sanitation sector. Argentina represents an ideal case because one can employ a comparative, subnational research design that controls for the type of economic shock, privatization program design, and government concerns about its international market reputation. During Argentina's post-crisis period, it is straightforward to measure our dependent variables, investor exit, and policy concessions to firms. The national and provincial governments' decision to suspend existing contracts following the crisis hurt all investors, who subsequently sought contract renegotiations to relieve them of some of the burden of post-crisis adjustment and considered exit when agreements were not quickly forthcoming. Because contract renegotiations followed a common template and, when reached, improved upon the post-crisis status quo for firms, they provide a rare opportunity to examine the conditions associated with agreements partially compensating investors for expropriation.

In the next section we present our analytic framework. We then explain our research design and data collection strategy. The following sections present our case studies and the quantitative analysis of the patterns of market exit and contract renegotiation for all provincial and national electricity distribution and water and sanitation concessions in Argentina. The last section discusses the broader implications of our findings.

2. BARGAINING UNDER DURESS: PORTFOLIO STRUCTURE AND REGULATORY OUTCOMES

In weak institutional environments, utilities and infrastructure contracts are incomplete; economic or political shocks provide prompts for renegotiation. Shocks such as economic crises often trigger shifts in economic fundamentals and prompt governments to enact policies that are detrimental to investors. Post-shock contract renegotiations occur between two parties, a host government and the lead investor.[4] We assume firms are interested in policies that improve their operating environment and profitability relative to the status quo. Host governments, in turn, prefer renegotiation agreements that are low visibility (e.g., that avoid immediate and large price hikes), that are not reached during competitive elections that increase their salience, and that avoid transferring responsibility for politically risky or deficit-ridden services back to the public sector.[5]

Standard political economy approaches suggest that investor patience and leverage in firm-government negotiations will vary with the institutional environment and degree of capital intensity. We provide additional analytic leverage through a complementary emphasis on investor characteristics, following the international business literature. While the international business literature has focused on factors like joint venture ownership (e.g., Henisz, 2002), investor origin and longevity in the market (e.g., Zaheer & Mosakowski, 1997), and business association membership (Pyle, 2009), we examine how investor portfolios affect (a) investor willingness to stay in the market following expropriation, and (b) if investors secure policy concessions.

(a) *Reputational cost of exit*

The political economy literature tends to assume that investors in capital-intensive industries have high exit costs due to the immobility of their investments.[6] Exit costs in capital-intensive sectors, however, can vary significantly. It is useful to distinguish between how prior organizational choices affect the *financial* and *reputational costs of exit*.[7] The *financial cost of exit* refers to the immediate impact of pulling out of a project on an investor's balance sheets. After crises, investors cannot expect to obtain compensation from new buyers commensurate with what they paid to acquire a contract or subsequently spent on fixed capital to meet contractual obligations; exit involves recognizing that these costs will not be recouped through future earnings. Such costs, however, can sometimes be recouped through international arbitration or political risk insurance.[8]

Reputational exit costs, in contrast, refer to the less immediate and diffuse costs of exit for a firm's reputation as a desirable partner for governments, as a competent operator, and as an attractive investment.[9] While the international political economy literature has highlighted how governmental concerns about reputation affect expropriation decisions, the literature has largely neglected how investors' reputational concerns affect firm-government bargaining.[10] Corporate reputations form when market participants observe firm behavior and draw inferences from their observations (Basdeo, Smith, Grimm, Rindova, & Derfus, 2006, p. 1205).

For utilities, an investor's reputation is affected by the perceptions of domestic and international audiences. When an investor pulls out of projects in the sector or region in which it specializes, this can threaten its reputation as a desirable partner with domestic political authorities. Government officials negotiating with utility investors possess incomplete information about their negotiating partners' performance and intentions, and therefore rely on firms' domestic reputations. Therefore, investors possessing regulated assets in other subnational jurisdictions in the same country, and who thus interact with other domestic authorities whose attitudes might be affected by their exit from the contract undergoing renegotiation, face high reputational exit costs. For example, investors holding multiple provincial-level water contracts in Argentina would worry that pulling out of one province would prompt provincial authorities to publicly blame them for a host of service problems and portray them as unsympathetic negotiating partners. This would weaken their reputations as competent operators and desirable partners, and hence their bargaining power, with authorities in other provinces where they held contracts.[11]

Second, an investor's reputation outside the host country is likely to suffer if it abandons projects in its chosen market specialization, either geographic or sectoral. For firms with a strong brand name in a particular infrastructure sector or a strong reputation for activities in a given country or regional market, pulling out may be perceived as admitting failure in one's area of core competence, which makes the investors less attractive to governments putting new projects out to tender, particularly in the same region. Exit can also signal incompetence to international markets. Sticking with a project in an investor's specialization suggests that management is capable of identifying good bets and that its specialization—sectoral and geographical—will offer returns.

Reputational exit costs are likely to be particularly important in infrastructure sectors because privatizations typically involve long-term, and hence incomplete, contracts with which neither governments nor firms completely comply. In addition, complex contractual provisions can be easily misinterpreted or misrepresented. This means that host governments can shift blame for project failures by accusing the investors of contract noncompliance or being responsible for political controversies, with accusations gaining quick circulation through media and NGO campaigns.

For example, the international press and environmental NGOs faulted US-based Bechtel for raising consumer water rates dramatically in Cochabamba, Bolivia following privatization, prompting social upheaval. However, government authorities actually approved the rate increase within the firm's original contract, a detail rarely mentioned by the international press.[12] As a result, the effect of the NGO campaigns and press coverage was to worsen Bechtel's reputation among would-be grantors of new water and sanitation privatization contracts throughout the developing world. News coverage of the Cochabamba "water wars" was especially strong in Latin America, making the event particularly important for governments in the region.

In the case of firm reputations with international capital markets in particular, it is possible that funders would prefer that firms exit privatization contracts that have not panned out as anticipated. They may worry that firms may "throw good money after bad."[13] While interviews at the beginning of our project suggested that international market actors were often more concerned with why management entered such projects or markets in the first place, our research design explicitly examines whether concerns regarding reputations with international audiences encourages or discourages investors from exiting projects following crises.[14]

Considering reputational exit costs—i.e., investors' perceptions regarding how information about their actions will affect the decisions of domestic or international actors with whom they are not yet interacting directly—promises to improve our understanding of within-sector variation in investor decisions to exit privatization contracts following shocks. High reputational costs of exit are likely to increase investors' propensity to remain in their contracts following expropriation (i.e., they create "forced loyalty"), even when investors fail to obtain policy concessions that help them adjust to the new status quo.

(b) *Cross-sector diversification*

While investor concerns regarding their reputational costs should affect exit decisions, another aspect of portfolio structure should affect both exit decisions and whether investors secure compensatory policies following crisis-inspired expropriation: cross-sector diversification *within* the contract jurisdiction. When investors possess multiple assets—regulated or unregulated in formal terms—in the political jurisdiction that granted their contract, they have multiple points of *direct* contact with host governments. Because utility and infrastructure contracts are typically structured as geographic monopolies, sector diversification in the contract jurisdiction facilitates direct interactions in multiple spheres. The multidimensional *direct* interface between investors and host governments under cross-sector diversification differs, importantly, from the *indirect* relationship between investors and domestic governmental actors highlighted in our earlier discussion of reputational exit costs. Reputational exit costs refer to cases where an investor's actions related to a particular project can affect the investor's reputation with government officials with whom it has no direct contact.

Why does cross-sector diversification within the jurisdiction that granted the privatization contract make investors more

likely to succeed in negotiations? First, it can increase investor *willingness to stay in the market*. Sectorally diversified investors will want to avoid having their remaining assets penalized should they exit from their infrastructure contract, particularly if they are earning well in other sectors. This will increase their patience. [15] Additionally, cross-sector diversification provides for *greater flexibility* in negotiations by increasing the range of settlements that investors can reach with governments—including deals that span multiple sectors and in areas less salient for voters. [16] In a politically contentious sector like infrastructure regulation, this increases the likelihood of an agreement because investor requests for improved revenue streams can be satisfied without granting consumer rate increases or direct governmental subsidies, which can fuel anti-privatization sentiment. Instead, investors can be compensated through policies affecting work in other sectors, such as land use permissions or public works projects. Such unofficial deals may involve cronyism. Finally, cross-sector diversification can *increase investor leverage* in negotiations for two reasons. Diversification increases the number of political and social ties an investor has in the local jurisdiction, thus improving its access to information and informal channels for affecting policy. It may also mean that host governments are dependent upon firms in multiple economic sectors for investment, employment and service provision, which in turn may increase firm leverage and constrain government actions.

In short, while both cross-sector diversification and reputational exit costs should encourage firms to remain in the market for longer periods, only cross-sector diversification should increase the probability of obtaining compensatory policies. Such policy concessions, however, may be insufficient to make projects profitable if they take a long time to secure. Accordingly, investors with high reputational exit costs alone will be most subject to the obsolescing bargain. These expectations are summarized in Table 1.

3. RESEARCH DESIGN

This study compares the explanatory power of our framework with that of alternative explanations by analyzing the relationship between investors and host governments in two sectors, electricity distribution and water and sanitation, in Argentina following its 2001–02 crisis. Focusing on post-crisis Argentina offers a number of advantages, given the unusual breadth and subnational character of its utility privatization program (30 contracts and 53 lead investors). Following federal government efforts to privatize utilities servicing the Buenos Aires metropolitan area, 14 Argentine provinces privatized their electricity distribution systems and 13 provinces privatized their urban water and sanitation systems. All privatizations followed a common policy template, the concession contract model, which kept infrastructure assets in state hands while assigning private sector operators investment and operational responsibilities. In both sectors, contracts were designed as geographic monopolies. Provinces

established regulatory agencies to monitor the providers' compliance with contractual goals. Provincial governments adhered closely to national contract templates, yielding an unusually large set of comparable contracts in both sectors. Focusing on varied investor experiences within Argentina also allows us to hold constant cultural factors, the national political environment, privatization program design, [17] the macroeconomic context, country concerns about the reputational consequences of regulatory decisions, and foreign investor access to international arbitration. [18] Studying both sectors helps us ensure that our findings generalize beyond one infrastructure sector.

Just as importantly, the conceptualization, measurement, and interpretation of our two outcomes of interest—policy concessions and market exit—are unusually straightforward in post-crisis Argentina because policies adopted immediately following the crisis provided a common prompt for renegotiation and exit. While scholars usually struggle to determine whether contract renegotiations benefit firms or host governments, firms were the clear beneficiaries in this case. Most concession contracts included exchange rate guarantees that would have triggered large increases in consumer rates following the January 2002 devaluation, which effectively reduced the value of concessionaires' revenue by two-thirds relative to the dollar. [19] Following the crisis, rate increases of this magnitude were clearly politically impossible. [20] In February 2002, 81% of the population opposed providers' demands to "adapt" public service prices to reflect their increased costs following the devaluation. In response, the national government and provincial governments suspended existing contracts and froze consumer rates at pre-devaluation levels. Subsequent contract renegotiations focused on compensating firms for this shock and represented improvements for investors relative to the new, post-crisis status quo: they permitted consumer rate increases partially compensating for inflation and provided state subsidies for consumer rates or investments.

Our analysis triangulates between different types of evidence. We first present two case studies of firm-government negotiations in the electricity distribution and water and sanitation sectors. These allow us to illustrate the mechanisms outlined in our explanatory framework. They also allow us, in combination with supplementary case material included in our Online Appendix, to address potential concerns regarding endogeneity and selection bias.

We then conduct duration analyses of the association between our main variables of interest and investor exit and contract renegotiation for all 53 investors, drawing on an original dataset. This allows us to examine the extent to which our analytic framework is consistent with general trends in both sectors and provide a preliminary assessment of alternative explanations derived from other theoretical perspectives. [21] The economics literature on regulatory incentives, for instance, suggests that regulatory institution and policy design should affect expropriation incentives (Laffont & Tirole, 1993). Scholars have also argued that developing country firms possess comparative advantages in infrastructure sectors in the developing world because they have context-appropriate "political capabilities" (Holburn & Zelner, 2010), rather than, as we argue, portfolio structures that position them to negotiate effectively. In addition, the Varieties of Capitalism literature implies that investors from coordinated market economies (CMEs) should be better able to maintain incomplete and relational contracts involving renegotiation than investors from liberal market economies (LMEs) (Hall & Soskice, 2001, p. 8). [22]

Table 1. *Predicted effects of portfolio characteristics on dependent variables*

	Duration in market	Policy concessions to investors
Reputational exit costs	+	No effect
Cross-sector diversification in contract jurisdiction	+	+

4. DATA AND CODING

Our analysis rests on significant original data collection on the 30 provincial and national-level concession contracts in Argentina in both sectors in place after the 2001–02 crisis. Because a number of investors sold their stakes to new entrants, we are able to code renegotiation outcomes and exit decisions for 53 consortia of investors in the post-crisis period (2002–09). We focus on lead investors, or those possessing at least 50% stakes in the concessions, as they typically served as the technical operators and managers of the concessions.[23] The data itself, as well as coding information, is available in the paper's Online Appendix and Dataverse.

Our dependent variables are investor persistence in the market (i.e., time until exit) following the Argentine crisis and the government's uniform suspension of existing contracts, and whether or not investors achieve contract renegotiation agreements providing compensatory policies in a given year. For investor persistence, we compiled annual data on the lead investor for each contract and whether or not it exited in that year. We group together exits via sale of a lead investor's equity stake in a concession to another investor (a change requiring the permission of governmental authorities) and contract cancellation by the host government, investor, or both parties, culminating in a government takeover. It is essential to group these together because contract cancellation almost always followed a decision by the investor to leave and unsuccessful firm and government efforts to find a suitable replacement.

Our second dependent variable reflects whether or not investors concluded a contract renegotiation in a given year. Negotiation processes between the provincial and national governments and concessionaires followed a common sequence. Discussions first focused on a set of less controversial topics such as the reciprocal forgiveness of debts and state subsidies to finance reduced rates for poor consumers in "partial" or "transitory" accords, which required legislative ratification. Afterward, negotiations proceeded to revisions to the formulae used to calculate consumer rates and investment commitments to adapt concessions to post-crisis realities. The resulting agreements were termed as "comprehensive" or "integral" in the ratifying legislation. We documented whether or not lead investors were able to achieve either type of accord (or both types) in a given year, as well as the dates agreements were reached, based on regulatory documentation, ratifying legislation, news coverage, and Azpiazu, Bonofiglio, and Nahón (2008). We then created two dichotomous dependent variables, one reflecting whether or not investors and host governments were able to achieve a full accord in a given year, and a second capturing whether or not both parties achieved at least a partial accord in a given year.[24]

Based on primary source evidence, we also scored each lead investor for the portfolio characteristics in our explanatory framework. We first coded lead investors' reputational and financial exit costs prior to post-crisis negotiations. The reputational, or non-financial, cost of exit is coded as an index reflecting reputational costs with domestic and international audiences. Domestic reputational costs—i.e., with politicians in other subnational jurisdictions—are proxied by whether or not the investor possessed other holdings in regulated industries elsewhere in Argentina. Given the subnational nature of Argentina's privatizations, and the fact we study sectors that were privatized through geographic monopolies, this measure captures the effects of reputation—whether or not *other* government entities might alter their actions based on information about investor behavior in other jurisdictions, rather than whether the *same* political actors would alter their behavior because of strategic calculations regarding interests in other sectors. (Direct interactions with government officials in the *same* political jurisdiction are relevant for *cross-sector* diversification within the province, and are discussed below.)

International reputational costs—i.e., with international markets and foreign governments—are measured using two proxies. First, we create a dummy variable reflecting whether or not the lead investor possessed a strong brand name in the sector. This entailed assessing whether or not the lead investors were internationally recognized as major players with expertise in water or electricity through an inspection of international business press coverage, which would clearly label firms as specialists or major players in these sectors if they possessed a strong brand. Second, we create a dummy variable that reflects a strong geographic specialization in the Argentine market. This variable takes on a value of one if Argentine assets comprised at least 10% of the investor's overall portfolio at the time of the crisis, a cut-off that reflects the clustering in the data.

The main reputational exit cost index takes on a value of 0, 1, 2, of 3 based on whether or not each of the three components—other regulated assets in Argentina, a brand name, and a large Argentine portfolio—are present. As a robustness check, we created a second version of the index that weights our proxy for domestic reputational exit costs (other regulated assets in Argentina) twice as heavily as our proxies for international reputational exit costs; this index takes on a value between 0 and 4. While the observable implication of our model is that reputational exit costs is a composite concept best measured by a combination of factors, we also run our models with each of the index components separately as a robustness check. We document the source materials used to score each component in the Online Appendix.

The *financial* costs of exit are coded as low, medium, or high based on the ratio of the investor's entry costs in a project relative to the size of its overall portfolio; the trichotomous coding best reflects clustering in the data.[25] In contrast, the *cross-sector diversification* variable is dichotomous, and reflects whether or not the lead investor possessed significant holdings in other sectors within the jurisdiction that granted their concession contract at the time of market entry. For example, if an investor possessed an electricity contract *and* agricultural holdings or construction operations in the same province, it would be classified as diversified. Because provinces granted most contracts, this means that many investors with diverse holdings throughout Argentina were not necessarily diversified within the province that granted their privatization contract; their water or electricity contract could be their only asset in a given province. We gathered information on diversification at the time of privatization from local press coverage of privatization processes, which often profiled bidders, and verified this information through interviews with business owners and local officials.

We also coded an annual variable indicating whether or not the lead investor was publicly listed, and we extended Gervasoni's dataset on gubernatorial alignment with the Argentine national executive to control for the effect of partisanship and access to federal funds (Gervasoni, 2010). Sources for all variables, as well as descriptive statistics, are presented in Table 5 (Appendix A).

5. ILLUSTRATING THE MECHANISMS THROUGH CASE STUDIES

In this section, we use case studies to illustrate the dynamics suggested by our explanatory framework. Our two sets of

Table 2. *Values for main independent variables and predictions for case studies*

	Reputational costs HIGH	Reputational costs LOW
Cross-sector diversification in contract jurisdiction	No exit/compensation	No exit/compensation
	Corrientes (water)	
Not diversified in contract jurisdiction	No exit/no compensation	Exit/no compensation
	Shadow cases: Formosa (water), Buenos Aires/Edelap (electricity)	Entre Rios (electricity)

paired comparisons follow a most similar systems design. We have selected primary and shadow cases in which our main independent variables vary, but which are similar with respect to sector, market size—which should affect the attractiveness of the market for investors—and domestic/foreign investor control—which affects whether or not firms can resort to international arbitration (Table 2). In the water sector comparison, the investors vary with respect to diversification, and in the electricity sector comparison, with respect to reputational exit costs. The contrast between the two sets of sectoral cases speaks to the generalizability of the argument. While it is theoretically possible for an investor to face low reputational costs and be diversified across sectors in the jurisdiction that granted their contract, there are no such cases in our dataset, so we do not present one here.

Because of space constraints, exposition focuses on two cases: a water case with both diversification and high reputational costs and an electricity case with neither. The first case allows us to show how reputational exit costs and diversification in the contract jurisdiction can affect the probability of investor exit and contract renegotiation. We also briefly review two shadow cases, one from each sector, where firms faced high reputational costs from exit but were not diversified in the contract jurisdiction. Fuller treatments of both shadow cases are included in the Online Appendix.

These case studies allow us to illustrate the way that negotiations and firm decision-making regarding exit unfold in the presence and absence of our main variables of interest. They should also give readers a more concrete sense of the sequence that contract renegotiations typically followed, as well as alleviate concerns regarding endogeneity and selection. Our analysis draws on interviews with the main private and public sector actors involved in each contract, as well as archival material and newspaper coverage. Because of the ongoing nature and sensitivity of firm-government negotiations in these sectors in Argentina, we primarily cite publicly available data.[26]

(a) *Reputational exit costs, cross-sector diversification, and regulatory outcomes*

The experience of the Chamas Group, lead investor in the water and sanitation concession in Corrientes province, illustrates how firm-government relations can proceed in the presence of *both* high reputational exit costs and sectoral diversification in the contract jurisdiction. The Chamas Group—a local, privately owned economic group that possessed diverse operations in Corrientes province in agriculture, construction, engineering, media, and real estate—acquired a controlling stake in the Corrientes water and sanitation concession in 1996. It subsequently won bids for two more water and sanitation concessions in Argentina and began to compete for contracts elsewhere in Latin America.[27]

Following the Argentine crisis, the Corrientes provincial government, like other provinces, adhered to the national economic emergency law, suspending the firm's existing contract and launching renegotiation proceedings. It froze consumer water rates, despite the devaluation and its impact on imported inputs and high rates of inflation (41% during 2002 alone). Our analytic framework predicts that the Chamas Group's concerns regarding the reputational costs of exit would discourage it from abandoning the Corrientes concession while contract negotiations proceeded. Our framework also suggests that the Chamas Group's diverse assets in the province would improve its chances of reaching a favorable contract renegotiation helping it adjust to post-crisis conditions.

The Chamas Group faced strong reputational incentives to remain in the concession in spite of these dramatic changes to its contract. Actively seeking contracts in other Latin American countries, the group had strong incentives to maintain its international reputation as a firm that understood how to manage privatized water utilities in "difficult" political environments. In interviews, firm officials stressed that their successful management in Argentina gave them credibility internationally.[28] The fact that the Inter-American Development Bank commissioned and disseminated a case study of their concession in Argentina's Salta province to publicize their successful example lends credence to these statements.[29] In addition, maintaining their Argentine contracts ensured they would actually be qualified to bid for new privatization contracts because governments typically required that bids demonstrate firms had sufficient technical and operational experience through documentation of the number of customers currently served.[30] In addition, because the Chamas Group possessed water and sanitation contracts in two other provinces, pulling out of the Corrientes contract—or even threatening to do so—would jeopardize its reputation as a constructive partner with government officials in these other provinces. In sum, the group clearly faced strong reputational incentives to stay in the market.

Meanwhile, available evidence suggests that the group's long-term commitment to the concession and the province, and its work in other economic sectors, helped it conclude contract renegotiations in 2005 compensating for the effects of the crisis and high rates of inflation thereafter. The renegotiation agreement provided for rate increases, investment subsidies, and rate subsidies for low-income consumers.[31] Firm directors attested to the group's long-term commitment to the province in interviews,[32] and demonstrated this commitment by accepting an agreement that spread consumer rate increases over time. While investors in a number of other provinces demanded immediate rate increases of 50% as a condition for staying, Aguas de Corrientes directors explained that they appreciated that sudden, large rate increases are difficult for politicians to approve.[33] The firm instead pushed for—and finally obtained through the renegotiation agreement—annual rate increases of roughly 10% following the crisis, enough to compensate for inflation over the same period.[34] The concessionaire thus avoided the type of major protests against rate increases that prompted politicians to backtrack on contract renegotiations in other provinces.[35]

The lead investor's diverse holdings in the province also offered it opportunities to find a mutually agreeable, and politically palatable, settlement that would not have been available had the firm focused purely on water and sanitation in the local market. The group's multi-sector structure ensured that it could receive key benefits through its other operations, which meant that not all benefits to the firm would need to come to the firm through politically sensitive consumer rate increases. For example, 2005 legislation establishing a provincial fund for investments in water and sanitation did not prevent the concessionaire from contracting with related companies. [36] The concessionaire indeed contracted with other firms in the group for many construction and maintenance operations. [37] Contemporaneous to the contract renegotiation, the group also received other contracts from the provincial government. For example, the provincial government contracted directly with a Chamas group subsidiary to improve the management of the provincial electricity service in December 2007. [38] While these various interactions did not constitute formal aspects of the contract renegotiation, they gave provincial officials alternative ways to help the concessionaire cope with the difficult economic conditions it faced.

Our interviews also suggested that the firm's long-standing and diverse local presence increased leverage on average. On the one hand, firm directors stressed that the group's local ties offered access to local officials, and gave the firm advantages that it did not enjoy in other provinces where it operated but did not possess a strong local presence. This being said, there were limits to what the firm could push for given the fact that it was so embedded in local social and economic networks. The favorable renegotiation outcomes they obtained under very difficult economic and political circumstances—including frequent turnover in the executive branch during the decade after the crisis—suggests that, on balance, the firm's diversified local presence increased rather than decreased its leverage in negotiations.

A brief comparison with a similarly sized water and sanitation contract in the province of Formosa (documented in the Online Appendix), held by a domestic investor that faced similar domestic reputational concerns but *was not* diversified in the province, is instructive. As anticipated by our framework, the Formosa concessionaire failed to conclude a contract renegotiation successfully and waited nine long, loss-making years before exiting because owners were concerned about the reputational costs of exit: the firm held water concessions in other provinces and thus stood to suffer should political controversy and negative press coverage affect these other operations. Interviews with key informants suggested that the firm waited to exit until provincial authorities found it opportune to let it do so: after the completion of a large, federally funded treatment plant, when provincial officials could take over a much-improved system. [39]

Meanwhile, a lack of cross-sector diversification, rather than factors stressed by alternative explanations, is the most plausible explanation of the Formosa concessionaire's inability to secure the sorts of compensatory policies obtained in Corrientes. Regulatory agencies in both provinces lacked formal independence; decisions could be appealed to the executive branch. These divergent trajectories also do not reflect a selection process by which investors with diverse local holdings secured better contracts because of local knowledge and connections. A domestic investor with diverse local holdings also bid for the Formosa contract originally, while the Corrientes concession was originally secured and managed by a domestic firm without significant local operations, and which eventually sold its shares to the Chamas group after failing to work well with the provincial government. Finally, the description of the sequence of events in the Corrientes case also alleviates concerns about endogeneity: the lead investor in the concession possessed diverse holdings *before* entering the contract and beginning post-crisis contract renegotiations, even if it did receive new business opportunities in other sectors during the negotiation process.

(b) *Exit decisions and renegotiation without reputational exit costs or cross-sector diversification*

In contrast, the US-based Public Service Enterprise Group (PSEG), which controlled the province of Entre Rios' electricity distribution company (Edeersa), did not possess assets in other sectors in the province and its managers did not anticipate high reputational costs from exit. Our analytic framework suggests that the lack of both portfolio characteristics would mean that PSEG would be unlikely to secure a contract renegotiation and would likely pull out of its contract after the Argentine crisis. In line with these expectations, the company abandoned its concession after failing to sell it and filing a judicial complaint against the government for contract violations. [40]

Directly prior to the Argentine crisis, PSEG was a recognized global player in the electricity industry with a strong brand name in energy, though most of its assets were in the US. [41] It acquired Edeersa, the Entre Rios concessionaire, in 2000 from another US energy company, CMS (Consumer Energy), as part of a global $US1.4 billion deal to liquidate CMS' debts. [42] At the time, PSEG only held minority stakes in a few generation companies in Argentina, but—as public statements by PSEG's General Manager at the time suggest—planned to bid for controlling stakes in electricity concessions in neighboring Santa Fe and Córdoba, the third and fourth richest provinces in the country. [43] "We are interested in becoming majority shareholders in our investments and this purchase allows us to become a majority, rather than minority, stakeholder in the region," said the President of PSEG Americas at the time, Robert Logan. [44] Managing the Edeersa system before bidding for the other contracts would demonstrate PSEG's ability to administer a medium-sized electricity distributor and thus make the firm more competitive in future bids. [45]

While PSEG would have perceived high reputational costs of exit when it acquired Edeersa, its perceptions changed as a result of domestic and international factors in the years immediately preceding the crisis. First, its plans to bid for contracts in Córdoba and Santa Fe were frustrated when the provinces chose not to privatize in the aftermath of the crisis (Azpiazu *et al.*, 2008). PSEG had also arranged the sale of its minority shares in the three distribution companies of the province of Buenos Aires and in two generation plants (San Nicolas and Parana) to AES Corporation in 2001 (Megacompra eléctrica por 376 millones, 2001). As a result, PSEG had little reason to worry that pulling out of the Edeersa concession would affect its relations with regulators elsewhere in the country. Additionally, PSEG shifted its global strategy to focus on renewable energy in the U.S. market. [46] In light of these shifts, it is reasonable to assume that the reputational costs PSEG would incur by pulling out of a mid-sized electricity distribution contract in Argentine had decreased significantly by 2000–01.

As in other Argentine provinces, contractual conditions changed dramatically following the 2001–02 crisis. Edeersa possessed approximately US$80 million in dollar-denominated debt. [47] The value of this debt in local currency, as well as interest payments, tripled as a result of the devaluation. Provincial

officials added to these difficulties by requiring Edeersa to accept consumer payments in provincial bonds not accepted by the firm's suppliers and worth far less than even Argentina's devalued national currency.

As expected, given the aforementioned changes in the reputational costs PSEG might incur, PSEG sought to leave rather than pursue contract negotiations. It began seeking buyers in October 2002. [48] Failing to find any, PSEG transferred its Edeersa shares and the concessionaire's large debt to a trust and transferred ownership to the company's workers in 2003. [49] The provincial regulator rejected this transfer, the labor union lodged a legal complaint against the firm, and a judge issued an injunction against PSEG's action because the workers did not possess the capital or technical skills required of system operators under the concession contract. PSEG then persisted in its efforts to leave, despite the fact that doing so would involve recognizing significant financial losses. [50] Following an unsuccessful search for private investors with sufficient technical expertise, the province finally took over the company in 2005.

Comparing the Entre Rios concession with a similarly sized electricity concession in Buenos Aires province—controlled by a different US company with *high* reputational exit costs—addresses concerns about alternative explanations and endogeneity. Whereas PSEG in Entre Rios saw few reasons to stay after the crisis, high reputational exit costs encouraged AES to remain in the Edelap (Buenos Aires) concession, given the firm's numerous regulated assets elsewhere in Argentina and the importance at the time of Latin America for its brand name in global energy (see case study in the Online Appendix). [51] Importantly, factors emphasized by alternative theories do not appear to explain differences between the two cases. Both consortia were controlled by American firms without domestic partners. The regulatory agency in Entre Rios enjoyed greater formal autonomy than the agency regulating Edelap, but this clearly did not yield better outcomes; PSEG decided to pull out even before contract negotiations with the executive branch got underway. The results also do not appear to stem from a selection process in which investors with a larger portion of their portfolio in Argentina—and thus higher reputational costs of exit—obtained more favorable contracts given the similar characteristics among the original investors, and number and country origin of the original bidders. Both AES and PSEG were pursuing a wider strategy of energy investment in Argentina at the time of entry, and both purchased controlling stakes from the original owners. Reputational exit costs only declined for PSEG when it failed to acquire other distribution companies, sold other assets, and abandoned its international focus.

6. PORTFOLIO CHARACTERISTICS AND INVESTOR EXIT FROM ARGENTINA

To what extent are the dynamics highlighted in these cases visible in the broader set of contracts in Argentina? Our first quantitative analysis of the full set of contracts examines the association between investors' prior choices regarding portfolio structure and the length of time they are willing to wait before exiting their contracts, if they choose to exit at all, using repeated events Cox proportional hazard models. [52] Repeated events models accommodate cases in which multiple "failures" occur for a given unit, in our case a concession contract. This approach allows us to capture the fact that when investors exit via a share sale, another investor can enter the same contract, and can in turn also exit during the study period. We utilize

a "conditional gap time" version of the repeated events model, in which the counter re-sets following each failure and units are only at risk of a second failure after experiencing a first (Box-Steffensmeier & Jones, 2004; Box-Steffensmeier & Zorn, 2002). We employ this particular version of the repeated events approach because one set of majority investors cannot enter a given contract until the previous set of investors has left. Observations correspond to an investor-year in a given concession contract. We stratify the regressions by sector, which allows the underlying hazard rate to vary by sector—a more flexible modeling approach than including sector dummies. [53]

Table 3 presents results from a number of specifications, all of which cluster standard errors by province and contract. [54] Model 1 examines the association between investors' prior choices about their portfolios and persistence in their concession contracts. High reputational costs of exit are associated with longer duration in the market. The model suggests that the association between reputational exit costs and persistence is very strong in substantive terms: a one-unit increase in the exit cost score is associated with an approximately 50% decrease in the probability of exit in a given year. [55] Similar patterns are evident in raw data on exit rates conditional on reputational exit costs (Table A.1, Online Appendix). While diversification in the contract jurisdiction has a relatively stable, negative coefficient, as expected, it is not statistically significant; this most likely reflects the limited number of observations in our dataset. Financial exit costs, on the other hand, are associated with higher rates of exit, suggesting that many investors are able to cope with direct financial costs through political risk insurance and international arbitration. Meanwhile, private ownership—as opposed to public listing on the stock exchange—is strongly associated with lower probabilities of exit, though the effect grows smaller over time. (Note that the Private variable is interacted with years elapsed since the crisis to address problems of nonproportionality of hazards. [56] Results are similar when the proportionality correction is omitted, and when a conditional frailty model is estimated instead.)

In Model 2, we substitute the three components of our reputational exit cost index for the index, and obtain similar results. All three index components have negative signs, as they do when they are substituted for the index in any models presented in Table 3. This is consistent with our argument that these proxy variables together reflect domestic and international reputational exit costs that discourage investors from exiting contracts. Importantly, the lower AIC score for Model 1 suggests the model containing the index rather than its components represents a better fit. The negative (though insignificant) sign for a large Argentine portfolio is consistent with our argument that investor concerns about the reputational consequences of exit discourage, rather than encourage, exit. Reweighting the index so that domestic and international exit costs contribute equally does not change our results in substantively important ways. [57]

Models 3 and 4 show that the negative association between reputational exit costs and exit remains large and significant even after adding variables reflecting investor origin. Model 3 examines whether lead investors from coordinated market economies or liberal market economies are more likely to exit in a given year than investors from developing countries. [58] The results suggest LME investors may be somewhat more likely to exit, which is consistent with the Varieties of Capitalism perspective. Model 4 instead compares domestic with foreign investors, and suggests there is no difference. [59]

Our results are robust to the inclusion of other control variables. When we include our measures of the size and

Table 3. *Conditional gap time Cox proportional hazard analysis of investor exit from electricity and W&S contracts, 2003–09*

	Core model (portfolio variables)	+reputation index components	Core + additional investor traits		Core + environmental controls			Core + time varying covariates
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Reputational exit costs	−0.72***		−0.51*	−0.68**	−0.78***	−0.79***	−0.73***	−0.51**
	(0.22)		(0.30)	(0.27)	(0.30)	(0.26)	(0.22)	(0.22)
● Sector Brand		−0.43						
		(0.45)						
● Argentina >10% portfolio		−1.34*						
		(0.79)						
● Other regulated assets in Argentina		−0.53						
		(0.47)						
Financial exit costs	0.70**	0.78***	0.93**	0.77**	0.79**	0.79***	0.62**	0.85***
	(0.28)	(0.26)	(0.38)	(0.36)	(0.33)	(0.30)	(0.30)	(0.31)
Cross-sector diversification in contract jurisdiction	−0.80	−0.89	−0.70	−0.77	−0.97	−1.28*	−0.76	−1.20
	(0.70)	(0.69)	(0.70)	(0.70)	(0.67)	(0.70)	(0.68)	(0.87)
Privately owned investor	−8.28***	−7.94**	−7.80*	−8.15***	−8.12***	−8.31**	−8.25***	−8.63***
	(3.09)	(3.23)	(3.13)	(3.12)	(3.15)	(3.30)	(3.12)	(3.30)
Years since crisis	−0.95**	−1.00**	−1.00*	−0.96**	−0.96**	−1.02**	−1.01**	−0.93***
	(0.38)	(0.40)	(0.54)	(0.41)	(0.41)	(0.44)	(0.39)	(0.34)
Private* Years since crisis	1.43***	1.43	1.44**	1.44***	1.43***	1.45**	1.44***	1.54***
	(0.52)	(0.55)	(0.60)	(0.54)	(0.54)	(0.57)	(0.52)	(0.53)
CME investor			1.21					
			(0.82)					
LME investor			1.47					
			(0.89)					
Domestic investor				−0.34				
				(0.73)				
Provincial GDP per capita 1999					0.00003			
					(0.00003)			
Log (households served 2001)						0.35		
						(0.21)		
Formal regulatory independence							0.33	
							(0.25)	
Governor aligned								−0.47
								(0.37)
Effective number of parties								0.13
								(0.20)
Contract renegotiation concluded								−0.35
								(0.35)
N	235	235	235	235	235	235	235	203
Log likelihood ratio test	28.22 on 6 df, $p = 8.527e{-}05$	29.03 on 8 df, $p = 0.0003131$	30 on 8 df, $p = 0.000211$	28.3 on 7 df, $p = 0.0001939$	28.87 on 7 df, $p = 0.0001526$	29.73 on 7 df, $p = 0.000106$	28.86 on 7 df, $p = 0.0001535$	27.4 on 9 df, $p = 0.001201$
AIC	93.95	97.14	96.16	95.87	95.30	94.44	95.31	82.18

Notes: Cox proportional hazard regressions (conditional gap time repeated events variant) with 53 investors and 34 instances of exit. Positive coefficients indicate that an increase in risk, or a decrease in duration, is associated with a particular variable. All models are stratified by sector, and all specifications reported meet proportional hazards assumptions according to diagnostic tests. Robust standard errors are clustered by concession and province, and are reported in parentheses. For cases in which ownership is split 50/50 between two main investors, observations are created for each investor and weighted by 0.5 in the analysis. (See Therneau and Grambsch on the weight function in R (2000, p. 163). Results are comparable when all cases are weighted equally. Model 8 contains fewer observations because the Effective Number of Parties score is calculated based on provincial elections for national legislators, and thus does not include observations for the cases regulated by the national government. Analysis of dfbetas to identify observations with disproportionate influence upon the coefficients for key variables of interest (reputational exit costs, diversification, private, financial exit costs) do not reveal problems; the most influential observations are depressing, rather than increasing, the absolute value of the coefficients.

* Significant at the 10% level.
** Significant at the 5% level.
*** Significant at the 1% level.

attractiveness of the market, provincial GDP per capita (Model 5) and the number of residential connections (Model 6), the coefficients for reputational exit costs remain positive, stable in size, and significant. The association between reputational exit costs and longer duration also holds when we include our measure of formal regulatory independence—no formal provisions for appeals of regulatory decisions (Model 7).

Model 8 examines the association between time-varying factors (i.e., post-treatment variables) and investor persistence. The coefficient for gubernatorial alignment with the left-leaning Kirchner administration is insignificant. The effective number of parties, our proxy for electoral contestation, also appears to be unrelated to investors' exit decisions. Finally, contract renegotiation is not a strong predictor of investors' willingness to stay in the market.[60] This suggests that the full accords reached in Argentina, though significant, were not sufficiently generous to sway investors' decisions regarding whether or not to leave the market. Thus, even though renegotiation agreements mitigated the effects of the crisis, they did not fully counteract the obsolescing bargain.

It is important to consider whether the results reported in Table 3 hold for important subgroups. Models including a water sector dummy and models estimated using just water sector or electricity sector cases, presented in our Online Appendix, suggest that water sector investors were less likely to exit, especially immediately after the crisis. While models for the electricity sector produce similar results as the pooled regressions, reputational exit costs were associated with a *higher*, rather than lower, probability of exit in a given year in the water sector. This difference between sectors can be attributed to the growing disillusionment among large multinational investors with water concessions in the developing world during the 2000s (Bakker, 2010; Post, 2014b); OECD-based multinationals shifted their strategic focus and did not plan to enter new water concessions in the developing world, and thus became less concerned with reputational exit costs. The patterns in our data are consistent with these broad trends: when one interacts reputational exit costs with domestic ownership for water sector cases, reputational exit costs are associated with higher rates of exit for international firms and lower rates for domestic firms. Cross-tabs for water sector investors also show that exit rates are far higher for international firms than for domestic firms with high reputational exit costs, and that domestic firms facing high reputational exit costs stay twice as long before pulling out than international investors if they do so.

One might also wonder if pre-crisis entrants differ from post-crisis entrants. In our Online Appendix, we show that models estimated for only pre-crisis entrants yield similar results. Models for post-crisis entrants also yield similar results, although one cannot speak definitively regarding the extent to which our findings hold given that comparable specifications cannot always be estimated due to the small sample size (49 observations).

7. PORTFOLIO CHARACTERISTICS AND CONTRACT RENEGOTIATION IN ARGENTINA

This section examines the respective explanatory power of our portfolio-based approach and alternative explanations for understanding patterns of contract renegotiation. Because achieving an agreement earlier rather than later is preferable to investors, and renegotiation processes were still underway by the end of our study period in some cases, we model contract renegotiation using a standard Cox proportional

hazard model, a duration model that accommodates censoring.[61] Models estimate the probability of renegotiation, given the length of time that has elapsed since the crisis—or, for post-crisis entrants—since entering a concession. We stratify by sector here as well, and cluster standard errors by province and concession. Results for models predicting full accords are presented in Table 4.

Model 1 shows that cross-sector diversification in the contract jurisdiction is strongly associated with the achievement of full renegotiation accords. According to the model, a diversified investor is about 10 times more likely to conclude a full accord in a given year than an investor that is not diversified in the contract jurisdiction.[62] This is consistent with the higher rates of contract renegotiation observed among diversified investors in the raw data (Table A.II, Online Appendix). Meanwhile, reputational exit costs, financial exit costs, and private ownership are not strongly associated with contract renegotiation—consistent with our analytic framework, which does not predict associations.[63] (These three variables are included here for parallel presentation; results are similar when they are omitted.) Model 2 shows that the association between cross-sector diversification and renegotiation remains strong when one substitutes the components of the reputational cost index for the index itself.[64]

Models 3 and 4 add variables reflecting investor home market characteristics: CME, LME, or developing country origin (the baseline category in Model 3), and domestic or foreign ownership in Model 4. The coefficient for sector diversification in the contract jurisdiction remains positive and significant in both models. While domestic ownership is not associated with contract renegotiation, control by a CME investor is negatively correlated with renegotiation, although this result must be interpreted with caution.[65] The large, negative coefficient estimate here reflects the fact that no CME investor achieved a full renegotiation agreement in either sector in Argentina during our study period. The relatively poor performance of CME investors is surprising in light of the Varieties of Capitalism perspective, and suggests comparative advantages in home markets may not carry over to foreign investment.

The positive association between cross-sector diversification and renegotiation accords is robust to the inclusion of a number of environmental controls. Model 5 controls for provincial GDP per capita, and Model 6 for the number of residential customers. The results suggest that investors holding concession contracts encompassing larger and more affluent markets concluded negotiations less frequently. Meanwhile, formal regulatory independence is not associated with the achievement of an accord (Model 7).

Models 8 assesses whether two post-treatment control variables, political alignment between the sitting governor and the president and the effective number of political parties (a measure of political contestation), are associated with the achievement of accords. The coefficient for gubernatorial alignment with the left-leaning Kirchner administration is large, significant, and negative, suggesting that aligned governors were far less likely to conclude accords with investors. Meanwhile, the effective number of political parties is not strongly associated with contract renegotiation.[66]

Subgroup analysis, presented in our Online Appendix, suggests that cross-sector diversification is strongly associated with renegotiation in both the water and electricity sectors. Sector itself does not serve as a significant predictor of renegotiation. Models estimated only for pre-crisis entrants yield very similar results, except that high reputational exit costs become a statistically significant predictor of concluding renegotiations. It is difficult to assess the extent to which our results

Table 4. *Cox proportional hazard analysis of contract renegotiation (full accords) for electricity and W&S Contracts, 2003–09*

	Core model (portfolio variables)	Reputation index components	Core + additional investor traits		Core + environmental controls			Core + time varying covariates
	Model 1	Model 2	Model 3[a]	Model 4	Model 5[b]	Model 6	Model 7[b]	Model 8[b]
Reputational exit costs	−0.58 (0.46)		−1.62** (0.68)	−0.92 (0.70)	−0.33 (0.27)	−0.40 (0.42)	−0.51 (0.43)	0.15 (0.65)
• Sector Brand		−0.77 (0.80)						
• Argentina >10% portfolio		0.87 (0.91)						
• Other regulated assets in Argentina		−1.95* (1.00)						
Financial exit costs	0.29 (0.51)	0.53 (0.58)	−0.22 (0.53)	0.03 (0.49)	1.00 (1.00)	−0.08 (0.59)	0.40 (0.34)	−0.62 (0.91)
Cross-sector diversification in contract jurisdiction	2.10*** (0.67)	2.53*** (0.66)	1.91** (0.83)	1.98*** (0.66)	4.43*** (1.69)	4.01*** (1.24)	2.26*** (0.70)	4.91*** (1.59)
Privately owned investor	0.86 (0.89)	−0.42 (0.83)	−0.75 (1.16)	0.39 (1.08)	−0.83 (0.78)	−0.25 (1.06)	0.61 (0.88)	−1.16* (0.66)
CME investor (*relative to LDC investor*)			−22.84*** (1.93)					
LME investor (*relative to LDC investor*)			2.74 (2.12)					
Domestic investor				1.28 (1.44)				
Provincial GDP per capita 1999					−0.0005*** (0.00001)			
Log (households served 2001)						−1.23** (0.53)		
Formal regulatory independence							1.01* (0.59)	
Governor aligned								−1.98* (1.14)
Effective number of parties								−0.11 (0.29)
N	188	188	188	188	188	188	188	163
Log likelihood ratio test	11.32 on 4 df, p = 0.02321	13.1 on 6 df, p = 0.04146	19.51 on 6 df, p = 0.003384	12.05 on 5 df, p = 0.03412	24.03 on 5 df, p = 0.0002146	16.17 on 5 df, p = 0.006386	12.82 on 5 df, p = 0.02512	21.05 on 6 df, p = 0.001794
AIC	42.59	44.80	38.40	43.86	31.88	39.74	43.09	33.41

Notes: Cox proportional hazard regressions with 49 investors and 12 instances of renegotiation. Positive coefficients indicate that an increase in risk, or a decrease in duration, is associated with a particular variable. All models are stratified by sector. Robust standard errors are clustered by concession and province. For cases in which ownership is split 50/50 between two main investors, observations are created for each investor and weighted by 0.5 in the analysis. (See Therneau and Grambsch on the weight function in R (2000, p. 163). Results are comparable with equal weighting. Model 8 contains fewer observations because the Effective Number of Parties score is calculated based on provincial elections for national legislators, and thus does not include observations for the cases regulated by the national government. Analysis of dfbetas to identify observations with disproportionate influence upon the coefficients for key variables of interest (reputational exit costs, diversification) do not reveal problems; the most influential observations are depressing, rather than increasing, the absolute value of the coefficients.

[a] In Model 3, the log likelihood converged before the investor nationality variable was estimated, and thus one cannot be confident in the coefficient estimate. This occurs whenever a variable including CME as a category is included in the model.

[b] Models 5 and 7 exhibit minor violations of the proportional hazards assumptions. Model 5, the diversification and provincial GDP per capita variables suffer from nonproportionality, so these particular coefficients must be interpreted with caution. In Model 7, the private ownership variable suffers from nonproportionality, so this particular coefficient estimate should be interpreted with caution. In Model 8, all coefficients suffer from nonproportionality of hazards. When one excludes insignificant variables from these models, the remaining coefficient estimates are stable and significant, and the proportionality problems disappear. Specifications with problems are presented here in order to ensure consistent presentation for the exit and renegotiation models.

* Significant at the 10% level.
** Significant at the 5% level.
*** Significant at the 1% level.

describe the behavior of post-crisis entrants because of the very small size of the dataset (36 observations).

In summary, our aggregate analysis of post-crisis contract renegotiation in Argentina suggests that investors with diversified holdings in their contract jurisdiction were more likely to secure compensatory policies in a given year. Agreements were more difficult to reach when governors were aligned with the national government. Models with partial accords as the dependent variable obtain very similar results (Online Appendix, Table A.IV).

Overall, the results of both analyses provide support for our argument. First, we found that cross-sector diversification within the local jurisdiction is strongly associated with higher probabilities of contract renegotiation at a given point in time in both sectors. Second, we find that reputational exit costs are associated with lower rates of investor exit, especially where investors expected developing country markets to remain profitable—namely in electricity, and for Argentine investors, in water and sanitation. Our emphasis on investor portfolio characteristics that vary within sectors and within countries thus complements prior insights about the importance of institutions and asset immobility. We expect these factors to be especially influential for investor-government relations in weak institutional environments.

8. CONCLUSION

This article provides a new explanation of variation in the regulatory experience of infrastructure investors facing obsolescing bargains that emphasizes the impact of investors' prior choices regarding portfolio structure on their subsequent regulatory experience. Higher reputational exit costs induce "forced loyalty" among investors, which discourages them from leaving the market, even in the absence of compensatory policies. Investors' ability to secure favorable policies under such circumstances in turn depends upon whether or not they possess sectorally diverse operations in their contract jurisdiction.

Our empirical assessment of the argument focuses on two utilities sectors in Argentina following its 2001–02 macroeconomic crisis, which allowed us to control for capital intensity and national institutional environment. It also permitted us to collect, code, and analyze granular data about firm characteristics, exit patterns, and contract renegotiation outcomes for a set of 53 investors in thirty contracts. We expect future research on other cases to explore if similar processes are at work elsewhere in the world, and hope others will draw on our dataset to examine related phenomena in Argentina.[67]

This study makes a number of contributions to the existing literature on property rights and development, which emphasizes asset immobility and institutional effects. Most importantly, we examine the effects of investors' prior organizational choices on regulatory outcomes, an approach that is particularly useful when examining variation within or across countries with weak institutions and in sectors with immobile assets. In presenting this argument, we join a small but growing group of scholars outlining investor strategies that affect corporate fortunes in contexts of weak property rights, and thus point to substitutes for formal property rights, including some that might be considered forms of crony capitalism.[68]

Our study also contributes to growing literature on corporate risk management strategies in developing countries. As others have noted, the diversified economic groups that dominated developing country economies prior to liberalization efforts in the 1990s adapted readily to their new context (Schneider, 2008, 2009). Scholars have shown that business groups seized upon privatization programs as an opportunity to further diversify their holdings (Guillén, 2001; Manzetti, 1999). Other research suggests that during the same time period, developing country business groups also expanded into other developing country markets, sometimes retaining their diverse operations at home (Ramamurti & Singh, 2009; Schneider, 2009). There is, however, little scholarship examining how cross-sector diversification and reputation costs affect firms' regulatory experience, especially following economic shocks. Our analysis suggests that cross-sector diversification may help insure against political risk.

More broadly, our work suggests that future work on the obsolescing bargain should devote more attention to reputational costs. While "policy substitutes" for strong property rights protections, such as provisions for international arbitration, may help investors cope with financial losses incurred following policy changes after crisis, they will not compensate firms for reputational costs. Further research should examine whether reputational exit costs affect investment decisions in less capital-intensive sectors and more generally patterns of comparative advantage in emerging markets.

While we contribute to a growing literature on the political influences upon public utility services in the developing world, the implications of our findings for infrastructure investment in developing countries, and consumer interests more specifically, are less clear. Our analysis has focused on explaining variation in extent to which investors were partially compensated for the Argentine government's decision to renege on the contracts it originally signed during the 1990s privatization wave. If we were instead to examine each of the scenarios we outline in the paper—investor stays with no compensation, investor stays with compensation, and investor exit—from a consumer perspective, the results would be unclear. First, cases in which investors stayed without compensation were associated with major decreases in the real value of consumer rates, but also disinvestment and, in most cases, major erosions in service quality.[69] The second scenario—renegotiation agreements reached by more sectorally diversified investors with host governments—were more likely to involve rate increases for consumers, albeit phased in over time and not large enough to return rates to pre-crisis levels or even keep up with inflation. They also typically included subsidies. Such renegotiation agreements may also have involved side payments at the public's expense. Yet investors were more likely to maintain and even invest in systems. Finally, investor exit in the remaining cases led to government takeover of services, which was sometimes associated with steep price increases, and in some cases with major increases in investment and in other cases not. Future research should evaluate systematically how consumers (network insiders) and taxpayers (including network outsiders) fared under each of these scenarios.

While the net benefits to consumers under the three scenarios we examine is unclear, it is clear that the overall policy approach Argentina adopted during the post-crisis period—which emphasized freezing or severely limiting consumer rate increases, while awarding subsidies tied to consumption volume to public and private providers—has yielded major problems (Bril-Mascarenhas & Post, 2015). Subsidies have not always been administered in a transparent fashion, and have weakened provider incentives to invest in response to consumer pressure. Meanwhile, freezing rates or granting rate increases well below inflation artificially stimulated demand for utility services, leading to rapid increases in consumption. As consumption has increased, the fiscal cost of subsidies for taxpayers grew astronomically, especially in sectors where the government agreed to compensate providers for the differ-

ence between the international and domestic prices of key inputs. Consuming 10% of government expenditure by 2010, these subsidies have contributed enormously to Argentina's current fiscal difficulties.

NOTES

1. See Jensen *et al.* (2012) for a review.

2. Wellhausen (2015) generalizes this argument to the economy as a whole, finding that expropriation rates are lower for contracts held by investors from nations comprising a large fraction of overall FDI to a country. Policy leverage, in other words, stems from states' anticipation that a large number of firms would leave in response to an expropriation incident affecting a co-national.

3. Henisz, Zelner, and Guillen (2005), Jordana and Levi-Faur (2005), Murillo and Martinez-Gallardo (2007), Murillo (2009) analyze the diffusion of public utility privatization in Latin America and its political determinants. Numerous studies have explored the welfare effects of utilities and infrastructure privatization: see, for example, Bitran and Serra (1998), Plane (1999). Less well studied, however, is the politics of regulation following privatization. Important exceptions include Savedoff and Spiller (1999), Murillo and Le Foulon (2006), Murillo (2009), Hailu, Guerreiro Osorio, and Tsukada (2012), Tan (2012), Morgan (2011), Herrera and Post (2014), Post (2014a).

4. We assume that heads of government or their political appointees will take the lead with negotiations given the scope and salience of utility rates for the general population and the weak *de facto* independence exercised by regulatory agencies in weak institutional environments.

5. Note that governments would face stronger incentives to nationalize in sectors that generate rents, such as oil, or if they had strong Communist or Socialist leanings.

6. The obsolescing bargain literature starts from this assumption. See also Frieden (1991), Shafer (1994).

7. On firms' intangible reputational assets, and their importance for capital markets, see Clark and Wrigley (1997), Eccles, Newquist, and Schatz (2007).

8. On the spread and use of political risk insurance, see Moran (1998).

9. Roberts and Dowling (2002) show that firms' reputations have an effect independent from financial performance on their subsequent earnings.

10. On IPE scholarship on country reputational concerns, see Jensen *et al.* (2012, p. 10). The concept of investor reputational costs has been applied more frequently to concerns to avoid corruption allegations (e.g., Wells & Ahmed, 2007, p. 264) and develop reputations for responsibility and good behavior (see Jackson & Brammer, 2014 for a review).

11. See the case studies on water concessionaire Aguas de Formosa and electricity concessionaire Edelap in the Online Appendix for concrete examples of managerial concerns regarding the potential domestic reputational consequences of exit for other regulated holdings.

12. This is not to say that Bechtel did not share equal responsibility for the political failure of the contract. For balanced accounts, see Nickson and Vargas (2002) and Hailu *et al.* (2012).

13. See the psychology literature on escalation costs (e.g., Staw, Barsade, & Koput, 1997).

14. Our case study section examines the international market pressures perceived by firms, and our models examine the extent to which firms with major market exposure to Argentina pull out of their privatization contracts earlier than those without major exposure.

15. Chan and Levitt (2011, pp. 317–319) and Wells and Ahmed (2007, p. 267) argue that lead investors possessing other significant interests in a country are more likely to accede to contract renegotiations rather than pursue international arbitration, but do not explore cross-sector diversification explicitly.

16. For a fuller treatment, see Post (2014b). For reviews of theories of "issue linkage" within the field of international relations, see Alt and Eichengreen (1989), Davis (2004), Eichengreen and Frieden (1993), Lohmann (1995).

17. See Murillo (2009) regarding the divergent features of national privatization programs.

18. Argentina signed bilateral investment treaties with most trading partners in the 1990s and received considerable foreign investment, especially in the utility sectors. All concessions controlled by foreign investors in our dataset enjoyed BIT protection. Electricity accounts for 40% of claims against Argentina in the ICSID whereas the water and sanitation cases constitute almost 20% of those claims (https://icsid.world-bank.org/ICSID/Index.jsp) accessed April 22, 2013. A few water cases have resulted in favorable rulings to the concessionaries and there is one electricity case with a favorable ruling to the foreign investor that precedes the 2002 crisis. See https://icsid.worldbank.org/apps/ICSIDWEB/cases/Pages/AdvancedSearch.aspx?gE=s&cntly=ST4 (accessed on 6/12/15).

19. The Argentine peso had been pegged to the U.S. dollar since 1991.

20. In 2002, electricity consumption dropped by 6.8% and pay arrears reached 60%. See Foster (2004).

21. This analysis can only provide us with a preliminary assessment because we do not have enough cases to utilize standard statistical techniques to address selection problems or non-equivalence of treatment and control groups, such as matching or selection models.

22. While this argument is typically used to examine firm behavior in the home market, analysts have begun to examine the extent to which they apply to behavior in foreign markets (see Geppert, Matten, & Walgenbach, 2006).

23. When ownership was split 50/50 between two lead investors, we collected data for each lead investor and weighted each by 0.5.

24. Because partial accords were always achieved prior to full accords, this includes cases in which full accords were subsequently reached.

25. We chose to use a categorical, rather than continuous, measure for this variable because of data constraints. For firms that are not publicly listed, we have obtained estimates of, rather than definitive data on, the size of firm's overall portfolios from the business press. Given the possibility of measurement error, a small/medium/large categorization seemed reasonable. In addition, there is no publicly available data on the amount of money investors spent to acquire electricity assets, the main

"sunk costs" associated with electricity concessions. We thus use a proxy based on the timing of entry into the market: entry costs were high during 1995–2001, because by this time the government's privatization program had developed a good track record and the macroeconomic environment had stabilized. They were medium when assets were purchased during 1992–94, at the beginning of the privatization program. And they were low when purchased after the devaluation. See the Online Appendix for further detail.

26.   Because of our concerns regarding interviewee confidentiality and the general difficulty of taping interviews with investors in sensitive sectors, the analysis falls short of "process tracing" as defined by Collier (2011) and illustrated by Fairfield (2013). "Process-tracing" so defined would contain definitive evidence allowing one to confirm proposed hypotheses and eliminate rival hypotheses.

27.   It assumed control of the Salta province concession through a joint venture with JCR in 1998, and fully controlled the system in La Rioja in 1999, the latter through a management contract that was later converted into a concession contract. These contracts were managed by the Latinaguas subsidiary, while the Corrientes concession was managed by the Saneart subsidiary.

28.   Interviews with firm directors (August 2006 and June 2010).

29.   See Saltiel (2003).

30.   See, for example, the section of the "pliego de base y condiciones" referring to technical requirements for system operators for any of the concession contracts granted in the Argentine water sector.

31.   The renegotiation accord was ratified by provincial decree 2940 on Dec. 7, 2005.

32.   Interviews with directors, August 2006 and June 2010.

33.   Interviews with directors, August 2006 and June 2010.

34.   The total increase was approximately 195%, whereas inflation was approximately 200% during 2002–10.

35.   For example, the governor of Córdoba province reneged on a contract renegotiation with the French investor Suez in 2006 following large public demonstrations over the large (and sudden) consumer rate increases of between 25% and 100% provided for under the agreement (Post 2014a, p. 166).

36.   Provincial decree 2940, Dec. 7, 2005.

37.   Note this would not have applied to projects funded by loans from multilateral development banks, which did not allow for direct contracting.

38.   The group was first granted a consulting contract, which was converted into a management contract, which gave them 30% of the returns earned by the provincial electricity company (Corrientes al Día, 2008).

39.   Not-for-attribution interviews with public and private sector informants, June 2010.

40.   As early as May 2002, the General Manager of PSEG was threatening to abandon Argentina if the government did not roll back tariffs freezes. The company soon started contentious litigation (Dramático planteo de grupos energéticos, 2002; La Distribuidora Eléctrica Edeersa se quedó sin duenos, 2003).

41.   PSEG was created in 1985 as a holding company and by 1989 its main subsidiaries included PSEG Global and PSEG Resources. In 2000, it went public as a diversified energy company (NYSE: PEG, http://www.pseg.com/about/company_history.jps, accessed on April 2, 2010).

42.   CMS aimed to cut its international holdings in half by selling all of its Latin American assets (in Argentina, Brazil, Venezuela, and Jamaica), as well as assets in Australia, India, the Philippines and Thailand ("CMS Energy Executes Agreement to Sell Its Ownership in Edeersa Electric Distribution Utility in Entre Rios, Argentina, 2000; CMS Puts LatAm Assets on the Market, 2001).

43.   The General Manager of PSEG-Argentina, Marcelo Figueroa, publicly stated that the company was seeking those concessions (Megacompra eléctrica por 376 millones, 2001).

44.   Cited in (Megacompra eléctrica por 376 millones, 2001).

45.   Not-for-attribution interview with former regulator, 2010.

46.   Within a few years, PSEG was recognized as a leader in renewable energy, including solar and geothermal (PSE&G Solar Programs Receive Industry Award for Innovation, 2009).

47.   The debt had been originally acquired by Edeersa under CMS. Under PSEG ownership, Edeersa continued accruing debt to meet interest payments. This debt was denominated in dollars, yet consumer tariffs— and thus concessionaire income—were converted to Argentine pesos (not-for-attribution interview with a former legislator serving in the Energy Commission of the provincial legislature, 2010). On the price of acquisition and the impact of this debt, see (CMS Energy Executes Agreement to Sell Its Ownership in Edeersa Electric Distribution Utility in Entre Rios, Argentina, 2000; Un negocio eléctrico de 200 millones, 2000).

48.   "PSEG, with headquarters in New Jersey, bought 90% of the shares in Edeersa to the US CMS, before the devaluation, and during 2002 attempted unsuccessfully to pull out. PSEG's plan to occupy a central position in the Center region of the country, including the concession of electricity distribution companies in Cordoba and Santa Fe, was frustrated as they were not privatized" (Edeersa cambia de manos, 2003).

49.   Not-for-attribution interviews with former regulator (2010) and union leader (2010). See also La Nación (Edeersa cambia de manos, 2003).

50.   PSEG would need to acknowledge its payments to CMS if it were to pull out. PSEG paid US$200 million for the concession. However, it could write off the concessionaire-contracted debt of approximately US$80 million debt (Not-for-attribution interview with technical manager with the electricity regulatory agency, 2010; Dowling, 2003)).

51.   AES had bought Argentine assets from Houston Energy and later PSEG, eventually controlling 10 electricity generation and three distribution companies in the country. By 2013, the firm held more assets in Latin America than other regions (AES 2013). In a confidential interview in 2010, an AES manager stressed that the firm worried that pulling out of Edelap would jeopardize its other regulated assets in Argentina.

52.   Duration models estimate the time until an event, and can accommodate censoring. The advantage of the Cox over other types of duration analysis is that one need make fewer assumptions regarding the functional form of duration dependence.

53. See Therneau and Grambsch (2000, pp. 44–45) on stratification in survival models. Sector worsens model fit when it is included in the model. Results including sector dummies are reported in the Online Appendix.

54. Conditional gap survival models by definition involve clustering standard errors by the units containing multiple "failures," or individual concession contracts in our case. Following Primo, Jacobsmeier, and Milyo (2007), we also cluster standard errors by province because we expect provincial observations to exhibit interdependence and include provincial-level variables in the analysis. When the province-clustered standard errors are dropped from the specification, however, the results are almost identical. Sector is not statistically significant if included as an independent variable. Tests for nonproportionality of hazards examining the correlation between the scaled Schoenfeld residuals and each covariate do not suggest problems for any of these specifications.

55. First difference calculated using the simPH package in R (Gandrud, 2015); the 95% confidence interval for this estimate is −26% to −69%.

56. Box-Steffensmeier and Zorn (2002) suggest interacting variables that trigger violations of the proportional hazard assumptions with time or some function thereof.

57. See the Online Appendix for a table reporting similar results for the same models estimated using an alternative, additive reputational exit cost model that confers twice the weight to "other regulated assets in Argentina" as to sector brand and a large Argentine portfolio.

58. LDC foreign investors and domestic investors are placed in the same category here because there are very few foreign LDC investors; treating them as a separate category leads to estimation difficulties in some models.

59. Coefficients are similar if these variables are included in Models 5–8.

60. Results are very similar if these variables are added one at a time to the model, with the exception of alignment, which becomes significant.

61. In cases where an investor exit culminates in a contract cancellation rather than sale to a new investor before the end of our study period and no renegotiation agreement has been reached, cases are treated as censored, following King, Alt, Burns, and Laver (1990).

62. The estimated hazard ratio is 9.87 (the 95% confidence interval runs from 2.3 to 33). Calculated using simPH.

63. Private ownership is not interacted with time in these renegotiation models because the interaction is not needed to correct problems of nonproportionality. Moreover, including the interaction term leads to convergence problems for the models.

64. Note that the large Argentine portfolio component has the opposite sign as the other index components for the renegotiation models.

65. In models including the three-level investor type variable, the log likelihood converges before the estimate for the investor type variable has been finalized. As a result, we do not include this variable in Models 5–8. Including domestic ownership in models 5–8 introduces problems of nonproportionality, and does not change other coefficient estimates in important ways.

66. Results are similar if each of the time varying covariates is included in the model independently.

67. Our dataset will be posted to Dataverse at the time of publication.

68. See for example Frye (2006), Markus (2012). Relatedly, Pinto (2013) argues that investors choose forms of production that will benefit key coalition members of the party in power.

69. See Post (2014a) regarding concessions in the water sector.

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APPENDIX A

Table 5. *Variables used in the exit and renegotiation analysis*

Variable	Definition	Source	Min.	Max.	Mean	St. Dev.
Investor Exit (DV)	Dichotomous variable reflecting whether or not lead investor exits market in given year (2003–09)	Coded by authors[a]	0	1	0.14	0.35
Full Contractual Renegotiation Concluded (DV)	Dichotomous variable reflecting whether or not lead investor concludes full renegotiation accord with host government in given year (2003–09)	Coded by authors[a]	0	1	0.06	0.25
GDP per capita	Provincial GDP per capita, 1999 (in 1993 pesos)	Ministry of Economy, Argentina	2,513	22,069	7,006	5,860
Households served (logged in the analysis)	Number of households served by concessionaire, 2001	Azpiazu *et al.* (2008), ENOHSA-COFES 1999 (see Online Appendix)	39,912	2,343,908	293,294	502,645
Cross-Sector Diversification	Dichotomous variable reflecting whether prior to concession award lead investor possessed holdings in other sectors in contract jurisdiction	Coded by authors[a]	0	1	0.29	0.46
Reputational Exit Costs	Additive score reflecting: (a) whether at least 10% of holdings in Argentina; (b) if lead investor possesses brand name in sector; (c) if lead investor holds other regulated assets in Argentina	Coded by authors[a]	0	3	2.12	0.93
Financial Exit Costs	Low(1)/Medium(2)/High(3) score reflecting size of lead investors' cost of entry relative to size of overall portfolio	Coded by authors[a]	1	3	1.76	0.75
LDC/CME/LME Investor	Categorical variable reflecting investor home market type	Coded by authors[a]	NA	NA	NA	NA
Domestic Investor	Dichotomous variable reflecting majority domestic ownership	Coded by authors[a]				
Privately owned Investor	Dichotomous variable reflecting whether or not lead investor is publicly listed	Coded by authors[a]	0	1	0.44	0.50
Formal Regulatory Independence	Dichotomous variable reflecting whether regulatory decisions could be formally appealed to executive branch	Azpiazu *et al.* (2008)	0	1	0.33	0.47
Governor Aligned	Dichotomous variable reflecting whether governor of province was aligned with the Kirchners (2003–09)	Author extension of Gervasoni (2010) coding[a]	0	1	0.78	0.41
Effective Number of Parties	Laakso-Taagepera index for number of parties competing in Argentine provincial elections for national deputies in given year. (Score for previous year applied to following if no election)	Ministry of Interior, Argentina	1.65	10.85	3.75	1.72

[a] Further documentation in Online Appendix. Note that minimums, maximums, and standard deviations were calculated for the full dataset (annual observations 2003–09) except for contract renegotiations. While the investor exit analyses utilize all of this data, the contract renegotiation analyses use a subset because contracts leave the analysis once a renegotiation is concluded.

APPENDIX B. SUPPLEMENTARY DATA

Supplementary data associated with this article can be found, in the online version, at http://dx.doi.org/10.1016/j.worlddev.2015.08.006.

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