

TO TALK OR TO FIGHT?
COLLECTIVE EFFECTS OF STRATEGIC, CULTURAL, AND INSTITUTIONAL
FACTORS ON INVESTORS' RENEGOTIATION APPROACH IN PUBLIC-
PRIVATE CONCESSIONS

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ABSTRACT

High renegotiation rates have been observed in infrastructure concession agreements. Two recent studies found close to half of infrastructure concessions were renegotiated (Guasch and Straub 2006, Woodhouse 2006). While previous studies have offered different explanations for the occurrence of renegotiations, relatively few have written on the renegotiation process itself. Moreover, most infrastructure investment research has studied renegotiations from a rational “calculating” perspective, but has generally overlooked other non-strategic factors that may influence stakeholder decisions. This research addresses these two gaps in the literature by investigating the integrative and collective effects of three sets of variables—*strategic factors, cultural dimensions, and institutional environment*—on the renegotiation process. Specifically, the study investigates how these three sets of variables affect investors’ renegotiation strategy, ranging from relational bargaining to legalistic arbitration or litigation, in responding to government-initiated renegotiations. Data assembled through archival research on project histories of 14 privatized transportation and power projects are analyzed using the Fuzzy-set Qualitative Comparative Analysis (fs-QCA) method and software. The fs-QCA analysis finds that combinations of *strategic, cultural and institutional* variables interact in three different ways that cause investors to adopt a *relational renegotiation* versus a *legalistic* response. Specifically, the three combinations that lead to a relational approach are (1) high future business and low rule of law; (2) high current investment and high assertiveness; (3) high current investment and high collectivism and high future orientation and high humane orientation. Furthermore, the net effect of any one variable can be offset by a combination of other factors that

influence investors' renegotiation approach. For example, the effect of high rule of law, which promotes a legalistic approach, can be offset by favorable cultural dimensions and yield a relational approach when a high current investment level is also present. It is thus imperative to consider multiple causal factors and their interactive effects in the analysis of renegotiation strategy. This interdisciplinary research serves as a building block for other researchers to continue integrating engineering and social science to find effective measures to set up and manage Public-Private Partnership delivery of infrastructure projects.

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CHAPTER 1: INTRODUCTION

Overview

Many developing and developed countries around the world face the challenge of meeting their growing infrastructure needs with limited fiscal resources. It is estimated that worldwide population will increase by approximately one billion between 2005 and 2015 (Sachs 2005). Large-scale development and maintenance of infrastructure will be needed to accommodate the basic needs of these new inhabitants, as well as those of the existing population. However, many developing countries receive less financial support from the World Bank in recent years than they did during the 1960s and 1970s for infrastructure development as a result of the multilateral agencies' shift in focus from infrastructure development to social program development during the 1980s (Harris 2003). At the same time, developed nations such as the United States have found it difficult to raise taxes to maintain their existing infrastructure systems, especially amid the economic crisis of the late 2000's. Years of delayed or cancelled infrastructure maintenance projects led the American Society of Civil Engineers (ASCE) to give a grade "D" to America's existing infrastructure in 2009 (ASCE 2009). It is estimated that 2.2 trillion dollars of investment will be needed for the next 5 years to fix America's infrastructure (ASCE 2009).

In response to these challenges, some governments have invited private investors to participate in infrastructure development through schemes such as Public-Private Partnership (PPP), Private Finance Initiative (PFI), and Build-Operate-Transfer (BOT) (Clarke 2000; Gerrard 2001; Lonsdale 2005). Readers interested in an

introduction of public-private development can consult Miller (2000), which discusses in detail the differences among various public-private development models and their applications on infrastructure delivery. For simplicity, different schemes of public-private collaboration will be generally referred to as PPP in this dissertation.

Typically in a PPP project, the host government invites a private investor to finance the construction cost of an infrastructure project such as a road, power plant, or sewerage system that has been traditionally financed by the government through sales of bonds or from current funds. In return, investors are granted a period of time, called the “concession period” that typically runs 15 to 30 years, to operate and collect revenue from the government or end users to recoup their investment. The long concession periods, political sensitivity, and technical challenges of PPP projects create a high level of uncertainty over a long period of time for all stakeholders involved.

Observed Problem

Although PPP may provide a means for governments with limited fiscal resources to bring bridges and electricity to citizens, private participation in infrastructure development presents numerous governance challenges. For one, international infrastructure developments often experience renegotiations during the concession period, adding uncertainties to both governments and investors. A study by the World Bank found that 40% of Latin American infrastructure concessions during the 1990s were renegotiated at some point (Guasch and Straub 2006). Another report on energy concessions in developing countries found that 21 of the 34 cases studied (61.8%) underwent either mutual or unilateral renegotiations (Woodhouse 2006). Harris

(2003) warns that renegotiation concerns and other political risks could lead to lower level of private investment in infrastructure. A better understanding of PPP renegotiations enables private investors and governments to better manage PPP projects, and thus deserves the attention of both researchers and practitioners.

1.3 Point of Departure – Infrastructure Concession Renegotiation

The development of infrastructure and the renegotiation of concession agreements have attracted academic interest from multiple disciplines, including economics, management, and law. Scholars from these disciplines have offered different explanations for the high renegotiation rate in infrastructure concessions, including incomplete contracts, the “obsolescing bargain”, and opportunistic bidding.

1.3.1 Incomplete Contracts

According to MacNeil (1974), contracts can have different levels of completeness and they can be classified as classical, neo-classical, or relational. Finding the appropriate contractual setup for PPP projects is a very difficult task, as these contract types have different strengths and shortcomings.

Classical contracts are rigid and primarily concerned with accurately recording the terms of the agreement. They put little emphasis on contingencies and are thus ineffective in providing guidance when the conditions affecting the viability of a PPP project have changed dramatically, as they often do.

Designed to address the unpredictable future, neo-classical contracts cover various risks *a priori* as they clearly spell out appropriate actions and compensations under alternative scenarios. To understand the strengths and limitations of neo-

classical contracts, it is important to note the difference between risk and uncertainties. As suggested by Knight (1921), risk refers to the unknown outcome from the many identified alternatives that could emerge during the contractual period; whereas uncertainty refers to surprising results from scenarios unaccounted for. Borrowing from the military jargon, Orr and Scott (2008) refer risks as *known unknowns* and uncertainties as *unknown unknowns*. While neo-classical contracts are designed to handle risks with contingency clauses, they are much less effective at dealing with uncertainties. In his analysis of public-private contracting, Lonsdale (2005) points out that many investors utilize a neo-classical contract for infrastructure development and hope that the flexibility it offers will adequately respond to any uncertainties in long-term development projects. Yet, when unaccounted for events unfold, they get disappointed by the contract's silence on the situation and hence its inability to provide guidance. Orr (Orr 2006) observed "shock-absorber clauses", which facilitate amicable renegotiation, and "safety net clauses", which provides predetermined procedures for litigation should renegotiation fails, are commonly used neo-classical contract tools in different industries,

Relational contracts provide the most flexibility among the three types of contracts. They rely on the ongoing relationship among the participants rather than on the letter of the contract. Milgrom and Roberts define it as 'a contract that specifies only the general terms and objectives of a relationship' (1992, p.602) . The agreement can often take the form of a memorandum of understanding, acknowledging the participation of contracting parties and implying an evolving agreement rather than spelling out the specifics. Relational contracts require high levels of trust among host

government, investors, and financiers (Zhang 2005), but the fact that large-scale infrastructure projects are often non-recurring business dealings makes trust-building among stakeholders difficult. As a result, the effectiveness of relational contracts governing PPP agreements is limited.

1.3.2 Transaction Costs

Transaction costs are often suggested as the reason for contract incompleteness in concession agreements (Guasch 2004). Williamson (1979) suggested the most appropriate type of contract for a business agreement depends on the characteristics of the investment and the frequency of the transaction. Asset specificity is the extent to which the investments made to a specific transaction have higher value to that investment than they would have on any other alternative transaction (McGuinness 1990). Williamson argued if an investment has low asset specificity, the party furnishing the product is less vulnerable to the buyer because he can easily redeploy it to another buyer and sell it at a price close to the level specified in the original agreement. The availability of alternative buyers and sellers protects each party against potential opportunism by the other side. If the parties get into a dispute and want to discontinue their agreement, both the buyer and the seller can obtain and offload their goods through the market. As a result, using classical contracts to spell out specific agreements is sufficient when the exchanged good has low asset specificity.

However, when the investment has medium or high asset specificity—i.e., it is *idiosyncratic* — neither the seller nor the buyer can easily turn to the market in the case of a dispute. On the one hand, the buyer cannot get his product in the market

without incurring a loss because the items are non-standard. On the other hand, the seller will receive marginal return from the market for items already produced because they are of much lower value to other users. As a result, even in a dispute, the buyer and seller remain in an interdependent relationship. And because of the idiosyncratic nature of the good, exceptions will likely arise during the contract period. Thus, for transactions that take place occasionally, Williamson suggests setting up a trilateral governance system for such transactions, using arbitrators or other predetermined third-parties to resolve differences in case of a dispute. That way, the business relationship and activities can be maintained while the arbitrator attempts to find a resolution that is acceptable to both parties, avoiding potentially detrimental breakups.

If the transaction is recurring, Williamson suggests that the parties' mutual interest in preserving the ongoing relationship—the “shadow of the future” in game theory parlance— should encourage the parties to resolve any disputes. Thus he suggests using a bilateral governance structure— without involving arbitrators or other third-parties—in a recurring business relationship. Figure 1 summarizes Williamson's recommendations on governance structures for different situations. Since most large-scale infrastructure projects are highly idiosyncratic and non-recurring business transactions, neoclassical contracts are often the governing document in megaprojects (Lonsdale 2005).

		Investment Characteristics		
		Non-specific	Mixed	Idiosyncratic
Frequency	Occasional	Trilateral Governance (Neoclassical Contracting)		
	Recurrent			

Figure 1 - Recommended governance systems for different transactions. Source: Williamson (1979)

Besides frequency of the transaction and the asset-specificity of the exchanged good, Hart and Moore (1988) suggest that level of uncertainty is another factor leading major infrastructure projects to use neoclassical contracting. If important future conditions are largely unknown to one or both parties, it will be either impossible or too expensive to write a complete contract that accounts for all potential uncertainties and specifies the appropriate stakeholder actions and responsibilities in various scenarios. In those cases, business partners will be better off writing incomplete contracts and engaging in renegotiation when the unknown states are realized (Hart and Moore 1999). Based on this argument, renegotiation of infrastructure contracts is to be expected when conditions have changed, and is not necessarily problematic. However, when the power differential between the host government and private investors is significant, incomplete contracts may open the door for opportunistic

renegotiations (Lonsdale 2005, Guasch and Straub 2006) by either the host government or the investor. Many unknown conditions are likely to arise late in the 25-99 year contract term of an infrastructure concession, when the facility has been completed and is already in operation. Vernon's (1971) "obsolescing bargain" perspective, discussed next, suggests that governments will generally have the upper hand in such negotiations.

1.3.3 Opportunism by the Host Government

The "obsolescing bargain" (Vernon 1971) has been identified by scholars as one of the main contributing factors for government-initiated concession renegotiations during the post-contract period (Ramamurti and Doh 2004; Woodhouse 2006). Scholars argue that as the project passes from the construction phase to the operation phase, the host government is less dependent on the investor to make the project functional, especially in facilities that do not require project-specific technical knowledge to operate, such as roadways. At the same time, the investor, who relies on steady user fee revenue to recoup its investment cost, has already committed the capital expenditure and is in a weak position to bargain with the host government if renegotiation is suggested. In other words, the initial agreement between the foreign investor and the host government "obsolesces" with time. This opens the door for the host government to act opportunistically and extract economic rent from the foreign investor after construction completes.

Empirical testing of host government opportunistic behaviors show that the "obsolescing bargain" problem is especially severe in extraction industries, such as base or precious metal mining and oil, in developing countries (Moran 1975; Philip

1976; Evans 1979; Kobrin 1993). These studies also show that investors of renegotiated projects often end up with lower returns on their investments than the originally expected level as a result.

1.3.4 Opportunism by the Investor

Opportunistic behaviors are not limited to government actions. Scholars have also acknowledged situations in which the investor has bargaining power over the government. Scherer (1964) suggests in a multi-stage long-term project, including a series of short-term contracts, the government is very dependent upon the contractor after the initial contract is signed. This dependency results from the fact that coordination of prior technical and managerial knowledge is vital in certain business dealings such as military procurement contracts and infrastructure development projects. Chang (2007) describes these projects as high on *process specificity*. In these transactions, the government is in effect “locked-in” with the existing procurement team. If the government wants to switch partners during the course of the project, it will take time for the new team to learn what the existing team already knows, thus increasing costs and delaying the schedule of the project. This makes the elimination of the incumbent team unlikely and gives the original investors bargaining power in a renegotiation situation. As a result, investors have the incentive to submit a low bid and secure the right to develop the project (Scherer 1964). They can then use construction claims to expropriate rent from the host government (Ho and Liu 2004). In politically high-profile projects, the government has even stronger incentives to rescue a struggling project in order to protect its own political reputation. The desire

of the government to rescue distressed projects may encourage opportunistic bidding and subsequent rent-increasing behaviors from investors (Ho, 2006).

1.3.4 Limitations of Prior Research on PPP Renegotiation

Existing literature on PPP renegotiation has focused on the causes of renegotiation.

Incomplete contracts, the “obsolescing bargain,” and opportunistic bidding are all examples of potential explanations for why renegotiations happen. In his study of independent power projects (IPPs), Woodhouse (2006) suggests that risks associated with infrastructure concessions can be managed by two different approaches: (a) *risk engineering* – identifying and allocating risks in order to minimize their potential detrimental effects; or (b) *strategic management* – anticipating key vulnerabilities and actively managing them during the course of a long-lived asset. He further concludes that risk engineering is insufficient by itself to effectively manage infrastructure projects. Strategic management, though the term is “somewhat amorphous, has often been a more important determinant of outcomes for IPPs.” (Woodhouse 2006, p.172). That view is shared by Miller and Olleros, who use the phrase *project shaping* to refer to the investors’ continued, flexible effort to guide a project to viability along the entire development process (Miller and Olleros 2000). As they eloquently put it:

...successful projects are not selected but shaped. Rather than evaluating projects at the outset based on projections of the full sets of benefits and costs over their lifetime, successful sponsors start with project ideas that have the possibility of becoming viable. They then embark on shaping efforts that are most likely to unleash this value during a long front-end process. (Miller and Olleros 2000, p.93)

Despite Miller and Olleros' assertion, most scholars in this field have conducted studies identifying renegotiation risk factors, but relatively few have written on the renegotiation process itself. In other words, existing literature tends to focus on risk engineering and underemphasize strategic management (Woodhouse 2006).

Another limitation of the existing research on concession renegotiation is that the studies are often conducted using a rational “calculating” perspective. Economic theories such as game theory lead scholars to assume that stakeholders behave in ways that maximize their expected economic utility—i.e., their time- and risk-adjusted monetary rewards. As a result, renegotiation has often been labeled as stakeholder opportunistic behavior when one side has more bargaining power than the other. While calculated motives may provide partial explanations for human decisions, prior research has shown that other non-strategic factors such as culture can affect project member behavior as well. For instance, Horii and Levitt (2005) model and analyze how culture influences the operation of multi-national (US-Japanese) project teams. Studies incorporating other non-strategic factors to analyze the renegotiation process may provide new insights to our understanding of PPP renegotiations.

A notable exception to the above two limitations was the observation by Wells (2006) regarding his experience of power sector concession renegotiations in Indonesia. In his book *Making Foreign Investment Safe*, Wells (2006) provides a detailed account of the renegotiation process he observed through his consulting experience. Furthermore, he points out that Japanese investors tend to engage in renegotiation bargaining and attempt to reach compromise when confronted with

renegotiation requests initiated by the Indonesian government, whereas Americans tend to seek remedies to renegotiation disputes through legal means. While his comment marks an important awareness of the potential impact culture has on the renegotiation process, it shares a common shortcoming with many early applied psychology studies of intercultural negotiations: namely it uses “geographical location as a surrogate for culture, and consequently, it is often not possible to specify the aspects of culture that account for observed differences” (Gelfand and Dyer 2000, p.63) . As discussed in the following section, advancements in applied psychology enable researchers to break cultures down into multiple dimensions and facilitate theory testing. Relating specific cultural attributes to renegotiation behavior would enrich Wells’ observation and is one of the goals of this study.

The final limitation of previous research concerns the tradeoff between two popular research methods. In his review of infrastructure investment literature, Woodhouse (2006) states that most studies on PPP are either reviews of large statistical samples or specific case studies. Research using statistical quantitative analysis (Guasch 2004; Sirtaine, Pinglo et al. 2005) “offers the rigor of systematic analysis and large data sets, but suffers where key variables that relate to plant operations have been difficult to quantify and measure” (Woodhouse 2006, p.124) . Taylor, Dossick and Garvin (2009) echo this view by stating “Many construction industry phenomena of interest are often too large or too expensive to test in a more traditional experimental fashion and the variables in play can be too numerous for a meaningful quantitative analysis.” (Taylor, Dossick et al. 2009) On the other hand, specific case studies allow researchers to capture project phenomena that may be

overlooked in a statistical analysis, but they cannot be used to make generalized statements beyond the limited number of observed cases (Yin 2003; Flyvbjerg 2006; Taylor, Dossick et al. 2009).

Woodhouse (2006) attempted to avoid the shortcomings of the two methods by using an intermediate approach in his study of IPPs. He studied thirty-four projects from thirteen emerging markets at a level of detail that resembles qualitative case studies. This research also adopts an intermediate approach but differs from Woodhouse's study by applying Charles Ragin's (2000) fuzzy set Qualitative Comparative Analysis method (fsQCA), which is designed to capture the benefits of both statistical analysis and detailed case studies for samples containing ten to twenty cases. The methodology of fsQCA will be discussed in detail in Chapter 2 – *Research Design and Method*.

1.4 Point of Departure – Culture and Negotiation

Every time a PPP stakeholder requests an adjustment to the initial agreement, a negotiation situation arises. Negotiations take place in order to resolve conflicts between individuals or organizations. While there is no consensus on a common definition of conflicts (Thomas 1992), Putnam and Poole (1987, as noted in Thomas 1992) point out there are three themes surrounding the different definitions: interdependence between the parties; perception of incompatibility among the parties' concerns or interests; and some form of interaction.

1.4.1 The Basis of Negotiation and Culture

Negotiation is a process by which two or more parties resolve perceived incompatible goals (Carnevale and Pruitt 1992). Research on negotiation has the theoretical goal of furthering the understanding of the processes and outcomes of negotiations and the practical goal of helping negotiators resolve conflicts effectively (Gelfand and Dyer 2000). Early negotiation theories were heavily influenced by Western-biased underlying assumptions (Pruitt and Carnevale 1993; Triandis 1994; Brett and Gelfand 2005). A case in point, members of western culture tend to uphold rationality and engage in low-context communication meaning is on the surface of verbal communication and nonverbal behavior regardless of the situation or context it is communicated (Hall 1976; Gibson 1997). Subject to these cultural characteristics, western scholars recommend that negotiators openly share goals and objectives in order to identify values (e.g., Bazerman and Neale's (1993) seminal book *Negotiating Rationally*, cited in Brett and Gelfand 2005). It has been suggested that assertive negotiation tactics promote self-respect and thus make the agreement itself more durable (Mnookin et al. 2000). While such a recommendation may yield favorable results in negotiations between low-context communicators who act rationally, it may be less effective when one is dealing with high-context negotiators, such as Asians from the far east region. In recent years, scholars have attempted to address this issue by incorporating culture into negotiation studies.

Many scholars have offered different definitions of culture. Herskowitz (1955) considers culture as the "human-made part of the environment". Faure and Rubin describes culture as "a set of shared and enduring meanings, values, and beliefs that

characterize national, ethnic, or other groups and orient their behavior” (Faure and Rubin 1993). Lytle et al (2005) similarly defined culture as the distinct character of a social group. It consists of shared beliefs, attitudes, norms, and behaviors among group members (Lytle, Brett et al. 2005). House and Javidan (2004) add a temporal dimension to the meaning of culture by defining it as shared motives, values, and beliefs among members of collectives that are transmitted across generations.

In everyday language, culture is often described as the personality or the character of a group of people (Adair and Brett 2004; Markus and Hamedani 2007). With its far-reaching influence on human behavior, culture plays an important role in social interactions including negotiations (Brett 2000). It becomes more interesting as one observes how others from a different culture with different *personalities* engage in intra- and intercultural negotiations. Negotiations between individuals of different culture, with different sets of norms and values, have attracted the interest of scholars from multiple academic disciplines.

1.4.2 Country-specific Research on Culture and Negotiation

In their comprehensive review of literature on negotiation and culture, Gelfand and Dyer (2000) point out that recognition of cultural influences on negotiation traces back to the 1939 statement made by the diplomat Harold Nicolson (in (Druckman and Mahoney 1977)):

There exist certain standards of negotiations which might be regarded as permanent and universal. Apart from these standards, which should be common to all diplomacy, there are marked differences in the theory and practice of the several great powers. These differences are caused by variations in national character, tradition, and

requirements. One can thus distinguish types or species of diplomacy and it is important that these distinctions should be recognized.

Despite Nicolson's visionary recognition, scientific studies of cultural influences on negotiation did not populate academic journals until some 40 years later (Gelfand and Dyer 2000). Early research linking culture and negotiation typically offers descriptions and advice on negotiations in various countries, such as China (Pye 1982; Shenkar and Ronen 1987; Goh 1996; Blackman 1997; Ghauri and Fang 2001; Ma and Jaeger 2005), Japan (Van Zandt 1976; Moran 1985; March 1988; Hawrysh and Zaichkowsky 1991), and Russia (Smith 1989; Schechter 1998).

Another body of research probes on how negotiators from different nations employ different tactics in intercultural settings. For instance, through simulated negotiation experiments, Adler and Graham (Adler and Graham 1987) and Adler et. al (Adler and Graham 1988) found that French-speaking Canadians used fewer cooperative tactics than their American, English-speaking Canadian, or Mexican peers. In another study, Graham (Graham 1985) found that American, Japanese, and Brazilian negotiators used aggressive tactics to the same degree, although American negotiators tended to use these tactics earlier than their Japanese and Brazilian counterparts.

While these country-specific studies provide rich details of culture-specific negotiation styles and intercultural clashes, their contributions are limited to negotiations with the nationals from the countries described. Since many of these country-specific studies use countries as surrogates for more nuanced attributes of

culture, they “are less useful for testing theories about culture and negotiation across a variety of contexts” (Gelfand and Dyer 2000, p. 68).

1.4.3 Research on Culture and Negotiation using Cultural Dimensions

One way to conceptualize cultural differences beyond labeling them as “Japanese” or “American” is the dimensional approach. Markus and Hamedani (2007) explain the concept behind the dimensional approach is that:

“Cultural differences may reflect underlying basic value orientations, beliefs, and worldviews prevalent in a context; however, these differences can be best and most parsimoniously captured by identifying and describing cultures according to where they fall along a series of dimensions”. (Markus and Hamedani 2007, p.14)

Since the 1980s, researchers such as Hofstede (1980, 2001), Schwartz (1992; 1994; 1999), Inglehart (1997; 1998; 2005), and the scholars in the GLOBE study (House, Hanges et al. 2004) have offered different cultural dimensions that explain cultural psychological variation. Some of the cultural dimensions suggested in these studies are very similar. Table 1 summarizes the findings from these different studies.

Researchers linking cultural dimensions and negotiation are generally concerned with two distinct facets of negotiation – the conflict management approach and the negotiation process. Research projects in the two fields often share similar research designs and attract interest from a similar group of scholars. The following sections discuss in depth the relationship between various cultural dimensions and these two facets of negotiation.

Table 1- Comparison of various culture dimensions and their relationships with negotiation behaviors

Dimensions	Description	Hofstede	Schwartz	Inglehart	GLOBE	Related to
Power Distance	extent to which less powerful members accept and expect that power is distributed unequally	✓	✓ (hierarchy)		✓	Level of confrontation in conflict resolution (Leung 1998) Conflict resolution model: deferring, regulations, integration (Tinsley 1998)
Individualism-Collectivism	the extent to which individuals define themselves apart from their in-groups, organizations, and families	✓			✓ (collectivism II)	Conflict resolution model: deferring, regulations, integration (Tinsley 2001) Resolve issues vs. concern for authority (Tinsley and Brett 2001) Proposing extreme offers (Gelfand and Christakopoulou 1999) Propensity to lie (Triandis et al. 2001) Competitive behavior when held accountable (Gelfand and Realo 1999) Fix-pie error (Gelfand and Christakopoulou 1999) Self-perceived fairness (Gelfand et al 2002) Self-serving behavior and negotiation outcome (Gelfand et al 2002)
Masculinity-Femininity	societal value placed on competitiveness, assertiveness, and ambition (masculinity) or relationships and quality of life (femininity)	✓			✓ (assertiveness)	
Uncertainty Avoidance	extent to which members of a society attempt to minimize uncertainty	✓			✓	
Long-term Orientation	the importance attached to the future by members of a society	✓			✓ (future orientation)	
Conservatism	extent to which members of a society maintain the status quo, propriety, and uphold tradition		✓			Competing vs. Avoiding style (Morris 1998) Self-interest and joint problem-solving norms vs. equality norm (Tinsley and Pillutla 1998) Resolve issues vs. concern for authority (Tinsley and Brett 2001)
Intellectual Autonomy	extent to which individuals are expected to be autonomous and entitled to pursue their own ideas		✓			
Affective Autonomy	extent to which individuals are expected to pursue their stimulations and affectively positive experiences.		✓			
Egalitarian Commitment	extent to which members of a society are expected to put selfish interests behind collective welfare.		✓		✓ (collectivism I)	Resolve issues vs. concern for authority (Tinsley and Brett 2001) Self-interest and joint problem solving norms vs. equality norm (Tinsley and Pillutla 1998)
Mastery	extent to which members of a society seek to actively change his/her environment and exercise individual's rights to get ahead of other people		✓			
Harmony	extent to which members of a society accept the world as it is without attempting to change it.		✓			
Survival vs. Well-being	extent to which a society shift its focus from scarcity norms, self denial (survival) to emphasis of quality of life, emancipation of women and self-expression			✓		
Traditional authority vs. secular-rational authority	extent to which a society upholds obedience to traditional authority, as opposed to the view that authority is justified through economic and individual achievement			✓		
Gender Egalitarianism	the degree to which gender role differences are deemphasized in a society				✓	
Performance Orientation	the degree to which society rewards group members for performance improvement or excellence				✓	
Humane Orientation	the degree to which individuals are rewarded for being fair, altruistic, generous, and kind to others				✓	

Sources: Hofstede (1980, 2001); Schwartz (1992, 1994, 1999); Inglehart (1997, 1998, 2005); House (2004)

1.4.3.1 Cultural Dimensions and Conflict Management

Conflict management is the process by which two or more parties attempt to resolve real or perceived differences to a mutually acceptable agreement (Faure and Rubin 1993). Based on the managerial grid model developed by Blake and Mouton (Blake and Mouton 1964), Thomas and Kilmann(1974) derived a two-dimensional taxonomy of conflict handling modes (Figure 2). Depending on the level of assertiveness and cooperativeness among negotiators, the authors suggest there are five approaches to resolving conflicts: competition, collaboration, compromise, avoiding, and accommodation. A number of studies investigated the link between conflict resolution approach preference and various cultural dimensions, such as individualism-collectivism.

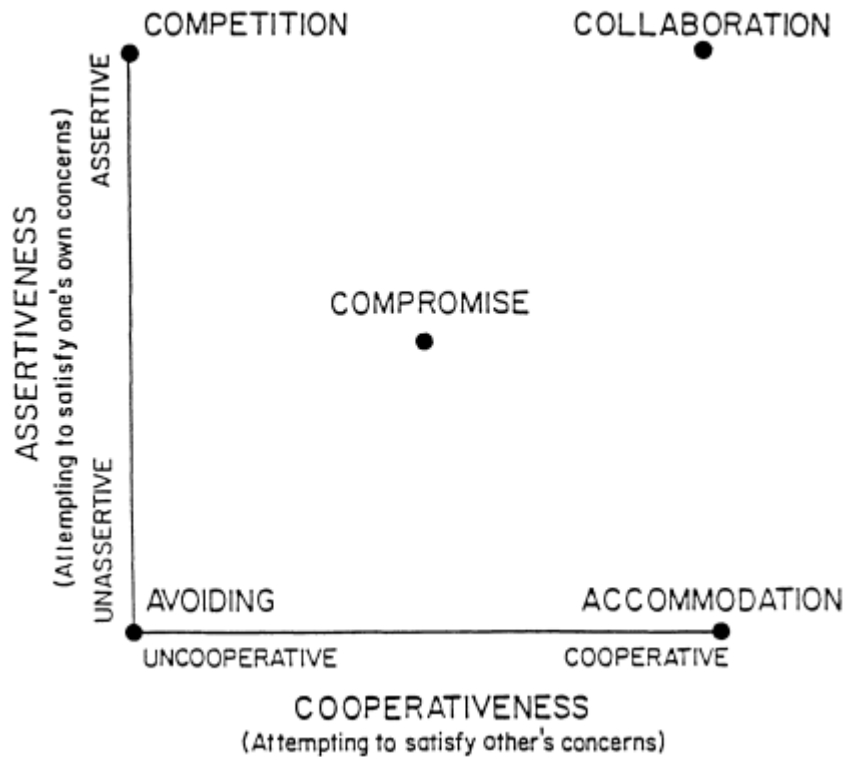


Figure 2 - Two-dimensional taxonomy of conflict handling modes (adapted from Thomas and Kilman 1974, p.11, as found in Thomas 1992)

Of all the different cultural dimensions, the most frequently cited one in negotiation research is collectivism-individualism (Leung 1998). According to Hofstede, collectivism “...stands for a society in which people from birth onwards are integrated into strong cohesive in-groups, which throughout people's lifetime continue to protect them in exchange for unquestioning loyalty” (Hofstede 2005, p.260). On the other end of the spectrum is individualism, which “stands for a society in which the ties between individuals are loose: everyone is expected to look after himself or herself and his or her immediate family only” (Hofstede 2005, p.261) . Members of individualistic cultures (such as The United States and Great Britain) are generally more concerned with preserving individual rights, whereas those of collectivistic

culture (such as Chinese and Japanese) are more concerned with preserving harmonious social relationships (Markus and Lin 1998). Accordingly, members of individualistic cultures are more likely to attempt to resolve conflicts through competition and problem solving; whereas those of collectivist culture tend to handle conflicts without direct confrontation in order to preserve the relationship (Leung 1998).

In a simulated negotiation experiment using MBA students from the United States, China, India, and Philippines, Morris et al. (1998) found that societal conservatism positively related to the use of the *Avoiding* style in conflict resolution. They also found that Chinese participants displayed a greater tendency to use the *Avoiding* style; whereas Americans were more ready to use the *Competing* style compared to others. Tse et al (1994) made a similar observation as they found Chinese executives to be more likely to use the avoiding conflict management strategy than their Canadian counterparts. In a separate study, Tinsley and Weldon (2003) found that American managers were more likely respond to conflicts with a direct approach; whereas their Chinese counterparts tended to use an indirect approach. Contrary to cross cultural theories which suggest interpersonal harmony is more important in collectivistic culture, their findings showed Chinese managers displayed a stronger desire to shame their counterparts in response to a normative conflict.

In another study, Tinsley (Tinsley 1998) developed three models for conflict resolution: deferring to status power, applying regulations, and integrating interests. She suggested that a negotiator's preference over which conflict resolution model to

employ depends on the negotiator's cultural dimensions of *hierarchy*—the extent to which a society legitimizes hierarchical roles and resource allocation; *explicit contracting*—the extent to which a society encourages establishment of formal standards; and *polychronicity*—the extent to which individuals prefer to work on multiple activities at the same time. She hypothesized that U.S. managers would prefer integrating interests; German managers would prefer utilizing existing regulations; and Japanese managers would prefer deferring to status power. Her results generally confirmed the hypotheses posted, but only accounted for 51% of the variance in conflict strategy preference (Tinsley 1998).

In a later follow-up study, Tinsley (2001) was able to account for the cultural group variance by adding individualism to the analysis of conflict management strategy based on cultural values. In a third study, Tinsley and Brett (2001) found different conflict resolution norms for U.S. vs. Hong Kong managers. They found that U.S. managers were more likely to discuss issues, synthesize mutual interests, and resolve conflicts. On the other hand, Hong Kong managers had more concern for authority and were more inclined to take issues to higher management. The authors attributed the observed difference to differences in the cultural dimensions of individualism, egalitarianism, and openness to change.

1.4.3.2 Individualism-Collectivism and Negotiation

In another set of research projects, scholars studied how culture influenced participants' behaviors during the negotiation process in intra- and intercultural settings. In a study using simulated negotiations between Americans (representing individualistic culture) and Greece (representing collective culture), Gelfand and

Christakopoulou (1999) found that members of an individualistic culture made more extreme offers, indicating individualists attempt to maximize personal gain by claiming. On the other hand, collectivist negotiators focused on both parties during the negotiation (Gelfand and Christakopoulou 1999). In another study, Triandis et al. (Triandis, Carnevale et al. 2001) found that collectivists were more likely to lie than individualists in a negotiation situation.

While most studies on culture and negotiation treat culture as an independent variable (Tsui and Nifadkar 2007), Gelfand and Realo(1999) tested the moderating effect of culture on negotiation behavior. Given that accountability enforces norms of behavior, which vary between collectivists versus individualists (Markus and Kitayama 1991; Triandis 1995), the two researchers tested their hypotheses that accountability would lead to different negotiation behaviors and outcomes based on the participant's collectivism-individualism dimension by conducting a laboratory study (with Caucasian and Asian American students as subjects) and a judgment study (with Americans and Estonians). They found that accountability enhanced competition for individualistic negotiators but encouraged cooperation among collective participants. Their study refined previous research results (see Gelfand and Realo 1999 and Pruitt and Carnevale 1993), which suggested accountability promotes competitive behavior from negotiators. Instead, accountability “produces the behavior most normative for individuals in their sociocultural experience” (Gelfand and Realo 1999, p.721) .

In addition to its effect on negotiation behavior, Individualism-collectivism also affects negotiators' cognition. Using a computer-mediated negotiation simulation, Gelfand and Christakopoulou (1999) found that members of an individualistic culture (United States) committed a fixed-pie error—i.e., they failed to recognize other negotiators' interests due to a win-lose presumption—more often than did those from a collectivistic culture (Greece). In another study, Gelfand et al (2002) used four different methods to confirm their hypothesis that members of an individualistic culture (United States students) are more likely to associate themselves with fair behaviors and others with unfair behavior compared to members of a collectivistic culture (Japanese students). They also found that U.S. participants were more self-serving and achieved lower outcomes— i.e., fewer reached agreements and lower profit— compared to their Japanese counterparts.

1.4.3.3 Other Cultural Dimensions and Negotiation

In addition to individualism-collectivism, other cultural dimensions have been found to influence the negotiation process. One of them is low-context versus high-context cultures, first introduced by Hall (1976). Members of a low-context culture tend to communicate more directly than those of high-context cultures (Chua and Gudykunst 1987). Adair, Okumura, and Brett (2001) compared the negotiation behaviors of Japanese and U.S. managers in inter- and intra-cultural negotiations. They found that the U.S. negotiators exchanged information directly and avoided influence in both settings; whereas the Japanese negotiators exchanged information indirectly and used influence in intra-cultural negotiations but adapted their behaviors in inter-cultural settings (Adair, Okumura et al. 2001). In a later study, Adair and Brett (2005)

compared the negotiation behavior of low-context and high-context cultures. From a series of 90-minute simulated negotiations among nationals from eight countries, they observed different patterns and frequencies within the four different negotiation stages: *relational positioning*, *identifying the problem*, *generating solutions*, and *reaching agreement*.

Tinsley and Pillutla (1998) compared the negotiation norms of U.S. and Hong Kong negotiators and found that negotiations among U.S. participants displayed self-interest and joint problem-solving norms; whereas negotiations among Hong Kong participants displayed an equality norm. They attributed the difference to differences on Schwartz's (1992) cultural values of *self-transcendence and conservatism*.

1.4.4 Limitations of prior research on culture and negotiation/conflict management

While studies that factor in the cultural influence of negotiators provide new insights and add depth to the negotiation literature, prior research on culture and negotiations has significant limitations. The following sections discuss these limitations in depth.

1.4.4.1 Limitation 1: Collective and interactive effects of cultural dimensions

Recent studies that analyze cultural differences using cultural dimensions present an important next step to move beyond using geographic locations as surrogates for culture. In many of these studies, the researchers achieve different cultural values by selecting subjects from two countries on different ends of a cultural dimension (ex. (Gelfand and Christakopoulou 1999; Adair, Okumura et al. 2001; Gelfand, Higgins et al. 2002). By observing these subjects in negotiation situations, researchers drew the link between a particular cultural dimension and certain negotiation behaviors.

Although these studies have helped further the knowledge on intercultural negotiations, there are at least two shortcomings to this research approach.

Firstly, it is difficult to attribute the observed variance in negotiation behavior definitively to the proposed cultural dimension, when differences on other cultural dimensions could also have caused the observed differences. This is especially true when the sample consists of only two countries, as controlling other cultural dimensions becomes difficult, if not impossible. Internal validity can be greatly improved when researchers select multiple countries for their sample, with different values on the cultural dimension continuum being studied.

Secondly, studies that focus on a single cultural dimension as the independent variable overlook the conditional and interactive effects of various cultural dimensions. It is quite possible that the same cultural dimension can have different effects on the outcome based on which other variables are present. Future research can go beyond studying causal effect of individual cultural dimensions on negotiation behavior and explore interactive effects of various cultural and other variables.

1.4.4.2 Limitation 2: Research subjects and data collection

In their article discussing the cultural elements of negotiation theories' underlying assumptions, Brett and Gelfand (2005) point out that many of the studies on culture and negotiation collected their data through simulated negotiation experiments involving international students (examples include Adair and Brett 2005; Gelfand and Christakopoulou 1999; Tinsley and Pillutla 1998; Tinsley and Brett 2001; Morris et al. 1998; Gelfand and Realo 1999). Although using students as subjects in experiments

can provide good controls and a large N dataset for quantitative analysis, students' responses and actions may not be good indicators of practitioner behaviors in International Business settings, so the external validity of studies with students as subjects is thus undermined (see Bello, Leung et al. 2009). By analyzing how students behave in an Architecture/Engineering/Construction (A/E/C) problem-based learning experiment, Zolin et al. (Zolin, Fruchter et al. 2003) observed students "with little education or work experience do not provide as good a sample as those [subjects] who are more similar to the typical industry worker." (p.795)

Another common research design in the extant literature is using questionnaires (examples include Triandis et al. 2001, Tinsley 1998). In these studies, practitioners are generally given a hypothetical scenario and are asked to provide a likely response. The weakness of this approach is that responses to hypothetical situations often differ from actual behaviors. Surveys have been suggested to be more effective in collecting information on paradigmatic behavior (how one should act) rather than actual behaviors (Nunnally 1979). In his study comparing stated intentions and actual behaviors, Charles Manski (1990) observes that data on stated intentions only bounds but does not predict likely subsequent behavior. The gap between questionnaire response and actual behavior is likely to widen when practitioners confront megaproject issues, where decisions carry enormous political, financial and career enhancing or limiting consequences, so the stakes are extremely high, both financially and socially. The last shortcoming of using simulated experiments or surveys is that both are subject to short-term perspectives. With experiments and surveys completed in a matter of hours if not minutes, neither approach captures the

long term dynamics of megaproject negotiations, as Brett and Gelfand (2005)

comment:

...in negotiation research, relationships, especially long term relationships that transcend the boundaries of the current negotiation, have not been a focus of attention. There is a very simple reason for this. Most Western culture research on negotiation is based on simulations with a discrete beginning and end, being negotiated by students or managers who may or may not be acquainted, and who know that they are participating in a simulation. The design of the research encourages a game type perspective and provides no long-term outcomes.

In the aforementioned experiment by Zolin et al (1999), the authors observed that the length of the experiment also played a crucial role in allowing participants to develop professional identity and relationships with other participants. When comparing students' behaviors between month 1 and month 3 in a 5-month experiment, the authors noticed significant differences on participants' professional identity and relationship development that could not be detected in a 1-month experiment. Coupled with their observation on sample composition in their experiments, the authors suggested that realistic work group composition, along with longer experiment time frame in industry-like conditions, will lead to more realistic findings in work-behavior studies.

1.4.4.3 Limitation 3: Assumed relationship

Most of the studies to date on intercultural negotiation assume commercial buyer-seller dealings (Gelfand and Dyer 2000). As a result, subjects in intercultural experiments are often given hypothetical business-to-business (B2B) negotiation

scenarios with the implicit goals of maximizing profits. While commercial B2B relationships present a very significant portion of intercultural negotiation situations, findings and recommendations from these studies may not fully apply to PPP dealings. Unlike private parties, host governments in PPP agreements have political and ideological motivations that are often not primarily profit-driven. The differences in these underlying motivations, in turn, likely lead to negotiation behaviors that are not described or predicted in the B2B literature.

This research strives to overcome the aforementioned research limitations by not recruiting students as subjects or using questionnaire responses for data. Instead, public records of actual PPP projects are collected and analyzed. Studying project participant histories, some spanning as much as a decade, allows the researcher to observe actual PPP stakeholder behavior over a longer period of time compared to many aforementioned intercultural negotiation studies. The research design and method is discussed in detail in Chapter 2.

1.5 Point of Departure – Institutional Theory

Besides culture, institutions also have profound influences on human behavior. How a negotiator acts will inevitably be affected by the “rules of the game” and how others expect him/her to act. Scott illustrates the abstract concept of institution with a three pillar model.

1.5.1 Three pillars of institutions and related construction management research

Using a three pillar framework, Scott defines *institutions* as the “regulative, normative, and cultural-cognitive elements that, together with associated activities and resources,

provide stability and meaning to social life” (Scott 2001). Regulative elements are the written rules and laws that govern behaviors. They are coercive measures that guide violations back to predetermined standards. Among the three pillars of institutions, regulative elements are the most explicit type and thus the easiest to observe. Examples of the regulative pillar of institutions in the context of international infrastructure projects include applicable local laws and regulations of the host country. Normative elements deal with what are deemed appropriate behaviors in a society or a community. They are concerned with the socially accepted standards, including unwritten ones. Compared to the regulative elements, normative measures are more subtle and tacit. Shared values, norms, and interpersonal expectations implicitly guide behaviors of the members in a community. In the context of international projects, examples include nationally varying industry standards, professional roles, and prevailing industry practices. Cultural-cognitive elements are concerned with how individuals make sense of different situations. Cultural-cognitive beliefs are subjective interpretations; yet they are socially constructed and reinforced. Through isomorphism, individual members of a society develop a shared perspective on how to relate to the world and each other.

The three pillars of institutions work together to shape and reinforce internal beliefs and external behaviors of individuals in a community. Cultural-cognitive beliefs are supported by the regulative pillar with rules, laws, and regulations that are meant to guide behavior that are consistent with the societal norms and values. And by engaging in socially acceptable behaviors, a person reinforces his/her belief about what is proper or appropriate behavior in a given situation. As Scott (2001) puts it,

“(t)he regulative and normative pillars can be mutually reinforcing” (p.53). Through practicing behaviors that are culturally supported, a person develops perspectives for different situations and begins to have a shared understanding of the environment he or she shares with other members of a society. These cultural-cognitive understandings can be taken-for-granted as a person continues to interact with people who share the same perspectives and think and act in similar fashions (Scott 2001). Institutions impact how PPP stakeholders perceive their roles in the agreement, how they consider what appropriate behaviors are in different situations, and how they evaluate what are equitable processes and outcomes.

1.5.2 Construction management research using the three-pillar institution framework

Research studies involving institutions began to emerge in the international construction management literature in the late 1990’s. Most of the early studies focused on the regulative risks associated with international projects (Javernick-Will 2010). Examples of identified risk factors include change in law and expropriation (Wang, Tiong et al. 1999), inconsistency in host country policies and regulations (Bing 1999), and political instability (Ofori 2003).

On the other hand, studies pertaining to the other two institutional pillars – normative and cultural-cognitive – have received relatively little coverage in the international project management literature until recent years. Mahalingam and Levitt (2007) use institutional theory to explain conflicts and cost escalation in cross-border projects. Orr and Scott (2008) use the three-pillar framework to investigate how institutional exceptions – conflicts resulting from institutional differences between the

entrant firm and the host country – can result in unforeseen cost escalation, and offer a process model to explain how investors go through typically three phases: ignorance, sense-making, and response.

1.5.2 Rule of Law

One of the institutional measures that has been found relevant to renegotiations of infrastructure concession agreement is the *rule of law* of the host country. Using indices from Political Risk Service and International Country Risk Guide as proxies for the rule of law of a host country, Guasch (2006) found that rule of law is negatively correlated with the occurrence of renegotiation in Latin American concessions. In other words, the better the rule of law a host country has, the less likely a project would be renegotiated and cause modifications to the original contract.

While the term may be widely used by scholars and commentators, rule of law is a disputed term without a precise, widely-accepted definition (O'Donnell 2004; Yu and Guernsey 2007). Broadly speaking, the term rule of law refers to “attempts to protect the rights of citizens from arbitrary and abusive use of government power” (Yu and Guernsey 2007) or “protection of the individual against state power-holders” (Jones 1958, p.145). Aside from this vague concept of protection of individuals’ rights from the government, a precise and widely-accepted definition of rule of law remains elusive. As a result, many scholars have prepared different indices measuring different aspects of the rule of law to suit their needs in their research. Examples include political freedom (Freedom House Index) and corruption (Corruption Perceptions Index by Transparency International).

Despite this somewhat scattered approach to defining and codifying the concept of rule of law. Efforts have been made to find commonalities among different perspectives. In his book *The Morality of Law*, Fuller (1977) suggested the following eight elements pertaining to the rule of law:

- Laws must be obeyed by all citizens, including people of power
- Laws must be published
- Laws prospective – only effective over behaviors since the passing of the law
- Laws should be written with clarity to avoid confusion
- Laws must avoid contradiction
- Laws must be possible to obey and enforce
- Laws must stay constant except for timely revisions
- Laws must be consistently enforced

Fuller's list of eight elements was an early attempt to spell out systematically the many facets pertaining to the establishment and enforcement of rule of law. In recent years, a major study made another attempt to include the many different facets of rule of law. That study, and the application of its indices in this research, will be discussed in detail in *Section 2.2.2.3 – Independent Variables: Institutional Effects*.

1.6 Summary of the three branches of the literature

Upon inspecting the three academic disciplines discussed in this chapter, I suggest that carefully designed and conducted research on the renegotiation process of PPP concessions can enrich the CM literature that has primarily focused on renegotiation

causes. Also, using empirical renegotiation decisions from investors can address a major weakness – using students as subjects in game settings – of the prevalent studies on intercultural psychology. The following chapter is devoted to the research design and methodology of the research study.

CHAPTER 2: RESEARCH DESIGN & METHOD

2.1 Research Questions

This study has the goals of deepening our understanding of the PPP renegotiation process and addressing the limitations of the various bodies of literature discussed in Chapter 1. Figure 3 illustrates how this research differs from previous work on PPP renegotiation. In order to achieve these two goals, this research moves beyond analysis of renegotiation causes and instead focuses on the renegotiation process that follows. Specifically, it focuses on the investor's choice between legal actions and relational bargaining as a response to government-initiated renegotiations.

Government-initiated renegotiation is defined in this study as a dispute between the host government and the investor over the potentially detrimental effects to the viability of an active concession agreement due to government actions. For instance, if a new government enters office and wants to challenge the investor's right to increase tolls at a rate specified in the original contract (as is the case in Ontario's ETR 407), it is considered a government-initiated renegotiation, even if the terms of the contract may not undergo official modifications.

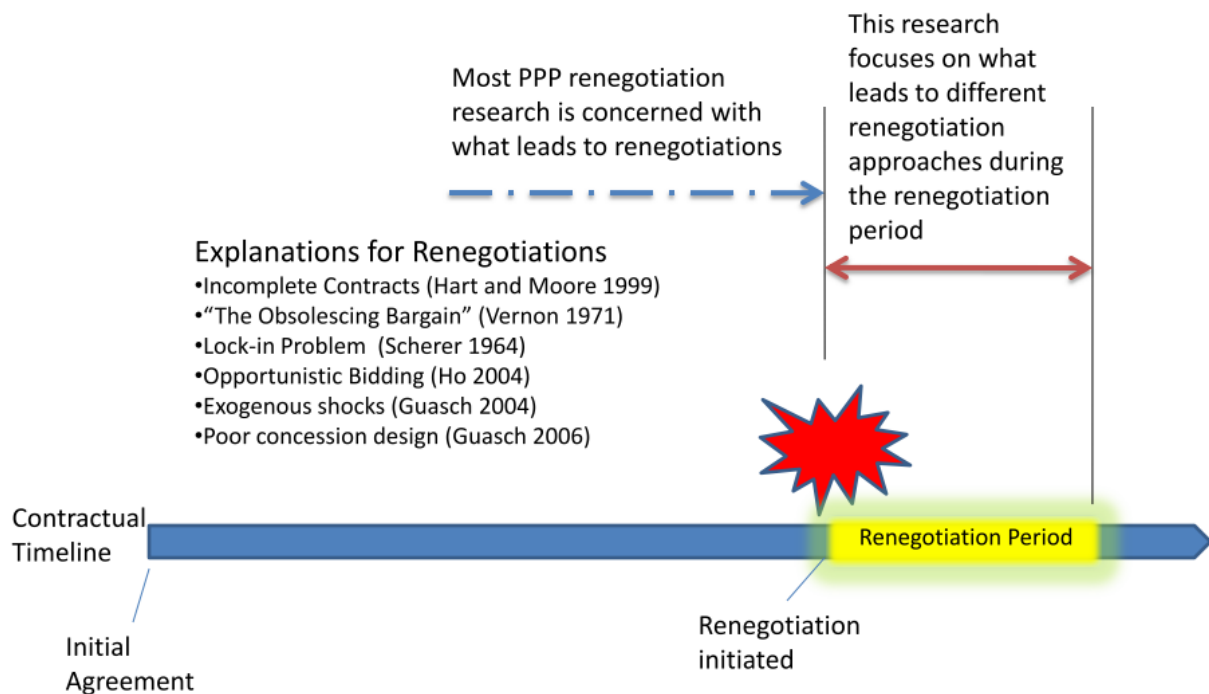


Figure 3 - Positioning of current research with respect to the existing literature

Confronted with government-initiated renegotiations, investors generally can choose to respond with legal actions – seeking arbitration or litigation, or they can give up the right to seek legal actions and choose to renegotiate a new agreement. A natural question that arises out of this observation is “What motivates investors to choose one approach over another?” As mentioned in Chapter 1, many previous studies on renegotiations have adopted a rational, calculating economic perspective. Albeit important, strategic reasons are only one of the factors actors consider as they make decisions. Cultural and institutional effects can also come into play as investors weigh different options. The objective of this study is to investigate how strategic factors, cultural dimensions, and institutional environments collectively and

interactively affect investors' choice between legal and relational response to government-initiated renegotiations. This raises the following research questions :

1. Which factors contribute to leading investors to choose the relational bargaining approach over legal actions in government-initiated renegotiations?
2. What combinations of strategic, cultural, and institutional factors affect investors' preference for arbitration or renegotiation bargaining?
3. Is there one factor that dominates the effect of others and is sufficient by itself to predict investor's renegotiation approach?

The remaining sections of this chapter are devoted to the design of the research study set up to answer to answer the above research questions.

2.2 Research Design

In order to answer the research questions raised, propositions relating investors' renegotiation approaches (dependent variable) to their strategic, cultural, and institutional attributes (independent variables) are presented. Each of the following variables is discussed in detail in the following paragraphs.

2.2.1 Dependent Variable

An important part of the renegotiation process is the negotiation approach taken by the stakeholders. In a strategic alliance, partnering companies can choose between two approaches - the structural/legal approach vs. the relational approach – as the basis of governance for the collaboration (Faems, Janssens et al. 2008). The structural/legal approach emphasizes the enforcement of the legally binding contract; whereas the relational approach focuses on the ongoing relationship with the business partner and “emphasizes the importance of trust for safeguarding and coordinating alliances.”

(Faems et al 2008, p.1053). In the context of PPP projects, these two approaches have been associated with arbitration and relational renegotiation (Wells and Ahmed 2006). Investors who want to challenge a host government’s renegotiation request (or actions that lead to a dispute) legally often choose to file a claim to initiate the arbitration or litigation process; whereas those who want to resolve differences relationally often set aside the right to legal actions and opt instead for renegotiation bargaining. It is important to note that the line between the two approaches is often not clear in practice, and they can be used in tandem as a deliberate strategy. For instance, an investor who prefers relational renegotiation may file a claim to fulfill its legal responsibility and use arbitration as a fall-back plan should the negotiation break down. Edkins and Smyth (2006) developed a relational-legal continuum (Figure 4) to illustrate that the two approaches vary by degree, rather than differ by type.

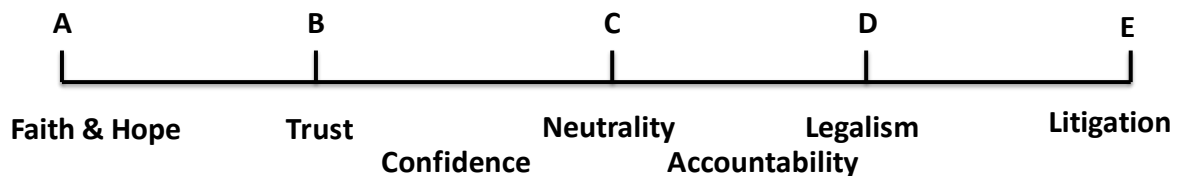


Figure 4 - Relational-legal contracting performance continuum (Edkins and Smyth 2006)

2.2.2 Independent Variables

From his observations of Indonesian power plant contract renegotiations, Wells (2006) suggests strategic and cultural factors can, in part, affect an investor’s renegotiation approach.

2.2.2.1 Independent Variables - Strategic Factors

Many of the strategic motivations for an investor's renegotiation approach fall under the influence of what Heide and Miner (1992) refer to as the "shadow of the future". As game theorists would put it, in a repeated game a player's current strategy is affected by the future consequences due to today's action. Thus, investors who hope to maximize long term gain may take actions that do not necessarily maximize immediate reward but will lead to cumulatively more favorable scenarios in the future.

Based on his involvement as a consultant in several concession renegotiations, Wells (2006) observed that investors are much more willing to renegotiate relationally when they either have other current business ties in the host country, or when they want to continue doing business with the host government in the future. Legal actions such as arbitrations often damage business relationships and thus investors who have ongoing or future business presence in the host country will tend to favor renegotiation over legal means of dispute resolution. Although Wells' argument is consistent with game theory, the extent of his observation was limited to a handful of cases in one country (Indonesia). In this research, Wells' suggested causal relationship between level of current/future business ties in the host country and preferred renegotiation approach is tested in a broader sample. The following two propositions are presented:

Proposition 1: The higher the level of current investment an investor has in the host country besides the project in dispute, the more likely it will employ a relational renegotiation approach.

Proposition 2: The higher the level of future business activities an investor has in the host country beyond the project in dispute, the more likely it will employ a relational renegotiation approach.

2.2.2.2 Independent Variables - Cultural Dimensions

Research by Hofstede (1980, 2001), Schwartz (1992; 1994; 1999), Inglehart (1997; 1998; 2005), and the GLOBE project group (House, Hanges et al. 2004) helped operationalize the abstract idea of culture into a set of cultural dimensions. A detailed comparison of the four different approaches is beyond the scope of this research and readers can consult Terlutter, Diehl, and Mueller (2006) for a comprehensive review. For this research study, the GLOBE study cultural dimension values are used to represent the cultural attributes of the investor. The decision to use the GLOBE study value over the widely-used Hofstede dimensions is based on a number of considerations.

Firstly, the GLOBE study clearly distinguishes between cultural values (desired behaviors) and practices (frequently observed behaviors). The two are often different, or even in conflict, as demonstrated by Den Hartog's finding of slightly negative correlation between societal values and societal practices for the cultural dimension of assertiveness (Den Hartog 2004; Terlutter, Diehl et al. 2006). In other words, the GLOBE study pointed out the fact that members of a society do not generally engage in assertive behaviors (practice) but admire the assertive quality (value). The fact that Hofstede's studies make no such distinction presents a major limitation of his research findings (Terlutter, Diehl et al. 2006). Another advantage of the GLOBE study is that the results are based on a survey of 17,300 middle managers

in 951 organizations conducted after 1994 from three industries: financial services, food processing, and telecommunications. Hofstede's data collection took place between 1968 and 1972 and involved IT workers in only one firm (IBM). The more current data from a broader spectrum of businesses, when compared to Hofstede's study, makes the GLOBE scores a timelier and more comprehensive tool to study national cultural differences (Terlutter, Diehl et al. 2006).

The nine cultural dimensions from the GLOBE study are:

- 1) *assertiveness*, the degree to which members in societies are confrontational and straight forward;
- 2) *uncertainty avoidance*, the degree to which individuals rely on established social norms and practices to avoid uncertainty;
- 3) *power distance*, the degree to which members accept and expect power to be distributed unevenly;
- 4) *collectivism I* (institutionalism), the degree to which collective distribution of resources and collective action is upheld;
- 5) *collectivism II* (in-group collectivism), the extent to which individuals express loyalty and cohesiveness to their in-groups, organizations, or families;
- 6) *gender egalitarianism*, the degree to which gender role differences are deemphasized in a society;
- 7) *future orientation*, the degree to which individuals engage in future-oriented activities such as planning, investing in the future, and delaying gratification;

- 8) *performance orientation*, the degree to which society rewards group members for performance improvement or excellence
- 9) *humane orientation*, the degree to which individuals are rewarded for being fair, altruistic, generous, and kind to others.

In this research, the national culture of the lead investor in a project is used as the independent variable based on culture. As such, one of the case selection criteria is that the case project needed to have a lead sponsor that has significantly more equity ownership than all other investor partners. The lead sponsor of each project is assumed to have the greatest influence over the major decisions pertaining to the project. This assumption was cross checked during the review of the project renegotiation history as recorded by various sources. The identification of a clear lead investor also makes it possible to assign the cultural attribute to the lead investor based on the cultural dimension score of the lead investor's country of origin.

Although the GLOBE study captures cultural values and practices at a societal level instead of an individual level, individuals share values and adopt practices through interactions with other members of their society. Thus, average or typical values and practices of a society are reasonable proxies for the values and practices of its individual members (Terlutter et al. 2006). Since this research involves observing and coding investor renegotiation *behaviors*, the GLOBE study's *cultural practice* scores, as opposed to the *cultural value* scores, are used as the inputs for the investor's cultural dimensions. The GLOBE cultural dimensions believed to relate to the investor's preferred renegotiation approach are discussed below, followed by corresponding propositions.

Assertiveness: Members of a society with a high degree of *Assertiveness* tend to be confrontational and straightforward (House 2004). They are encouraged by the society to be tough and competitive (Javidan et al 2006). People high in *Assertiveness* often use inflexible tactics to force concessions from the other side (Ma 2005). They are also found to employ more competitive strategies in simulated buyer-seller negotiations (ibid). In Japan, where the GLOBE *assertiveness* cultural score is low, the lawyer-to-population ratio is low (Kawashima 2001), reflecting the “imbed[ded] cultural preference for harmonious reconciliation and disapproval of the *assertiveness* and contentiousness that are associated with litigation” (Galanter 1983, p.30). Since relational renegotiations require cooperative discussions and often lead to compromises, assertive members are expected to prefer going straight to their legal remedies to resolve disputes in concession agreements.

Proposition 3: A higher assertiveness score of the lead investor will lead to a more legalistic renegotiation approach

Collectivism: Members of a society with a high level of *Collectivism-I* expect collective distribution of resources and uphold collective actions (House 2004). Members of individualistic cultures uphold individual rights while those of collectivistic cultures are more concerned with preserving relationships (Markus and Lin 1998). Thus, members from individualist cultures are more likely to attempt to resolve conflicts through competition and problem solving; whereas those from collectivist cultures tend to handle conflicts without direct confrontation in order to preserve the relationship (Leung 1998). These investors’ preferences of conflict

resolution approaches can be expected to be similar over concession renegotiation strategies.

In many cases, unforeseen events trigger the need to adjust an ongoing agreement and test the willingness of stakeholders to redistribute the benefits. For example, during the current global economic crisis that began in the late 2000's, the demand for many natural resources and types of infrastructure has declined significantly. At the same time, the financing costs of many loans have greatly increased. These new conditions often require major adjustments to the original contracts of ongoing projects from both the government and investors to keep the deal viable. Facing the new economic conditions, individualistic investors are expected to be more likely to be concerned with protecting their rights and ensuring their profit margins remain intact, through legal means if necessary. On the other hand, since group goals and interests are considered more important than individual goals and interests in collective societies (Javidan et. al 2006), investors with a high level of *Collectivism-I* are expected to be more likely to engage in relational renegotiations to keep the project going forward and preserve the business relationship.

Proposition 4: A higher Collectivism-I score of the lead investor will lead to a more relational renegotiation approach

Future Orientation: Members of a society with a high degree of *Future Orientation* have a higher capacity to take on delayed gratification and are more willing to invest for the future (House 2004). Negotiators with a long-term orientation favor integrative negotiating strategies as opposed to competitive strategies (Usunier

2003). Since legal actions such as arbitration and litigation often lead to damaged relationships and hinder future collaborations (Wells 2006), it is expected that investors high on Future Orientation will be more willing to avoid resolving matters through legal means if possible, in order to preserve the business relationship for potential future collaborations.

Proposition 5: A higher future orientation score of the lead investor will lead to a more relational renegotiation approach

Humane Orientation: Societies with high humane orientation reward their members when they engage in altruistic, generous, and kind behaviors (House 2004). They generally value harmony among members within the society (Javidan et al 2006). Since relational renegotiations are generally less hostile (Wells 2006) and are more likely to require goodwill from both governments and investors than legal actions, members from societies with high humane orientation are expected to be more likely to adopt relational renegotiations.

Proposition 6: A higher humane orientation score of the lead investor will lead to a more relational renegotiation approach

2.2.2.3 Independent Variables – Institutional Effects

As mentioned in Chapter 1, Guasch (2006) found a negative correlation between rule of law and occurrence of renegotiation. To extend on Guash's study, this research project investigates how rule of law may affect the renegotiation process—i.e., the investor's renegotiation approach—once the dispute takes place.

It is reasonable to expect that low rule of law undermines the investor's confidence in getting a fair trial once legal action is sought. If an investor is not protected by strong rule of law, either from the host country's strong judicial system or through a predetermined arbitration procedure in a country with strong rule of law, he/she may have no choice but to renegotiate if there is a dispute.

Proposition 7: Low rule of law will lead to a more relational renegotiation approach.

A recent attempt to codify the many facets of rule of law was carried out by the scholars from the World Justice Project, who presented their rule of law index in the World Justice Forum in November of 2009. Consisting of 16 factors and 68 sub-factors under four principles (Exhibit 1), this rule of law index offers a more comprehensive measure of a country's rule of law than other indices that focus on one particular aspect.

Table 2 - Rule of Law Index by Subfactors (Source: World Justice Project Report 2009)

Band	Factor	Sub factor	Abbreviated description
Band 1. Accountable government	1. Government powers limited by constitution	1.1	Government powers defined and limited
		1.2	Constitution amended only according to law
		1.3	Rights suspended only as constitution permits
	2. Governmental and non-governmental checks	2.1	Powers distributed to keep government in check
		2.2	Government subject to independent audits
		2.3	Executive shares information with other branches
		2.4	Government information publicly disclosed
		2.5	Reporters and whistleblowers free from retaliation
	3. Accountable government officials and agents	3.1	Government officials accountable for misconduct
		3.2	Government officials subject to law
		3.3	Government officials sanctioned for misconduct
	4. Accountable military, police, and prison officials	4.1	Civilian control over police and the military
		4.2	Police and military accountable for misconduct
		4.3	Police and military subject to law
		4.4	Police and military sanctioned for misconduct
	5. Compliance with international law	5.1	Persons treated according to international law
5.2		International relations according to law	
Band 2. Publicized and stable laws that protect fundamental rights	6. Laws are clear, publicized and stable	6.1	Comprehensible laws
		6.2	Accessible laws
		6.3	Stable laws that are not changed in secret
7. Laws protect fundamental rights	7.1	Discrimination prohibited by law	
	7.2	Rights of speech and association protected	
	7.3	Freedom of thought and religion protected	
	7.4	Forced labor and child labor prohibited	
	7.5	Rights of the accused protected	
8. Laws protect security of the person	7.6	Access to remedies for violations of rights	
	8.1	Unjust treatment or punishment prohibited	
9. Laws protect security of property	8.2	Crimes against persons prohibited and punished	
	9.1	Right to hold and transfer property protected	
	9.2	Arbitrary deprivations of property prohibited	
Band 3. Accessible, fair, and efficient process	10. Accessible process	9.3	Crimes against property prohibited and punished
		9.4	Private economic activity protected
		10.1	Government proceedings open to the public
		10.2	Legislative process open to diverse views
		10.3	Administrative process open to interested parties
		10.4	Proposed rules available to the public
	11. Fair and efficient administration	10.5	Timely access to rules and decisions
		10.6	Police accessible to public
		11.1	Laws effectively enforced
		11.2	Laws not applied on an arbitrary or selective basis
		11.3	Laws enforced without improper influence
		11.4	Laws enforced without bribery or excessive fees
		11.5	Proceedings conducted without unreasonable delay
		11.6	Police given adequate training and resources
		11.7	Correctional facilities maintained in proper condition
		12.1	Judicial process free of bias or improper influence
Band 4. Access to justice	12. Impartial and accountable judicial system	12.2	Judicial officers accountable
		12.3	Judiciary independent of government control
		13.1	Judicial officers competent and of sufficient number
	13. Efficient, accessible and effective judicial system	13.2	Judicial proceedings without unreasonable delay
		13.3	Effective remedies for violations of law
		13.4	Safe and accessible courts
		13.5	Court access without bribery or excessive fees
		13.6	Court access without undue procedural hurdles
		13.7	Court access for defendants with disabilities
		13.8	Court access for defendants with language barriers
		14.1	Right to legal representation in criminal cases
	14. Competent and independent attorneys or representatives	14.2	Access to competent legal services for the poor
		14.3	Attorneys independent and accountable
		14.4	Attorneys competent and of sufficient number
	15. Fair and efficient alternative dispute resolution	15.1	ADR providers impartial and independent
		15.2	ADR providers accountable for misconduct
15.3		ADR providers competent and of sufficient number	
15.4		ADR affords efficient access to justice	
15.5		ADR not binding without consent	
16. Fair and efficient traditional justice	16.1	Traditional justice independent and impartial	
	16.2	Traditional justice respects fundamental rights	
	16.3	Traditional justice not binding without consent	

The World Justice Project report separates the scores for each of the 16 factors as well as the 68 sub-factors, allowing for the utilization of their findings for specific (sub)factors that are of interest to the researcher. Three of the 16 factors are particularly relevant to this study:

- 9.0 – Laws protecting security of property
- 11.0 – Fair and efficient administration
- 15.0 – Fair and efficient alternative dispute resolution

When a contract does not have any predetermined Alternative Dispute Resolution (ADR) clause, which would allow the investor to bypass the court system and seek ADR methods such as arbitration to settle the dispute, the investor will have to rely on the host country's judicial system as the only means to resolve the difference between the host government and investors. Whether the investor can get a fair trial depends on the sophistication and independence of the country's judicial system. Two factors of the World Justice Project are particularly relevant to PPP cases that would be litigated under the host country's judicial system – Factor 9 deals with the judicial system upholding and protecting the property and right of private investors; whereas Factor 11 measures the degree to which the court system in the host country can effectively and independently administer their judicial duties.

Factor 9:

- 9. The laws protect the security of property and the right to engage in private economic activity.
 - 9.1. The laws protect the right to hold, transfer, lease or license property (including real property, personal property and intellectual property).
 - 9.2. The laws prohibit arbitrary deprivations of property, including the taking of property by the government without just compensation.
 - 9.3. The laws protect against and punish crimes against property.
 - 9.4. The laws protect the right to engage in private economic activity subject to reasonable regulation.

Source: The World Justice Project , 2009

Factor 11:

- 11. The laws are fairly and efficiently administered and enforced.
 - 11.1. The laws are effectively enforced.
 - 11.2. The laws are not applied or enforced on an arbitrary or selective basis, for political advantage or in retaliation for lawful activities or expression.
 - 11.3. The laws are administered and enforced without the exercise of improper influence by public officials or private interests.
 - 11.4. Persons and entities are not subjected to excessive or unreasonable fees, or required to provide payments or other inducements to officials or their agents who administer or enforce the law in exchange for the timely discharge of their official duties other than as required by law.
 - 11.5. Administrative proceedings are conducted without unreasonable delay and administrative decisions are enforced in a timely fashion.
 - 11.6. Police are adequately trained, are of sufficient number, have adequate resources and broadly reflect the makeup of the communities they serve.
 - 11.7. Correctional facilities are maintained in proper condition.

Source: The World Justice Project , 2009

In contrast, if a contract has a predetermined Alternative Dispute Resolution (ADR) clause in the contract, the effectiveness of the ADR measure will hinge on access to a fair and efficient ADR process involving competent and independent arbitrators. The World Justice Project analyzes the quality of the ADR process in a country by probing five sub-factors:

Factor 15:

15. Alternative dispute resolution mechanisms provide independent, impartial, fair and efficient access to justice.
 - 15.1. Mediators and arbitrators are impartial and independent of government control.
 - 15.2. Mediators and arbitrators adhere to high standards of conduct and are subject to effective sanctions for misconduct.
 - 15.3. Mediators and arbitrators are competent, adequately trained, and of sufficient number.
 - 15.4. Alternative dispute resolution mechanisms provide efficient access to justice.
 - 15.5. Alternative dispute resolution mechanisms provide procedures to ensure that they are not binding on persons who have not consented to be bound, except as required by the law or a court of law.

Source: The World Justice Project , 2009

2.3 Analytical Approach

As previously mentioned in Chapter 1, studies on infrastructure renegotiations are typically large-n data analyses or in-depth case studies. Both methods have their limitations. In many quantitative engineering and social science studies, researchers rely on statistical methods to analyze the data collected. Generally speaking, statistical analyses use a large sample and test the effects that individual independent variables have on the dependent variable, acting alone or in combination (Ragin 2009).

Despite its widespread application by researchers, traditional statistical analysis is not considered for this research due to two reasons. First, the coding of the independent and dependent variables requires the researcher to have an intimate understanding of the case project events through archival research and in some cases, interviews with senior managers. It is impractical for a single doctoral student to perform such time consuming tasks on a large number of cases within a reasonable timeframe for a Ph.D. degree. Second, and more importantly, large N-quantitative

analysis is effective in “calculating the net effects of independent variables in properly specified linear models.” (Ragin 2009, p.1) However, in order to answer the research question of how strategic, cultural, and institutional factors interactively and collectively affect investors’ renegotiation approach, an alternative analysis method is needed.

2.3.1 Qualitative Comparative Analysis (QCA)

A recently developed research tool that enables scholars to find combinations of causal factors based on a modest number of cases is the Qualitative Comparative Analysis (QCA), developed by Charles Ragin in the late 1980s. Unlike traditional quantitative statistical analysis, QCA uses Boolean logic to determine the necessity and sufficiency of conditions (independent variables) to cause the observed outcomes (dependent variables). Based on a thorough understanding of the cases he/she is coding, the researcher assigns value of 0 (non-membership) or 1 (full-membership) to each of the variables in the analysis. Next, a truth table analysis is performed, where all possible combinations of values are listed in a table and based on the assigned value of the dependent variable, the researcher can observe which combination of independent variables (referred to as causal factors in QCA analysis) would lead to the observed outcome. While statistical analysis shows the net effect that independent variables have on the direction of the dependent variable, QCA allows the user to define meaningful thresholds and combinations of conditions that will lead to the observed outcome. QCA also allows researchers to investigate the integrative and conditional effects of multiple independent variables. This helps achieve the research

objective of finding the conditions under which strategic and cultural factors affect investors' renegotiation approach.

Another advantage of the QCA method over traditional statistical/quantitative method is that QCA allows researchers to identify multiple pathways to the same outcome. In social science, it is often true that different combinations of various factors can create observed effects and there can be more than one way to lead to the outcome of interest (Ragin 2008). Ragin refers these different pathways as “recipes” for creating the observed outcome.

2.3.2 Fuzzy-set Qualitative Comparative Analysis (fs-QCA)

One of the limitations of the original QCA (later differentiated as crisp-set QCA or csQCA) is that the variables are restricted to binary memberships. As a result, csQCA is effective in coding definitive conditions such as gender (Male/Female) and home ownership (rent/own) but is less effective in handling continuous variables such as preferences or strengths of cultural beliefs. Ragin overcame this shortcoming by introducing the fuzzy-set QCA (fsQCA) method (Ragin 2000). Instead of force-fitting data for each case into one of the two memberships, fsQCA “permit[s] the scaling of membership scores and thus allows partial membership [in multiple categories]” (Rihoux and Ragin 2009, p.89). The assignment of fuzzy membership scores for multiple categories requires researchers to combine qualitative and quantitative assessment of the cases (Rihoux and Ragin 2009). With its flexible membership scoring, fsQCA is especially applicable to this research since it allows researchers to capture some of the qualitative detail behind many conditions, such as the degree of willingness to bargain in a renegotiation situation, before subjecting the data from the

cases to QCA analysis. Under this methodology, qualitative details of the projects are captured and can be analyzed to generalize results beyond the cases being studied.

The operations and mechanics of the fsQCA analysis is further discussed in *Chapter 5- Results*.

2.3.3 Case Selection

In this research, empirical renegotiation behaviors of infrastructure investment firms were collected and analyzed. Cases are referred to as projects in dispute instead of renegotiation incidents. In other words, a single project undergoing multiple rounds of renegotiation, as they often do, is treated as one case in this study. This definition is primarily a pragmatic decision – it is almost impossible to delineate definitive start and end points for multiple rounds of renegotiation in the same project . Moreover, any subsequent renegotiations are inevitably affected by previous renegotiations. At such, it is more appropriate to treat the entire renegotiation process as one case study instead of multiple incidents.

In total, 14 cases - six transportation projects and eight power plants - were identified and public records of these projects were thoroughly studied. I selected transportation and power sub-sectors as the sample for various reasons. Firstly, these two sectors have been found to have significant rates of renegotiations in two separate studies. Gusach et al. (2003) found that 55% of the transport projects in Latin America were renegotiated during the 1990's. Another report on power plant concessions in developing countries found that 21 of the 34 cases studied (62%) underwent renegotiations (Woodhouse 2006). Secondly, PPP transport and power projects somewhat resemble true private operations as they do not deal with the

livelihood of the host country's citizens. If the government and the investor do not have an agreement over toll rates or electricity tariffs, it may bring inconvenience to the citizens. However, if the dispute involves a project that is more closely tied to health and livelihood of the general public – such as water supply project, the government and the private investor may have different negotiation practices given the criticality of the project. Finally, the project data for transport and power plant projects are often readily available since they are well covered by the news media and scholars, given their high profiles, and the enormous impacts they can have on large populations. Different views of the project history by different sources also help to verify the project history and ensure the accuracy of the coding.

In order to identify renegotiated PPP projects and obtain their project data, various PPP databases and news record database were extensively searched, including World Bank's Private Participation in Infrastructure (PPI) project database, Public Works Financing (PWF) database, and Factiva.

Before an identified renegotiated project was included as a case project, a few criteria had to be met. Firstly, the project must have been extensively documented with information that is accessible. The available project information ideally came from multiple sources, including news reports, commentaries, and scholarly works from different organizations to increase its reliability.

Furthermore, the collective sample of projects should include cases with different values on both dependent and independent variables. In other words, the sample should include projects that are sponsored by investors from countries that are

high on the *long term orientation* cultural dimension as well as some by those who are low on the same dimension.

Finally, the case projects needed to take place in different regions of the world to improve the external validity of the research findings. Geographically, the 14 case projects took place in host countries in North America, South America, Asia, Africa, and Europe. Main investors of these projects included companies from Spain (5 cases); the U.S. (4); Malaysia (3); China (1); and Brazil (1).

In addition to relying on the aforementioned news record database for data collection, I had the opportunities to interact with the project executives from two of the case projects - SR-91 in the U.S. and Norte Litoral in Portugal. The former came as a presentation to a small group of Stanford students in a seminar, whereas the latter came as a semi-structured phone interview. The managers from both projects have intimate knowledge of the project and generously shared their experience on their respective projects. Their recollections of the project events were consistent with the news reports and were incorporated in the project summaries.

2.3.4 Coding/ Scoring/Calibration

Calibration is the process of assigning numerical value to an abstract concept (Ragin 2008). For the causal factors (independent variables) that are derived from other established studies, ie. GLOBE cultural dimensions scores and Rule of Law index, the calibration was performed using the software developed by Ragin based on the values from the corresponding datasets according to the recommendations by Ragin (2008). For the remaining variables that were defined for this study, ie. both strategic factors

and Legalistic/Relational Index, four-value fuzzy set scoring values (0,0.33,0.66 and 1) were developed based on my observations of the cases. The coding schemes for all variables are discussed in detail in the following sections.

2.3.4.1 Coding Scheme for Dependent Variable - Renegotiation Approach

Building on the aforementioned relational-legal continuum developed by Edkins and Smyth (2006), Table 2 shows the fuzzy-set coding scheme I developed to codify the legalistic-relational response from the investor.

Table 3 - Coding Scheme for the Relational-Legalistic Renegotiation Approach Continuum

Relational-Legalistic Renegotiation Approach Continuum	
CODED VALUE	VARIABLE DESCRIPTION AND THRESHOLD CRITERIA
0	<p>Fully Legalistic</p> <p>Investor initiates litigation or arbitration without any recorded attempted negotiation with the government. The outcome of the dispute is determined by the court/arbitrator ruling.</p>
0.33	<p>Mostly Legalistic</p> <p>Investor takes legal actions, by initiating litigation or arbitration, and also engages in some extent of bargaining with the government. However, the two sides fail to reach a settlement before the court or arbitrator provides a ruling. After the ruling, the government and the investor may or may not have an ultimate settlement.</p>
0.66	<p>Mostly Relational</p> <p>Investor takes legal actions, by initiating litigation or arbitration, and also engages in some extent of bargaining with the government. Prior to any court or arbitrator ruling, the two sides manage to agree on an out-of-court settlement.</p>
1	<p>Fully Relational</p> <p>Investor engages in relational bargaining with the government during the dispute between the two parties. No record of legal action. The two sides reach agreement without the court or arbitrator being involved.</p>

It is important to highlight the fact that renegotiations often take a long time to develop. More importantly, renegotiation inception dates can be difficult to pinpoint because, prior to officially requesting for renegotiations, governments often hold conversations with investors, sometimes in private. To remain consistent across different cases, this research defines renegotiation inception dates as the dates when official renegotiation actions were taken.

2.3.4.2 Coding Scheme for Independent Variables –Strategic Factors

In order to analyze the influence of strategic factors on an investor's behavior, I introduce two indices—the *Future Business Index* (FBI) and *Current Integrated Activity* (CIA)—to measure the extent to which future and current business ties with the host government might impact the investor's renegotiation approach. For the FBI, an investor's investment activity in the host country during the five years following the government action that leads to the dispute is used as the basis for the coding scheme. Assuming the investor takes into account the amount of future business he/she plans to invest going forward as he/she chooses the renegotiation approach, the suggested measure is designed to capture the level of actual future business dealings the investor commits to amid the ongoing dispute with the host country. Specifically, the coding scheme for the FBI is shown in Table 3:

Table 4 - Coding scheme for Future Business Index (FBI)

FBI fs-QCA Score	During the 5 years since the beginning of the dispute, the main investor has:
0	<u>sold or attempted to sell</u> infrastructure business in the host country; may or may not have maintained other businesses
0.33	<u>retained ownership</u> of case project, but no new infrastructure business
0.66	introduced new project(s) and/or <u>moderately increased</u> (< 2x) its infrastructure investment in the country
1	<u>substantially increased</u> (>2x) its infrastructure investment in the country

As for the CIA, I use the ratio of the combined value of the investor's other current business to the case project value as the benchmark for level of current investment an investor has. Other current business is defined as any commercial operation the investor, including the parent company of any subsidiary, has in the host country at the time the dispute arose. Both values are for the year the dispute first arose. Public documents, including annual reports and news records provided most of the information on project value. The thresholds for the different CIA scores are listed in Table 4.

Table 5 - Coding scheme for Current Investment Activity (CIA)

CIA fs-QCA Score	<u>combined value of other businesses</u> case project value
0	0-0.10
0.33	0.11-1.00
0.66	1.01-3.00
1	3+

2.3.4.3 Coding Scheme for Independent Variables – Cultural Factors

Using the findings from the GLOBE (House 2003) study, the cultural dimension scores of the four relevant cultural dimensions – Assertiveness, Collectivism, Future Orientation, and Humane Orientation – were translated from their original seven-point scale to the 0 to 1 fuzzy-set scores in two different ways. The GLOBE study categorizes nations into bands for each of their dimensions. Nations within the same band are found to be not significantly different than other countries in the same band in spite of their relative values (House 2008). The first scoring method assigns a four-value fuzzy set scale to the corresponding 4 bands of countries. The second method uses the average GLOBE score of the two countries on either side of two different bands as thresholds for the fuzzy-set scale. The cultural dimension scores are then converted to a continuous fuzzy-set score using the built-in calibration tool of the software developed by Ragin. The two methods yielded the same result (same causal

depending on the dispute resolution mechanism of the projects. The case study projects in this research can be classified into one of the following three categories:

- Does not have predetermined ADP clauses and dispute between the investor and the host government will be resolved in the local court.
- Contains predetermined ADP clauses and the venue of arbitration is within the host country.
- Contains predetermined ADP clauses and the venue of arbitration is set at a location outside of the host country, such as London or Geneva.

For projects that do not have predetermined ADP clauses, the judicial system of the host country would generally have jurisdiction over the project should disputes arise. In those cases, Factor 9 - protection of private property - and Factor 11 - fairly administered judicial process - will both be applicable. For investors to have a fair trial in a legal dispute with the host government, the judicial system of the host country must uphold and protect the ownership of private property, including privatized infrastructure. Equally important, the judicial system must have enough independence from the ruling government's influence such that the court can provide impartial rulings. Thus, for projects that do not have predetermined ADP clauses in their contracts, the average score of Factor 9 and Factor 11 was used as the score for the institutional factor.

For projects that have predetermined ADP process administered in the host country, Factor 15 - fair and efficient of ADP process - of the host country was used as the score for the institutional factor of each project. It measures important ADR

factors such as availability of competent arbitrator. If a third-party location away from the host country is chosen as arbitration venue, the Factor 15 score of the arbitration country was assigned as the value of the institutional factor. If the arbitration country is not included in the World Justice Project study (neither UK nor Switzerland are included in the study, yet UK and Geneva are both frequently chosen locations for arbitration), the highest score of Factor 15 obtained by other countries, (ie. Singapore = 1.0) will be assigned. The rationale is that the investor must believe the independent venue would give them a fair arbitration process, otherwise they would not have chosen it in the first place. Thus, it warrants the highest score to reflect the investor's confidence in the legitimacy of the arbitration process.

Unlike the GLOBE study, the World Justice Index (WJI) does not group countries that behave similarly to each other in the same band. Instead, a score is given to each of the sub-category. The WJI scores are converted to a continuous-value fuzzy set score following the guideline of Ragin (2008).

2.3.4.6 Inter-rater Reliability Test

In order to verify the internal validity of the study, two coders were invited to be a part of the inter-rater reliability test. Coder 1 coded two cases and Coder 2 coded the remaining 12 cases. Both coders were Construction Engineering Management graduate students from Stanford University. Separate one-on-one meetings were set up to explain the background information of the study. They were then given all the materials collected pertaining to their projects, including news reports, public financial statements, and company profiles. Based on the aforementioned definitions and threshold values, the two coders were asked to code the three variables developed for

the study – FBI, CIA, and Legalistic/Relational variables. Their results were then compared against the coding result of the author.

The results from Coder 1 were generally consistent with those completed by the researcher. The notable difference was on the value of the current investment by the investor in the IPTL project. With the news reports not explicitly stating the value of a 2.5MW power project also owned by the investor, Coder 1 took the more conservative approach and assumed its value as zero. On the other hand, the author assumed the value as proportional to its size – thus equating a quarter of the value of the IPTL project. After the difference was discussed, it was agreed that assuming the value of the project *pro rata* was a reasonable approach and thus the coding scores became consistent.

With a larger number of cases, the results from Coder 2 were less consistent with the initial coding result from the author. Three of the 12 cases had identical scores for all three variables. Main causes for the inconsistent scoring in the other nine cases include: (1) differences on assigning renegotiation inception dates – a lot of the cases underwent multiple disputes and had renegotiation inception dates that are not definite; (2) coding errors – both the author and Coder 2 made coding errors and deviated from the coding guidelines set forth; (3) differences on assumptions – in the Dabhol Power Project case, the author accounted for the fact that Enron went bankrupt amid the renegotiation process and thus did not have the opportunity to carry out its prior investment commitment. The author suggested treating investment commitment made by Enron as realized future investment given the unique situation Enron was in.

Following a meeting in which all assumptions were clarified and errors were caught and discussed, the author and Coder 2 agreed on the set of scores for the 12 cases. Of the 36 scores for the 12 cases checked by Coder 2, six received a revised score from what the author originally proposed. Appendix 2 summarizes the coding discrepancies and the subsequent new scores between Coder 2 and the author.

The results from the inter-rater reliability tests highlights the fact that disputes in international concession agreements often take a long time to develop and resolve. While the three variables developed for the study - FBI, CIA, and Relational/Legalistic Index are all objectively defined, determining when a dispute actually begins is subject to certain level of judgment and subjectivity. Aside from coding errors, the coding differences between Coder 2 and the author were typically attributed to differences on the renegotiation inception date. Once the inception dates were agreed upon, the determination of the current and future project values could be objectively determined. The similarity between the definitions of FBI and CIA and their connection to how renegotiation inception is chosen for each project underscores the importance of having others to verify the coding. This is especially important if different team members are assigned to different cases in a study involving a larger sample size. The results presented in the next chapter are those of the agreed-upon scores between the author and the coders.

CHAPTER 3: RESULTS

The 14 case projects were coded and verified for inter-rater reliability according to the coding scheme discussed in Chapter 2. Table 1 summarizes the scoring summary of both the dependent and dependent variables for each of the projects.

Table 7- Coding Summary

Case	Project Name	Lead Investor Country	FBI	CIA	Assertiveness	Collectivism	Future Orient	Humane Orient	Legal Support	RelLegal Index
1	CA SR-91	USA	1	1	0.98	0.78	0.85	0.49	0.95	0.33
2	ETR 407	Spain	0.33	0	0.94	0.36	0.2	0.01	0.97	0.33
3	Enron Dabhol	USA	1	0.33	0.98	0.78	0.85	0.49	1	0.33
4	Chile Rt. 78	Spain	0	1	0.94	0.36	0.2	0.01	0.4	1
5	Hong Kong EHC	China	0.33	1	0.01	0.98	0.44	0.74	0.95	0
6	Karaha Bodas Power	USA	0	0	0.98	0.78	0.85	0.49	1	0
7	Autopista del Oeste	Spain	0.33	0.66	0.94	0.36	0.2	0.01	0.92	1
8	Tanjong Power	Malaysia	0.33	0.66	0.05	0.96	0.98	0.98	0.89	1
9	Genting Sanyen Power	Malaysia	0	1	0.05	0.96	0.98	0.98	0.89	1
10	Termoceaná Power Plant	Brazil	1	1	0.67	0.33	0.51	0.05	0.4	0.33
11	Iberafrika Power (Kenya)	Spain	1	0.33	0.94	0.36	0.2	0.01	0.01	1
12	IPTL (Tanzania)	Malaysia	0	0.33	0.05	0.96	0.98	0.98	1	0.33
13	Poland Elcho Power	USA	0	0.33	0.98	0.78	0.85	0.49	0.71	1
14	Portugal Norte Litoral	Spain	1	0.66	0.94	0.36	0.2	0.01	0.9	1

Both the variables that are created for this study (ie. FBI, CIA, and

Legalistic/Relational Index) and the variables that are translated into continuous fuzzy

sets (any value between 0 and 1, inclusive) using results from other studies have values that are scattered across the full range of the scale. The broad distribution of the coding results satisfies the goal of finding cases that contain combinations of factors with different values.

Of the 14 cases, sponsors on two of them are considered to have pursued wholly legalistic responses to government-initiated renegotiation. Sponsors on five projects employed both legalistic and relational responses – all five are considered to have pursued more legalistic responses as none of the stakeholders were able to reach out-of-court settlements before the court provided a ruling. Sponsors on the remaining seven projects pursued a fully relational response and did not respond with any legal action.

This chapter begins with the discussion of some key concepts in the fsQCA analysis that are pertinent to the discussion of the results, including consistency, coverage, and different types of solutions. The focus then shifts to the discussion of the research results.

3.1 fsQCA Primer – Consistency and Coverage in Sufficiency and Necessity Analyses

In order to determine the necessity and sufficiency of causal conditions leading to observed outcomes, researchers need to calculate the consistency and coverage of their solutions. As Ragin explains, these measures have similarities to their counterparts in quantitative research:

“Consistency, like significance, signals whether an empirical connection merits the close attention of the investigator. If a hypothesized subset relation is not consistent,

then the researcher's theory or conjecture is not supported. Coverage, like strength, indicates the empirical relevance or importance of a set-theoretic connection. (Ragin 2008, p.45)

Specifically, consistency is the degree to which one condition (or combination of conditions) is a subset of another. The relative position of the causal factors and the outcome vary depending on which analysis is being performed. In the sufficiency analysis, the consistency measures the degree to which the causal factor(s) is a subset of the outcome. The relationship is reversed in the necessity analysis, as consistency measures the level to which an outcome is a subset of the causal factor. Ragin (2008) recommends a threshold consistency score of at least 0.8 as justification for asserting that the causal variable or recipe is a *sufficient condition* for the outcome; and a threshold of at least 0.9 for asserting that it is a necessary condition. Figure 5 illustrates the difference between the two analyses.

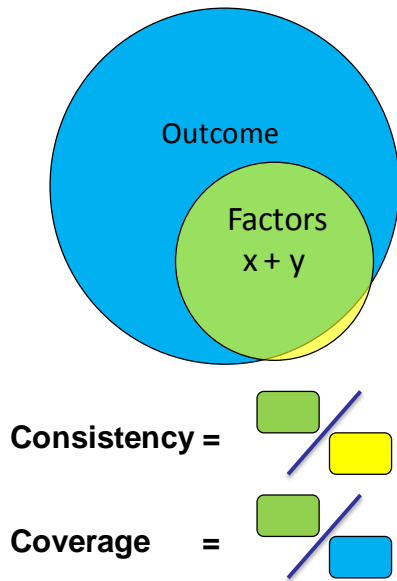


Figure 5(a) – Sufficient Condition
 (Factors X and Y are **sufficient** to cause the outcomes)

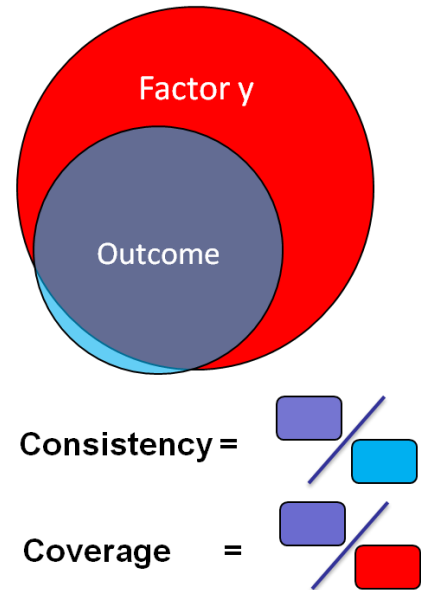


Figure 5(b) – Necessary condition
 (Factor Y is **necessary** to cause the outcome)

If, and only if, a solution passes the consistency test, coverage analysis can be performed to verify the solutions' relevance. Simply put, the coverage is the measure of the proportion of the outcome explained by the solution. A solution can be highly consistent but if only a small number of cases from the outcome are tied to this solution, the coverage will be low and the solution will be considered irrelevant or empirically insignificant, despite its high consistency.

3.2 Necessity of Each Independent Variable toward Relational Approach

The necessities of the independent variables are individually tested using the software developed by Ragin. The result of the consistency analysis is shown below:

Table 8- Consistency Result of fsQCA Analysis

Independent Variable	Consistency
Future Business Index	0.460
Current Investment Activities	0.689
LOW Assertiveness	0.718
Collectivism	0.669
Humanity	0.409
Future Orientation	0.593
LOW Rule of Law	0.310

Since none of the factors has a consistency level exceeding 0.9, the threshold for necessary condition as recommended by Ragin (2008), it implies there is no one single factor among the variables measured that is deemed necessary for investors to favor the relational bargaining approach over legalistic actions. For this reason, there is no need to check any combination of factors for potential necessary conditions.

Multiple factors affect the investors' decision on the renegotiation approach and the finding is based on a medium-size sample, so it is not useful to compare which factors are most closely associated with either renegotiation approach based on the above result. In order to do that, researchers will either need to control for other variables or use a large-size sample to offset the effects of other variables.

Since no necessary condition exists, one cannot predict the renegotiation approach that will be favored by the investor based on the value of any one independent variable. In order to make this prediction, researchers must take into account the value of other variables and understand the interactive effect of these variables on the investor's decision about a renegotiation approach to pursue. This leads to the next topic of discussion – sufficient conditions for relational renegotiation approach.

3.3 Sufficient Conditions to Predict a Relational Bargaining Outcome

As discussed in Chapter 2, a major strength of the QCA method is that it helps identify multiple causal pathways to the outcome of interests. In this study, three intermediate solutions involving four different factors are found to be *sufficient conditions* for investors to choose a relational approach over legalistic actions in government-initiated renegotiations. They are:

1) High *Future Business Index* with low *Legal Support*

- Consistency = 0.841; Coverage = 0.195

2) High *Current Investment Activities* with high *Assertiveness*

- Consistency = 0.804; Coverage = 0.469

3) High *Current Investment Activities* with high *Humane Index* and high *Future Orientation* and high *Collectivism*

- Consistency = 0.835; Coverage = 0.350

A careful examination of the three solutions reveals that no single factor is present in all three sufficient conditions. This confirms the aforementioned finding that no single factor is a necessary condition for investor to opt for one renegotiation approach over another. The consistency levels of these three solutions all exceed the 0.80 threshold recommended by Ragin for necessary conditions. The aggregate coverage of the solution (sufficient conditions) for this study is 0.757. In other words, roughly three quarters of the relational bargaining cases are attributed to one of the three solutions presented above.

CHAPTER 4: DISCUSSION

With the results from the fsQCA analysis mentioned in Chapter 3, the focus now turns to observations and implications of the findings. This chapter will start by answering the research questions based on the research findings. Next we discuss the findings' implications for the management of public-private infrastructure projects.

4.1 Answers to the Research Questions

Three research questions were raised in Chapter 2. The research findings provide insights related to each of the questions posed.

Research Question 1: Which factors contribute to leading investors to choose the relational bargaining approach over legal actions in government-initiated renegotiations?

All seven independent variables are involved in the solution set of sufficient conditions for the relational bargaining approach. Among the three sufficient conditions—ie.the three “recipes”, for a relational bargaining approach—high scores for strategic factors appear in all three solutions. Cultural factors appear twice, and low Rule of Law appears once.

Both strategic factors were included as parts of different sufficient conditions to prompt investors to choose the relational approach in government-initiated renegotiations. A high level of current investment (high CIA score) or increasing future business presence (high FBI score) in the host country are found to be factors that favor the relational approach. This finding is consistent with the observations made by Wells (2006), who linked strategic factors to renegotiation approach based on

the handful of cases involving Indonesian power plants. The results from this study shows Well's suggested relationship remains empirically valid in a broader sample in terms of both sector and location, as the relationship is observed in transportation and power projects located in different regions of the world.

Similarly to strategic factors, cultural dimensions also exert an effect on the investor's renegotiation approach, since they show up in two of the solutions. All four cultural dimensions are found to be a part of the sufficient condition. Surprisingly, high assertiveness also combines with high CIA to form a sufficient condition for relational approach. Given the fact that this solution is from a mid-size sample and barely crosses the 0.800 consistency threshold set forth by Ragin to be included as a solution, future studies including a larger sample may shed more light on the relationship between assertiveness and renegotiation approach. Lastly, the institutional factor —*rule of law*— also has an impact on the investor's renegotiation approach as it is included in one sufficient condition. This finding confirms the proposition that a weak rule of law leads investors to pursue a relational response to government-initiated renegotiation.

Research Question 2: What combinations of strategic, cultural, and institutional factors affect investors' preference for arbitration or renegotiation bargaining?

While the first research question aims to identify factors relevant to the relational renegotiation strategy, the second question investigates the collective and interactive effects these identified factors have on the renegotiation approach.

All three sufficient conditions are composed of strategic factors (ie. either high future business or high current investment). One involves high future business plus low rule of law factor. The other two sufficient conditions are made up of high current investment and favorable cultural dimensions. In other words, when high current business activities combine with favorable cultural dimensions, investors tend to favor the relational approach regardless of strength of the host country's rule of law. This empirical finding suggests that favorable cultural factors can substitute for favorable institutional conditions in predicting relational renegotiation. Put differently, even with the support of a strong rule of law for legal remedies, an investor may still opt for a relational approach if the investor has both strong current business ties and cultural dimensions that favor relational approaches.

In the Malaysia Genting Sanyen power plant case, the investor – a Malaysian conglomerate that has many current business activities in the country, was supported by a strong rule of law offered by the Malaysian judicial system. Unlike the investor of the CA SR-91 case presented above, who chose legal actions when presented with these similar attributes, the Malaysian investor chose a fully relational approach to resolve the dispute. The sharp differences between these two investors are caused by their different cultural dimension values. While the U.S. investor has very high assertiveness (0.98) and low humane orientation (0.49) scores, the Malaysian investor has very low assertiveness (0.05) and high humane orientation (0.98) scores.

The fact that current business appears in two sufficient conditions, whereas future business only shows up in one, also provides some insights on the relative

importance of the two strategic factors when investors' consider their renegotiation approaches. It is quite possible that investors consider current investment to be a more important factor than future business as they come up with a response to government-initiated renegotiations. Since an investor's other current business activities are currently under the influence of various government agencies (in the form of regulations, inspections, licensing, etc.), they can raise greater concerns about government retaliation than future business, which may or may not materialize.

Research Question 3: Is there one factor that dominates the effect of others and is sufficient by itself to predict investor's renegotiation approach?

It is important to notice that all three sufficient conditions for the relational bargaining approach consist of more than one category of factor. In other words, weak rule of law, strong business ties with the host country (present or future), and favorable cultural dimensions each encourages the investor to take on a relational approach in government-initiated renegotiations, but they must be combined with at least one other favorable factor from another category to prompt an investor to choose bargaining strategies over legal actions. This implies no causal factor has a dominant effect on investors' renegotiation approach and the effects of any one variable can be offset by combinations of other factors. For example, as a component in each of the three sufficient conditions, high values of strategic factors (ie. CIA and FBI) are important considerations in the investor response analysis. Yet, even a high CIA or high FBI score is not enough by itself to conclusively predict the renegotiation approach. It must be combined with either a favorable institutional factor or a

favorable cultural factor before one can predict the renegotiation approach by the investor.

Take the California SR-91 case as an example. The project's lead investor — Kiewit— has very strong business ties with the California Department of Transportation, as it has built many projects for the agency and will likely continue to do business with the California state agency, not to mention with the many transportation departments from other states and the US federal government. If one looks at this strong business tie and concludes the investor will choose to bargain relationally, she will be surprised to learn that Kiewit in fact chose a mostly legalistic approach.

A careful examination of the other attributes of the investor would reveal that the cultural dimensions of the U.S., where Kiewit is based, involves high assertiveness and low humane orientation, both of which are linked to legalistic action. More importantly, the rule of law in the host country (U.S.) is very strong. Unlike many countries in the world, whether an investor can secure future business from the federal and state government agencies in the U.S. has relatively little to do with the relationship between the government and the firm on ongoing or past projects. In order to promote open competition and uphold transparency, the U.S. government and state governments in the US are typically required to award infrastructure contracts to the lowest qualified bidder. The absence of personal discretion on the part of government officials in the contract award process provides a transparent bidding process – and thus the high rule of law score in the U.S.

In this environment, Kiewit’s legal action against the government will not undermine its own likelihood of securing future projects in the U.S., for as long as its bids remain competitive with other bidders. This helps explain why Kiewit ended up with the legalistic response to the dispute with the government.

In addition to the answers to the research questions posed for this study, an interesting observation was made during the analysis of the sample cases. There were a total of four cases that have low strategic scores. Interestingly, all four projects have very high legal support scores, averaging 0.92 as opposed to the overall average of 0.785 (See Table 2).

Table 9 - Cases with low strategic scores

Project	FBI Score	CIA Score	Legal Support
Canada Ontario ETR 407	0.33	0	0.97
Indonesia Karaha Bodas Power	0	0	1
Tanzania IPTL Power	0	0.33	1
Poland Elcho Power	0	0.33	0.71

A closer review of the project details shows that the connection between low strategic scores and high legal support exhibited by these four cases is unlikely to be coincidental. In two projects - Indonesia Karaha Bodas Power and Tanzania IPTL Power – the investors deliberately set up Alternative Dispute Resolution (ADR) clauses in the contract that allowed for offshore arbitration, to Geneva and World Bank’s ICSID respectively, should future disputes arise.

If these clauses had been absent from the contract, the investors would have had to count on the local court system, so the legal support score for these projects would have been much lower. Indonesia would have received a legal support score of 0.29 based on the finding from World Justice Index. While Tanzania was not included in the World Justice Index, The World Bank's Worldwide Governance Indicators rank the country's rule of law to be between 25th and 50th percentile between 1998 and 2008. For the other three projects, the investors enjoyed the stronger rule of law from a more effective and fair judicial system in the host country, and did not introduce ADR clauses in the contract.

From these four cases, it is apparent that when investors enter into a new market (indicated by low CIA) or recognize they may not be able to influence the government through future business investments (indicated by low FBI), they tend to ensure the current project will be supported by a strong legal system. If the host country's judicial system does not give the investor adequate confidence of receiving a fair and efficient judicial review process, the investor can enhance its legal protection by seeking ADR coverage in a third country with strong rule of law, bypassing the local court system.

4.2 Implications for Management of Infrastructure Concessions

The findings of this study confirm the proposition that strategic, cultural, and institutional factors interact in nuanced ways to influence investor behavior. When a stakeholder wants to anticipate how another stakeholder may react in a dispute, it is

pertinent to understand each of these attributes and how they may impact one's decision.

We found that none of the variables (or categories of variables) is sufficient by itself to form a necessary condition. This suggests that the effect of any one factor can be offset by the effect of another variable or combination thereof. The findings from this study provide some initial insights as to which variables may interact with others to bring predictable outcomes, and at what level.

CHAPTER 5: CONCLUSION

5.1 Contributions to Theory

The renegotiation of public-private infrastructure concessions has attracted academic interest from multiple academic disciplines, including construction management, applied psychology, and sociology. The study aims to make contributions to each of these areas. This chapter outlines how the findings from this study further current knowledge in each of the respective disciplines.

5.1.1 Contributions to the Construction Management Literature

This research differs from the predominant studies on PPP project renegotiation in multiple ways. Firstly, it focuses on the renegotiation process instead of the causes of high observed renegotiation rates. Previous studies propose different causes, such as contract design (Hart and Moore 1998) or opportunistic behaviors (Vernon 1971; Scherer 1964; Ho 2006), as triggers for renegotiations. This research joins a much smaller body of research (Wells 2006) that is devoted to the analysis of the renegotiation process between governments and investors in international PPP projects. This shift in focus allows this study to address the imbalance of current research observed by Woodhouse (2006), who stated that *risk engineering* – the identification and allocation of risks in order to minimize their potential detrimental effects – has received more academic interest than *strategic management* – the anticipation of key vulnerabilities and actively managing them throughout the course of the project.

Instead of treating renegotiation as a risk to be mitigated, this study treats contract disputes as a potential vulnerability and seeks to understand how one can manage the dispute resolution process by understanding the effects that strategic, cultural, and institutional factors collectively have on the lead investor's renegotiation approach. This change in perspective can potentially help stakeholders manage the renegotiation process more effectively to favorable outcomes, as Woodhouse suggests the strategic management approach "has often been a more important determinant of outcomes for IPPs (Independent Power Producers)" (Woodhouse 2006, p.172).

Secondly, the study deviates from the typical rational economic approach to analyze stakeholder behavior. Instead, it integrates three sets of factors – strategic, cultural, and institutional – qualitatively, to determine the interactive and collective effects they have on investor renegotiation approach. This study thus offers a more holistic perspective on the analysis of project renegotiations, as it includes other non-economic factors that can impact stakeholder behavior. As many problems surrounding construction management warrant a holistic approach to capture the complexity of the problems, one of the goals of this study is to challenge other construction management scholars to integrate factors gone from multiple disciplines (e.g. sociology, law and political science) in their analysis of construction management phenomena.

Thirdly, this study builds on and validates the observations by Wells (2006) on PPP agreement renegotiation. It refines Wells' cultural characterization from the country level to a finer grained set of cultural dimensions, a change that allows others

to use the findings from this study and other cultural contexts, by building theories linking specific cultural traits to different negotiation behaviors. Furthermore, it attempts to replicate Wells' observation from a small sample of power projects in Indonesia on a larger (14 cases) and more diverse (both in terms of geography and project type) sample. The result generally agree with, and thus this research validates, Wells' proposition that business ties and cultural elements are related to an investor's renegotiation strategy.

In addition, this study joins a growing list of construction management research projects that use fuzzy logic as part of their analysis method (for a comprehensive review of fuzzy logic research in construction management, see Chan(2009). This study is the only known CM study that uses fuzzy logic to investigate stakeholder behavior in a renegotiation situation. Furthermore, this is one of the very few CM research efforts to date that uses the fuzzy-set Qualitative Comparative Analysis developed by Ragin (2000). Positioned between large n quantitative analysis and small n case study, the fs-QCA method can be applicable to the study of many CM research questions.

By now it should be obvious that the recurring theme of this study's findings is that researchers need to engage in a holistic analysis that includes strategic, culture, and institutional factors to develop a more complete understanding of the dispute resolution process. To the construction management community – traditionally a branch of the civil engineering discipline— strategic analysis using quantitative analysis tools such as decision trees and game theory may already be familiar to many

CM researchers through their engineering training. Although potentially a bit more foreign to the engineering community, the latter two categories – cultural and institutional elements—are just as critical as strategic factors in the study of governance for PPP projects.

In his commentary on the past and future of CEM research, Levitt (2007) challenged CEM researchers to collaborate with social scientists to find better ways to deliver PPP projects. With inputs from scholars representing the disciplines of psychology, sociology, and political science, this interdisciplinary research is a response to Levitt’s challenge. My hope is that the result from this study will serve as a building block for other scholars to design future interdisciplinary research projects that will continue to shed light on effective management of PPP projects.

5.1.2 Contributions to Applied Psychology

While there have been many studies investigating cultural influences on negotiations, this research project adds to the body of literature with its different research design from prior studies reviewed in Chapter 2.

Firstly, this study deviates from the two-country set up and includes investors from five countries (Brazil, China, Malaysia, Spain, and the U.S.) in the analysis. The research findings identify the specific cultural dimensions (assertiveness, collectivism, future orientation, and humane orientation) that are relevant to an investor’s renegotiation approach in PPP projects. This provides psychology researchers a building block for future studies that test other cultural dimensions’ relevance in different conflict resolution situations.

Secondly, the data collected for this research project are accounts of actual business decisions on renegotiation situations. In many ways, this gives scholars an empirically more reliable data set compared to those collected from other methods typically used in inter-cultural negotiation research, such as survey answers to hypothetical situations. As Nunnally (1979) pointed out, surveyed answers often deviate from actual behavior. Compared to observed behaviors in game-like situations, the observed behavior over a longer timeframe also allows interpersonal qualities such as trust and interdependence to develop. Moreover, observing decisions made by business professionals provides a more realistic and thus more generalizable measurement for business behaviors when compared to data collected from observing teams of international students. The research design and data collection method of this study will hopefully offer other researchers suggestions for research designs involving empirical business decisions as data.

5.1.3 Contributions to Sociology – Institutions

Previous research has shown that weak rule of law of a host country increases the likelihood of renegotiation in infrastructure concessions (Guasch 2006). This research goes a step further and investigates how rule of law continues to impact the renegotiation process once disputes arise. The research findings show how rule of law can be a determining factor, along with other factors, on whether the investor seeks legal action or chooses relational bargaining in a dispute. If the rule of law is low (either from an unsophisticated or ineffective local judicial system or without access to arbitration in a high rule of law country through the ADR clause in the contract) and

the future business tie with the host country is strong, then the investor will likely choose a relational approach to resolve the dispute.

The research finding also shows how the effect of rule of law on the investor's dispute resolution approach can be offset by certain cultural attributes of the stakeholders involved. When coupled with favorable cultural dimensions (high *assertiveness*, high *collectivism*, high *future orientation*, and high *humane orientation*), *high current investment* can form a sufficient condition for investors to adopt a relational renegotiation approach. This finding may help institutional scholars to uncover new interactive effects that the rule of law may have with other cultural factors in changing human behavior.

5.2 Contributions to Practice

As Miller and Ollerros (2000) and Woodhouse (2006) point out, risk engineering by itself has been found insufficient to bring desirable outcomes in infrastructure investments. Strategic management often plays a more significant role in the success of projects. With its strategic management perspective, this research helps practitioners to manage the renegotiation process of infrastructure concession agreements more effectively by understanding what conditions drive different renegotiation approaches of counterparties. A host government can use the findings from this study to analyze the likely behavior of the investor should a renegotiation situation arise in the future. To the extent allowed by the law and applicable procurement rules, the government may even have the liberty to introduce specific requirements to qualify bidders so that it can increase the likelihood of partnering with

an investor who will likely use a preferred renegotiation approach. For instance, if the government wants to avoid being sued by the investor for publicity and marketing reasons, it can require bidders to have a certain level of current business involvement in the local economy (although governments often tend to do the opposite in order to "spread the wealth"). In addition, it can give favorable considerations to bidders who are from countries that are low on assertiveness and high on collectivism, as these cultural attributes become a sufficient condition for a relational approach when combined with a high current investment level. However, if taken to extremes, this may go against WTO and other multi-national agreements about maintaining open access to markets.

Even in situations when the government may not have the liberty to prequalify bidders in the ways suggested above, the research findings can still help the government anticipate the likely response from the investor in a renegotiation situation. The government can then use that knowledge to find alternative measures to manage the renegotiation process before and during the renegotiation process.

Host governments are not the only stakeholders that can benefit from this research project's findings. Investors who are seeking other business partners can also use the findings to evaluate the likely renegotiation approach of their partner candidates. This increases the likelihood that the partners will share a similar preference about its renegotiation approach and avoid internal disputes over what actions to take in response to a government-initiated renegotiation.

By applying the research findings in this study, both governments and investors can better manage the renegotiation process by anticipating the likely response from business counterparties or partners. While the occurrence of renegotiation is considered a major risk, what to expect during the renegotiation process is also a great unknown. This study helps further understand the latter and better manage one of the major risks associated with infrastructure concessions between governments and private investors.

5.3 Limitations and Suggestions for Future Research

Like all research projects, this study is subject to certain limitations. In the following paragraphs, each of these limitations is discussed. For those that can be mitigated with research projects using different approaches, suggestions for future studies will be offered.

One limitation is concerned with the assumption behind the assignment of an investor's cultural attributes. In this research, I use the cultural dimensions of the country in which the lead investor's headquarter is located as a good proxy for the cultural attributes of the key decision makers within the concession company. In many ways, this is a very simplified assumption. Firstly, having one cultural dimension value for one country does not capture the cultural variance among different regions of the same country, as members in the same country can still have very different cultures (Farber 1950). For instance, cultural beliefs and values of residents in urban New York City can be very different than those from rural Kansas.

This is a limitation of many prevalent cultural dimension studies that is shared by this research project.

In this study, the investor in each project is treated as one individual, while in fact the investor is an organization. The decision making process at the individual level and at the organizational level are vastly different from each other. This study adopts a broad brush approach with a simplified perspective of what an investor entails in order to paint the “big picture” relationships among different categories of variables. Future research can focus on the organizational structure and governance arrangements of an investment firm to study how different governance arrangements within a firm—e.g., differences in loan covenants, corporate articles of incorporation for the concessionaire’s special purpose vehicle, etc. — could extend and perhaps change the research findings of this study.

A related issue is that, just as citizens from a country can share certain national cultures, members of a company can share corporate cultures that define their organization. Moreover, sometimes the national and company cultures are in conflict (Schneider 2006). Future studies can use surveys or other tools to calibrate the various national/cultural dimensions of the decision makers who have more or less influence on the renegotiation approach under different governance arrangements. This suggested method has the challenge of gaining access to senior executives of different investment firms. If properly conducted, it can more accurately identify the connections between various cultural attributes and renegotiation behavior.

For the purpose of assigning values for cultural dimensions, the current research is set up to link the investor of each project to one country. As a result, only firms with senior executives (senior V.P. and up) predominately represented by one country are included in this study. However, many investment firms continue to conduct business overseas and workers continue to become more mobile across countries. In future studies, researchers can strive to find ways to capture the cultural attributes, both at the country and the company level, of an international firm that has a diverse senior management group. The need for such study will only increase in the foreseeable future as world commerce continues to globalize.

Another limitation is related to the quality and the handling of the data. The primary sources of the project history and events were news articles available from news source databases such as Factiva and Lexis Nexis. Infrastructure projects such as roads and power plants are often politically sensitive due to their immediate impact on a large number of citizens. As a result, news sources can be subject to selective reporting to express the publisher's ideologies. Attempts to remediate this risk include: (1) using multiple news sources for fact cross-checking (2) consulting refereed academic journal articles on the projects when available (3) focusing on specific objective data such as project value and giving little attention to opinions expressed by the journalists. Another challenge for analyzing project data is that many times the parameter being studied can be vague in nature. For instance, the exact start and end dates of the renegotiation process can be difficult to define. Subsequently, the coding of the project data is subject to some level of subjectivity on the researcher's part. This limitation is mitigated to some extent by inter-rater

reliability studies using the same material collected for each case. The coding results from the two individuals who coded each of the cases presented here generally agree with each other, but could be further validated by having additional coders rate the cases.

Another limitation is related to the data analysis tool used in this study. Fuzzy-set Qualitative Comparative Analysis can use a medium-n sample to find relationships among variables using the underlying Boolean logic mechanism. The findings from this study resulted from the analysis of 14 cases. While fs-QCA can be an effective first step toward relating different variables and identifying plausible recipes that relate independent variables to dependent variables, researchers can improve the external validity and refine the findings of this study by conducting research projects involving a larger sample. A potential future study could analyze how investors respond to the recently introduced 40% profit tax on mining companies imposed by the Australian government in May of 2010. This action by the Australian government is a de facto government-initiated renegotiation of ongoing businesses agreements—arguably an expropriation of their property rights. With a large number of international firms subjected to the same tax law changes during the same time frame, this event has the potential to provide researcher a partially-controlled sample. In addition, replicating the study in a third industry (mining) will lead to new insights and/or improve the external validity of the findings.

One final suggestion for future research has to do with the financing of the projects. It is quite possible that the debt holders of the projects—typically

commercial banks and pension funds—may, through loan covenants, require the investor to exercise certain legal options or take particular actions to protect them in case of a dispute. So the decision between legal action and relational bargaining may not be completely up to the investor. Future studies can include the banks, pension funds or other providers of debt financing in the analysis and see to what extent they influence an equity investor's decision over the renegotiation approach.

APPENDIX

Appendix 1 – Case Study Summaries

Transportation Projects:

Appendix 1A – U.S. California State Route 91 Express Lane

Appendix 1B – Canada Ontario Express Toll Route 407

Appendix 1C – Chile Route 78

Appendix 1D – Hong Kong Eastern Harbour Crossing

Appendix 1E – Argentina Autopista del Oeste

Independent Power Producers:

Appendix 1F – India Dabhol Power

Appendix 1G – Indonesia Karaha Bodas Power

Appendix 1H – Malaysia Tanjon Power

Appendix 1I – Malaysia Genting Sanyen Power

Appendix 1J - Termoceará Power Plant

Appendix 1K – Kenya Iberafrica Power

Appendix 1L – Tanzania Independent Power Tanzania Limited (IPTL)

Appendix 1A – U.S. California State Route 91 Express

Ownership:

Investors	Country of Origin	% Ownership
Peter Kiewit Sons'	U.S.	65%
Granite Construction	U.S.	25%
Cofiroute	France	10%

Summary

California State Route 91 (SR-91) was opened in 1968 as a state facility. With the population increasing in the region, the highway reached its capacity and congestion became very common. However, the state's difficulty in raising taxes kept delaying the highway expansion project. Recognizing the challenges of expanding SR-91 using traditional public procurement methods, the California legislators passed Assembly Bill 680 in 1989 to authorize the California Department of Transportation (Caltrans) to partner with private companies to build, operate, and lease up to four transportation projects. The decision essentially paved the way for turning the SR-91 expansion plan into a PPP project. Four lanes would be added within the median of the 10-mile stretch of freeway between SR-55 and the county line of Riverside County. Drivers would be able to choose between using the less-congested express lanes for a fee and remaining in the original freeway lanes for free. By partnering with private investors, the state avoided the need to finance the \$130 million construction cost. In return, the investors were granted a 35-year operation period to collect tolls from express lane drivers recoup their investment. One key condition of the agreement was the non-compete clause agreed to by Caltrans.

After the SR-91 express lanes opened in 1995, traffic conditions on the highway improved substantially. However, congestion returned a few years later as new residents moved to areas serviced by the highway due to improved traffic conditions. Citing these concerns as a reason, Caltrans began to consider various traffic improvement options, including "safety improvements" to the SR55-SR91 interchange, which could be construed as a capacity enhancement. . The developers objected to the proposed "safety improvements" by arguing that such a project would also enhance capacity on the free lanes and would hence violate the strict non-compete clause of the partnership agreement.

Coding

Future Business Index

While Kiewit hasn't invested in another toll road in California following the passage of AB 1010, it remains an active developer and builder of toll roads in other American cities. Since the sale of the SR-91 express lanes to OCTA, Kiewit has been involved in eight different US toll road projects to various extents. In particular, in 2004, it made a proposal to develop toll lanes to the TX183/I-820 freeway system in Dallas. The estimated cost for the project was \$650 million.

To assign the value of Kiewit's Future Business Index, it is important to recognize the many future ties Kiewit was expected have with Caltrans. Since no toll road franchise has been allowed in California with the passing of AB 1010, it is impossible to observe Kiewit's interests on toll road investment in California after the SR-91 project. However, with its core business in heavy construction such as roads

and highways, Kiewit constantly tenders construction projects from transportation agencies throughout the country, including Caltrans. So even if Kiewit was not planning to invest in future California toll roads, it will still do business with Caltrans on a regular basis, as it has been for decades. In addition, Kiewit could still be a toll road investor in other states. The eight different toll road projects it has been a part of since the SR-91 investment suggest it intended to remain active in the toll road business. **Thus, an FBI score of 1 is assigned to Kiewit in this case study.**

Current Investment Activity

Similar to the argument above, Kiewit is involved in multiple transportation construction projects under the supervision of Caltrans at any given time. Concurrent to their development of SR-91, Kiewit, again with Granite as a partner, was also involved in the neighboring San Joaquin Hills (SR-73) toll road project (\$800 million), which is also under the management of Caltrans. Besides its transportation business, Kiewit also had multiple projects in different sectors including water, power, and mining. **Thus, a score of 1 is assigned to the CIA index.**

Relational /Legalistic Index

Facing potential expansion activities to SR-91 by Caltrans, CPTC took legal actions quickly without pursuing further dispute resolution options. After the failed sale of the project to New Trac amid the controversy, the settlement to the legal dispute was announced in October 1999. The court upheld the investors' protection by the non-compete clause and ruled in the investors' favor. The state government eventually encouraged a regional transportation agency to buy the facility back from the

investors, which cleared the way for carrying out its expansion plans. After immediate legal action by the consortium, it is evident that the disputing parties engaged in a dialogue as they contemplated a deal that would sanction the sale of the project to New Trac. In the end, the two sides could not reach any agreement following the failed sale attempt. The dispute was resolved with the announcement of a legal settlement. **Thus, the case is coded with a 0.3 (Mostly Legal) on the relational-legalistic renegotiation approach continuum.**

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Appendix 1B – Canada Ontario ETR 407

Ownership:

Investor	Country of Origin	% ownership
CINTRA	SPAIN	35%
Macquarie Infrastructure	Australia	30%
SNC-Lavalin	Canada	23%

Summary

In 1999, the reigning Conservative provincial government passed legislation to allow private investors to privatize existing infrastructure. The first project under this set up was Ontario ETR 407. The concessionaire consisted of:

- Cintra, a new emerging firm from Spain specializing in toll roads;
- Macquarie Infrastructure, the Australian bank that was heavily involved in infrastructure investment, and
- SNC-Lavalin, a giant Canadian engineering firm.

The project was a purchase of the leasing right to an existing highway, and the concession period was set to be 99 years. In 2004, the liberal government – led by Premier Dalton McGuinty - won the election. By working with its legal team to "carefully review the complex 99-year contract", the liberal party made good on their promise during the campaign to renegotiate the ETR 407 deal, as they considered the agreement signed by the previous administration unreasonable and not favorable to Canadian citizens. The new government's transportation minister also publicly

criticized the long-term 407 concession, by stating "it's just inconceivable to us that any government would enter into an agreement that relinquishes the government's powers to protect the public from skyrocketing tolls,"

On the other hand, the sponsors of Highway 407 ETR insisted that they were authorized to increase tolls under the terms of the original contract. They argued they need not obtain approval from the Ontario government, whether it was the new liberal government or the previous administration.

The effort led to years of legal disputes between the two parties and one round of legal ruling by the Canadian court. In April of 2006, the two sides finally agreed to settle out of court and dropped all the outstanding litigations against each other.

Coding

Strategic Factors:

Cintra was founded in 1998, with three main lines of business: car parks, toll roads, and airports. The ETR 407 project, signed in 1999, opened the door for Cintra to expand their business beyond Spain and into the lucrative North American market. Following the ETR 407 project, Cintra secured the Chicago Skyway, Trans-Texas Corridor (advisory), Trans Texas Corridor (SH-130 Segments 5&6), Indiana toll road. Despite signing on these projects in the U.S., Cintra has not invested in another project in Canada. ETR 407 remains the only project Cintra has invested in Canada to date.

Thus, an FBI score of 0.33 is assigned.

At the time Cintra was involved in the dispute with the new Canadian provincial government, Cintra did not have other significant investment in Canada

(their other business operations were in Europe and increasingly the U.S., beyond the influence of the Canadian provincial government). In fact, Cintra did not have another toll road or any other infrastructure project in Canada during the development of the ETR 407 project. **Thus, a CIA score of 0 is assigned to the project.**

Legalistic/Renegotiation Index:

Since the provincial government initiated their investigation in the ETR 407 agreement, both the government and the concessionaire sought arbitration. In 2005, the Canadian court ruled in the favor of the concessionaire and stated that the original agreement as valid and the concessionaire needed not the government's approval on the toll increase. Understandably, the government appealed and eventually the two sides agreed to settle outside of court. Given the final settlement, it appeared that the concessionaire did not need to give up a lot and key issues pursued by the government – ie. monitored toll increase, base year calculation methods, no right of suspending the violators' driver's license, and enforcement of evidence on toll violations during the collection process, were all unmentioned in the final agreement. Because the long legal dispute led to one round of ruling from the Canadian court, underlying the failed effort by the two sides to reach an agreement until the second round of dispute, the case will be assigned a **0.33 (mostly legalistic).**

Additional Note:

It is important to note that the new provincial Canadian government, which gained power in 2005, was heavily criticizing the Conservative government's agreement on ETR 407 and used such arguments extensively during its campaign in 2003. Thus,

new governments may feel the pressure to use legal action to send a strong signal that they disapprove of the project. Renegotiation with the investors too early could imply they are too soft or they are opening themselves to private agreements, potentially angering their new constituents. The legal action by the new government can subsequently lead the private investors to respond with legal actions. It is important to observe whether an investor's legal action was the protective response to the legal threat by the new government. The important observation is on how long the legal battle endures. In this case, it lasted for years and it became evident that the two sides had to litigate to settle their differences. This further supports the coding of 0.3 on the legalistic/relational approach index.

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Appendix 1C – Chile Route 78 (Santiago-San Antonio)

Ownership:

Investors	Country of Origin	% Ownership
ENDESA	SPAIN	60%
Fondo Las Americas	Chile	8.5%
Fondo Genesis	Chile	8.5%
Larrain Vial		5%

Summary

After winning the contract and before operation, the government wanted to add a special access route for trucks to bypass the city of San Antonio. As a candidate, the then-president promised the citizens during his campaign that there would be no toll on the proposed access lane. A 23 million USD change order and two previous change orders (20 million and 5 million USD) increased the original concession contract from 120 million to 180 million USD – a 50% increase. With such drastic changes to the cost and scope of the project, the project could practically be considered a new one, and the terms of the original contract was subject to renegotiation. While the government was making these requests, how the government would manage to pay for the directed works was not always clear. However, there was never legal threat by the investor as a result of these changes. Each time the government and the concessionaire were able to agree on the terms, despite of the scale of the changes. In the end, the ministry decided that tolls for the following 20 years would be increased by 11.8% as compensation for the incurred extra cost on the new access road. The public was generally kept out of these agreements and was not aware of them until the agreement was already made (Engel 1998).

The government and the concessionaires have a predetermined agreement on how to handle future conflicts. Any dispute will go to a dispute resolution Commission, which consists of one member from the government and one member from the company, with a third member appointed by those two representatives. The recommendation of the Commission is non-binding. If either side disagrees with the recommendation, it can file a case in the judicial system; or it can go through arbitration with the same Commission members discussing the matter again. The final decision of the second arbitration, however, is binding. Since the privatization of roads in Chile (during the 90s), there have been hardly any high profile disputes (Engel 1998).

Coding

Strategic Factor

The lead investor, Endesa (60% of Infraestructura 2000), was a power generator company who had a lot of business ties in the Santiago area. During that same time period, Infraestructura 2000 was also the concessionaire for Route 58, a 160 million USD project. According to Endesa's 2000 annual report, it had operating income of 310 million Euros (420 million USD) from their power generation and distribution operations in Chile. These combined operations are significant compared to the 120 million dollar Route 78 project. **Thus a CIA score of 1 is assigned.**

Enersis had been trying to sell its stake in Infraestructura 2000 in July 1998, before Route 78 began operation. The sale effort failed due to the economic crisis that plagued most of South America. The effort resumed in 2000. Finally, in April 2001, Endesa agreed to sell its share in Infraestructura 2000 to Spanish construction group

OHL for 59.6 million USD, the book value of the stake as of March 31 of the same year. The sale completed Endesa's plan to shed infrastructure assets and to reduce costs (BN Americas). It became clear that Endesa was moving away from the toll road business in Chile. **Thus, an FBI score of 0 is assigned** to represent the lack of future business ties with the transportation agencies and to reflect the fact that it attempted to sell the project numerous times.

Relational/Legalistic Index

Despite the government's request to increase the scope of the project by 50% without specifics on how the government would pay for such changes, the investors never initiated any hearing requests to the Commission or to Arbitration. The two sides were able to renegotiate the terms, albeit lacking transparency, in a very relational manner. As Engel commented, the government seemed to prefer renegotiating behind closed doors (Engel 1998, 2009), and the investors responded with a high degree of cooperation. **Thus a relational/legalistic index of 1 is assigned (Relational).**

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Appendix 1D – Hong Kong Eastern Harbour Crossing

Ownership:

Investor	Country of Origin	% ownership
CITIC	CHINA	70.8%
Hong Kong Government	Hong Kong	7.5%

Summary:

Following the success of Cross Harbour Tunnel, Eastern Harbour Crossing began its 30-year concession period in September 1986. The project was completed half a year early and within budget. Similar to other BOT projects at the time, there was no guarantee or agreement on the average rate of return. Any rate increase will have to be approved by the Hong Kong Legislative Council (LegCo). As the level of democracy continues to increase through the early 90s, congressmen were reluctant to approve toll increase requests.

During the construction of the road, the government wanted to expand the project by adding a lane to the total capacity. The two sides were able to handle the dispute by renegotiating the original contract.

A special ordinance set up by the government to govern various BOT tunnels. The original agreement specifies toll increase must be submitted to the Legislative Council for review. If a toll increase is denied, the concessionaire can file for arbitration, who shall be guided by the need to ensure “that the company is reasonably but not excessively remunerated for its obligations under the EHC Ordinance.” (Legislative Council 2003).

In May 1995, the concessionaire's first request for a toll increase (from 10 to 20 HKD, or 100%) was denied. The concessionaire followed with the arbitration process spelled out in the original contract. The Arbitrator advised that the toll should be increased by 5 HKD, or half of what the concessionaire was seeking. The Arbitrator based that decision on the fact that 15 HKD toll increase would bring the IRR to a reasonable level of 15–17%.

In September 2002, the concessionaire submitted another request for a 5 HKD toll increase (33%). The request was again denied by the LegCo members. In 2005, the Arbitrator granted the concessionaire's request to increase the toll for 10 (from 15 to 25 HKD). The government attempted to stop the effort but was not able to counter the ruling by the Arbitrator.

Coding

Strategic Factors

With 193 billion USD of asset in 2007, CITIC has a substantial presence in Hong Kong and in mainland China. Its Hong Kong subsidiary is one of Hong Kong's largest conglomerates and invests in finance, telecommunication, and transportation, among others. Since their entrance into the Hong Kong market in the late 80s, early 90s, it has continued to invest in various business divisions. It is evident that their existing business in other industries in Hong Kong far outweighs their investment in the EHC project. In 2002—the year the second dispute took place—CITIC had more than 50 million HKD of asset, of which 10 million came from the civil infrastructure division.

Thus a CIA score of 1 is assigned to the project.

While CITIC has been very active in other business activities throughout Hong Kong, the civil infrastructure division was not growing with the rest of the parent company. From 2002 to 2005, the portfolio of civil infrastructure projects in Hong Kong owned by CITIC stayed the same as it continued to own and operate the Western Harbour Crossing and Eastern Harbour Crossing. Since CITIC did not add any significant projects to its lineup of civil projects in Hong Kong, **a FBI score of 0.33 is assigned.**

Relational/Legalistic Index

The government's repeated refusal to grant the toll adjustment requests by the concessionaire led the investors to file for arbitration protection. It is important to note that the concessionaire never sought renegotiation with the government but chose to resolve the dispute through legal means instead. Twice the Arbitrator had to provide a ruling that became the final decision on the dispute. In both toll increase disputes, the two sides fail to agree on the terms without the ruling of the Arbitrator. **Thus a relational/legalistic index of 0 is assigned (fully legal).**

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Appendix 1E – Autopista del Oeste, Argentina

Ownership:

Investor	Country of Origin	% ownership
ACESA	SPAIN	48.6%
IJM Corp. Berhad	Malaysia	20.1%

Summary

In 1989, under the encouragement of the World Bank, the Argentine government began privatizing some of its infrastructure to alleviate some of the fiscal burden of maintaining the roads. Awarded in 1994, the project was one of Argentina’s early efforts in privatizing existing roads. Part of the agreement was that the Argentine government would pay concessionaires subsidies each year. However, the government fell behind on their payments starting in the mid-1990s. On December 16, 1999, the Infrastructure Minister, Nicolas Gallo, stated the government had plans to audit completed toll roads and railroad projects. He made his intentions clear by stating “From that there will be three options: review the concessions; renegotiate the contracts; or issue a new call to auction.” (Business News Americas)

On January 6, 2000, the government and the highway concessionaire signed an agreement to reduce the tolls by 8%, or 18 million USD a year of revenue for the concessionaire. To compensate for the reduced revenue, the Argentine government promised eight concessionaires to pay off the subsidy debt it owed, which amounted to more than 250 million USD, according to the concessionaires. Half a year later, the government had not paid the promised outstanding subsidy to the eight concessionaires. They questioned the newly elected president on how he planned to make good on the promise, especially given that the concessionaires had reduced their

tolls by 8% as a condition. In the end, an agreement was made with the concessionaires to extend the concession contracts by three years as the debt payment.

In June 2001, Argentina's infrastructure minister, Carlos Bastos, announced that the government would reduce the tolls on 14 highways. The concessionaires of those highways were taken by surprise, as they had met with Bastos on the previous Friday and "were convinced there would be no new price reductions until the end of the current concessions, most of which expire in 2003" (Business News Americas). Days later, the government laid out a plan to repay concessionaires outstanding debt by issuing bonds.

In 2002, during the economic crisis and currency devaluation, the government unilaterally changed the original contract denomination in American dollars to the local currency. Moreover, no tariff adjustments were to be authorized. These actions from the government clearly hindered the financial viability of the project. By the end of 2005, the government and the concessionaire reached agreement to allow a 15% toll hike, thus ending a 15-month long negotiation.

Coding

Strategic Factors

Autopista del Oeste was ACESA's pilot project into the Argentina market. According to various news sources and the company website, AECSA was trying to expand beyond their Spain toll road operations and into the Latin America market. After it signed the contract to build Autopista del Oeste, ACESA continued its expansion in

Argentina with a 45% stake in the Autopista del Sol project. However, since the Autopista del Oeste project went into dispute with the government over tariff adjustment in early 2000s, ACESA did not add another toll road project in Argentina.

Thus, the FBI score of 0.33 is assigned. At the time Autopista del Oeste went into dispute, ACESA had a 32% ownership in another toll road project in Argentina—Autopista del Sol (project valued at 800 million USD). The ratio of ACESA's stake in Autopista del Sol (256 million USD) to Autopista del Oeste (240 million USD) is 1.28. **Thus a CIA score of 0.66 was assigned to the project.**

Relational/Legalistic Index

Despite the unilateral government action to change the denomination currency of the project and to withhold tariff adjustment requests, there were no reported legal actions against the host government from the investor. News report indicated that disagreements were discussed in private negotiations between the investor and the Argentine government. The two sides finally reached agreement after a 15-month negotiation process. The Argentine court, less sophisticated at dispute resolution on technical infrastructures, was largely uninvolved. **Thus the relational/legalistic index of 1 (fully relational) is assigned.**

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Appendix 1F – India Dabhol Power Project

Ownership

Investor	Country of Origin	% ownership
ENRON	U.S.	80%
General Electric	U.S.	10%
Bechtel	U.S.	10%

Summary

In June 1991, the Indian government reformed the electricity industry to respond to the increasing demand for power from its citizens. The domestic deregulation during the summer of 1991 was designed to introduce competition through private participation from domestic and international companies. There was little private interest in the beginning, but Enron eventually emerged as one of the few willing and capable companies to invest in a power plant in India.

In June 1992, Enron offered to build a 2015MW plant in Maharashtra with an estimated cost of 2.8 billion USD. The key stakeholders included the government of India (GOI), the state government of Maharashtra (GOM), the Maharashtra State Electricity Board (MSEB), Enron (65%), GE, and Bechtel. An important part of the agreement was the 20-year power purchase agreement (PPA) by MSEB for the majority (86%) of the capacity power (not necessarily used). In addition, the national government was obliged to pay the energy producer if the state government defaulted on its PPA commitment. Such a guarantee was needed because the state-owned utility companies did not have the necessary credit ratings for banks and lenders to evaluate the risks. The deal would yield around 25-30% IRR for the project.

In April 1995, the government of Maharashtra was defeated by the Bharatiya Janata Party/Shiv Sena (BJP/SS) coalition. They immediately probed the Enron project. Based on the recommendations of the investigation committee, the new government of Maharashtra cancelled the agreement in July 1995. At the time of the probe, Enron had invested approximately 600 million USD in the project, equivalent to 23% of the project value. Both sides initiated arbitration immediately. During the arbitration process, Enron showed they were willing to renegotiate the deal. After 2 years of negotiations, the sides finally agreed to the following:

- Slightly lower tariff Rs. 1.86/kWhr as opposed to the original Rs. 1.89/kWhr
- Increased capacity of the project at no extra cost
- MSEB bought a 30% equity stake in the project for 137 million
- Capital cost of the plant reduced by 330 million to 2.51 billion

As a result of the renegotiation, Enron ceased arbitration proceedings against Maharashtra for damages resulting from the state's suspension of the project. Foreign investment in India has decreased since the Enron incident.

Subsequently, after 2000 the DPC and the Indian governments would engage in multiple rounds of legal disputes. The state government claimed that the initial agreement was not valid because it was influenced by corruption. It fought for the jurisdiction of the case and ultimately challenged whether it could be arbitrated in London. This challenge proves that even with the apparent protection of arbitration clauses, a foreign project can be subject to complicated legal conditions.

Note

The Dabhol project underwent long legal disputes between the investors and the governments—once in the mid-90s and once during the early 2000s. While the second round of renegotiations was legally interesting, it was complicated by the charges to and bankruptcy filing of Enron, the main investor in this project. As a result, this case study focuses on the first round of renegotiations when the new government challenged the investors to adjust the agreement that had been struck with the previous administration.

Coding

Strategic Factors

Enron had big plans for India, and it needed the Dabhol project online to take on the capacity offered by its Qatar LNG facility. In February 1997, Enron submitted plans to build five to seven more power plants in India for 10 billion (4 times the amount of Dabhol project). Enron's other initiatives in India include:

- (Present) LNG terminal at Dabhol (250 million) – approved in 1993
- (Future) Metgas pipeline project (400 million) – planning stage at the time
- (Future) LNG vessel construction joint venture (165 million)- 1999
- (Future) Gas Authority of India – 1999
- (Future) Broadband services
- (Present) Offshore fields (total of 700 million over a few years)
- (Future) India's energy sector (potential future business)

The Dabhol Power Project was the biggest Enron investment in India (2.8 billion) and it was apparent that they were using this project as a first step into the potentially large India power market. The 10 billion commitment (roughly four times the value of Enron project) for five to seven more power plant projects strongly indicate their future intentions for the Indian market. Although these projects never materialized due to Enron's bankruptcy in 2001, they were committed projects and thus were treated as actual investment in determining the level of future business Enron would have done in India had it stayed in business. **Thus, a FBI score of 1 is assigned.**

The Dabhol project was meant to be the first of many projects and its scale was unprecedented. At the same time, the project was strategically tied to other projects (e.g., LNG term terminals at Dabhol and in Qatar). These projects were still relatively small (approximately 1 billion) compared with the enormous investment of Dabhol project (2.8 billion). **Thus a CIA score of 0.33 is assigned to the project.**

Relational/Legalistic Index

As soon as the new Indian state government canceled the agreement struck by the previous administration, Enron filed for arbitration in London. In 1996, the arbitration board ruled in favor of the concessionaire but the GOM tried to invalidate the ruling by alleging illegal means were used to secure the contract, thus making the original contract invalid. Enron would later indicate they were open to the renegotiation, and this willingness prompted the new state government to set up a negotiation committee. About two years later, they finally agreed on terms and lifted the ban on the project. Both sides dropped all the charges. Due to the one round of ruling in 1996 before the

eventual settlement outside of court, **a relational/legalistic index of 0.33 (mostly legal) is assigned.**

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Appendix 1G – Indonesia Karaha Bodas Power Project

Ownership:

Investor	Country of Origin	% ownership
Caithness Energy, LLC	U.S.	40.5
FPL Energy	U.S.	40.5
Tomen	Japan	9%
Indonesian partners	Indonesia	10%

Summary

During the second half of 1990s, the Indonesian government was encouraging foreign investors to bring their expertise and capital to develop power plants in Indonesia to meet the country's increasing need for electricity. One of the projects was the Karaha Bodas project in West Java. The project was led by two American firms that had collaborated in California, Caithness Energy of New York and FPL Energy of Florida, with a Japanese firm and a local partner to make up the rest of the equity ownership. Together, these firms formed Karaha Bodas Company (KBC), incorporated in the Cayman Islands. Under the agreement, KBC operated as a contractor to Pertamina, the state-owned oil company. In addition, the take-or-pay clause meant KBC would deliver and sell the electricity to PLN, the state-owned electricity company.

When the Asian Crisis hit Indonesia in 1997, the value of the Indonesian currency decreased substantially. With the agreed-upon electricity price denominated in U.S. dollar, PLN would be paying a lot more for the electricity. The demand for electricity also went down substantially due to decreased economic activity. It became apparent that PLN did not need all the electricity from the 27 ongoing IPP projects in

the country, plus prices for electricity were increasing with the devaluation of rupiah. Following recommendations from IMF, the Indonesian government suspended the KBC project in September of 1997. The project was reinstated in November of 1997 but postponed again in January 1998. In April of 1998, KBC filed for arbitration in Geneva, the location of arbitration in a predetermined arbitration clause. The firm sought compensation for the 100 million USD dispersed investment as well as for the NPV of the expected profit. The president of KBC, Robert McCutchen, claimed that instead of seeking compensation, the firm was merely using the arbitration to “ask the government to tell us when we can continue our project.” (Jakarta Post 1998). During this time, KBC would collect 75 million USD from their private insurance policy purchased from Lloyd’s of London. They claimed they would repay Lloyd the insurance amount if the arbitration amount exceeded the 75 million Lloyd paid them.

In December of 2000, the arbitration committee ruled that Pertamina owed KBC a total of 261.1 million, composed of the dispersed investment and reasonable profit that would have been earned. The amount would earn a 4% interest starting in January of 2001. The Indonesian government disputed the arbitration, but courts in the U.S. and in Hong Kong subsequently ruled in favor of the arbitration decision. KBC immediately sought to tap into the foreign assets of Pertamina, including the New York bank account used for the enormous oil transactions between Indonesia and the U.S.

The Indonesian government would seek annulment from the Jakarta District Court, but the fact that KBC successfully tapped into Pertamina’s foreign assets made the Jakarta

court decision irrelevant. Finally, in 2004, the Indonesia Supreme Court ruled against the verdict of the lower court, reiterating Pertamina's obligation to pay the arbitration ruling amount.

Coding

Strategic Factors

This was the first project in Indonesia for both Caithness and FP&L, as the Karaha Bodas was one of the first series of projects financed and developed by foreign investors. Since the dispute in this project, neither company has had substantial investment in the Indonesia, or in developing countries in general. According to Wells (2007), FP&L had had a power plant in Columbia that would later disappear from the company's SEC filing. In addition, it "had established a number of other affiliates in the Cayman Islands with names of Latin American countries. All, however, were listed as inactive. By 2002, neither company had any power plants at all outside the United States, according to their annual reports and Web sites" (Wells 2007). Despite KBC's president's claim at the time they filed for arbitration that they intended to continue the project, they claimed it was not economical to resume once they learned of the 261 million USD ruling from arbitration. The 16 other suspended IPPs eventually all resumed construction and operation once each had a renegotiated agreement with the new government. It appeared KBC was the first attempt in a foreign market for the U.S. firms, and they backed out once the Indonesian government delayed the project. **Thus an FBI score of 0 and CIA score of 0 are assigned to the U.S. investors.**

Relational/Legalistic Index

Four months after the Indonesian government postponed the project (for the second and last time), KBC filed for arbitration without any recorded negotiation prior to their legal actions. During the year and half of arbitration deliberation, there was no record of continued negotiation between the firms and the government. In 2003, after the arbitration award was announced, the government tried to renegotiate all IPP contracts but the KBC president argued “there’s nothing to negotiate.” Immediate legal action, no recorded dialogue during the arbitration deliberation period, and the arbitration ruling as the final outcome all lead to the **relational/legalistic index of 0 (completely legal).**

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Appendix 1H and 1I - Malaysia Independent Power Producers (IPPs)

Background

In the 1990s, the Malaysian government started to privatize the power generation industry. The first generation of IPPs (Independent Power Producers) would build facilities and sell power to Tenaga Nasional Bhd (TNB), the state-owned electricity company. To attract private investors, TNB signed a lot of Power Purchase Agreements (PPAs) with these IPPs and agree to purchase the power on a take-or-pay basis, meaning TNB would pay the IPPs for all of the power generated, regardless of the level of demand for electricity from the country.

During the 2000s, as oil prices increased, the pressure on the government to continue subsidizing TNB with cheap oil continued to mount. Since 2004, Kuala Lumpur (the government) tried to get IPPs to renegotiate their agreements with TNB, but the private companies successfully resisted, citing the sanctity of contracts, and the government never pushed the issue.

Then, in 2008, with rising fuel and gas costs, the IPPs were seen to be making obscene profits at state expense, and several public outcries influenced the government to impose a windfall tax on all IPPs. Any IPPs making more than 9% return (measured by the Return on Assets) were subject to a 30% windfall tax that recurs each year.

Penjanabebas, the trade association representing 16 IPPs, was quick to point out that the calculation of ROA is unfair it did not differentiate between debt and equity (both are considered assets), especially because a lot of the projects were highly leveraged; this unexpected windfall tax would seriously hinder the IPPs ability to

achieve reasonable levels of profitability. Instead, they suggested the government engage in a holistic review of the power industry. Critics of this suggestion argue that doing so is complicated and that it was used as a tactic to delay the government's efforts to reduce IPPs' profits.

Various banks warned that the government's suggested windfall scheme could jeopardize the country's bond rating and would undermine investors' confidence as they would perceive the political risk of the country to be high. In July 2008, the Finance Ministry announced that all IPPs which successfully renegotiate PPA terms with TNB would not have to pay the windfall tax. Despite the apparent connection, the government denied that the windfall tax was a bargaining chip to get the IPPs to renegotiate with TNB.

In August, some IPPs started discussions with TNB to renegotiate the PPAs. At the same time, critics (RAM Ratings) said that RM 10 billion worth of bonds issued by the IPPs faced a possible downgrade in light of the potential windfall tax. On September 10, the Cabinet decided to discontinue the windfall tax after considering the IPPs appeal. PPA renegotiation efforts also halted. In February 2009, the renegotiation effort would resume, with the government continuing its effort to renegotiate PPAs between IPPs and TBN. The renegotiation effort continues to this date.

Appendix 1H - Tanjong Power Projects

Ownership:

Investor	Country of Origin	% ownership
Tanjong	Malaysia	100%

Summary

Tanjong is a first generation power producer in Malaysia. Because they could manage demand risk by signing take-or-pay contracts with TBN, the early IPPs could enjoy exceptional profits before the government became more sophisticated in the delivery of IPP contracts. Tanjong Power projects consist of 3 power plants in Malaysia:

- A 440MW Open Cycle Gas Turbine (OCGT) power plant at Telok Gong
- A 330 MW Combined Cycle Gas Turbine (CCGT) power plant at Tanjong Kling
- A 720 MW CCGT power plant at Telok Gong

Coding

Strategic Factors

Tanjong PLC has done business in Malaysia since 1926. Besides the three power plants, Tanjong also operates gaming businesses and property investments in Malaysia. In 2009, its Malaysian gaming business was worth RM 2.37 billion, compared with RM 3.24 billion from its domestic power business. Its gaming business is the third largest gaming company in Malaysia (The Edge Malaysia 2009). With its deep roots in the Malaysia market, Tanjong has a high level of current business exposure besides its power generation business in Malaysia. In 2006, Tanjong's power generation business represented 31% of its total assets. In other words, Tanjong's

other businesses in Malaysia, including gaming and property management, were more than twice the value of its power generation business. **Thus, a CIA score of 0.66 is assigned.**

Tanjong also expanded its power generation business by acquiring other power producers outside of Malaysia. In 2005, Tanjong effectively acquired an 10% interest in Taweelah Asia Pacific Company (TAPCO), which owns and operates power plants in Abu Dhabi. In March of 2006, Tanjong acquired two power generating companies in Egypt. In 2007, Tanjong further expanded its overseas power plant operation by acquiring Globeleq Ltd. which owned power plants in Bangladesh, Pakistan and Sri Lanka. These progressive acquisitions, make evident that Tanjong plans to stay in the power-generation business. Furthermore, its continuing business operations in Malaysia since the renegotiation request make it clear that Tanjong is staying in Malaysia for future business. However, it has not acquired or developed other power plants in Malaysia since the three projects involved in the dispute. **Thus, a FBI score of 0.33 is assigned.**

Relational/Legalistic Index

Although there have been at least three documented renegotiation requests from the government (2004, 2008, 2009), none of the numerous news reports have indicated that Tanjong sought legal remedy to the government's attempts to extract profit from the investor. Instead, they were reported to appeal to the government (not the court) about the fairness of the profit-calculating method. Another time, they stressed the sanctity of the contract as a means to dissuade the government from changing the

contract *ex post*. In fact, a commentator suggested that any adjustment to the original contract would have to be done in the Malaysian way—that is “saving face.” Legal threat or action from the investor would appear to trigger a “slapping face” moment. This may explain why no legal action was taken or seriously pursued. **Thus, a relational/legalistic index of 1 (highly relational) is assigned.**

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Appendix 1I: Genting Sanyen Power Plant

Ownership

Investor	Country of Origin	% ownership
Genting	Malaysia	39%
Tenaga	Malaysia	20% (stake sold to Genting in 2002)

Summary

Genting is a national conglomerate in Malaysia. It began as an engineering firm during its early years, but later became a resort/casino operator and a cruise line operator. In 1994, it entered into the power generation business by acquiring Sanyen Paper Mill complex, which also includes a 729 MW power plant. Genting Sanyen Power plant was one of the first wave of IPPs in Malaysia.

Coding

Strategic Factors

Genting Bhd. is one of the largest conglomerates in Malaysia. They are very well connected to the Malaysian government and that relationship helped Genting and other similar conglomerates secure the first wave of IPP contracts (Rector 2006). According to the 2009 Q3 annual report, revenue from the power generation business accounted for less than 10% of the company's profits. The much more significant business operations were the Leisure and Hospitality activities, which accounted for 68% of its profit. Genting's casino/resort operations in Malaysia were the bread and butter business of the conglomerate and power generation was a small fraction of its revenue/profit stream. **Thus, a CIA score of 1 is assigned.**

After its entrance into the power generation business in 1994, Genting expanded its power business by entering the power sectors of China and India. However, since February of 2007, Genting has attempted to sell its power generation businesses and focus on its gaming operations. In addition to its stake in Sanyen power in Malaysia, a potential sale would offload Genting's interests in four other power plants in China and two more in India. The renegotiation process being studied took place in mid-2008, at a time when Genting was already seeking buyers for its power businesses in Malaysia and abroad, as it was apparently losing interest in further development of its power operations. Because Genting was selling its power businesses and did not add any power plant projects since the dispute, **the FBI score of 0 is assigned.**

Relational/Legalistic Index

By the time the national government encouraged, or more appropriately mandated, TNB to renegotiate its PPAs, Tenaga had already made another attempt to renegotiate the agreement it had with other IPPs following the Asian financial crisis. In both instances, Genting did not initiate any legal action against the government or TNB. Rather, it made several attempt to have the government reverse its windfall tax proposal. When the government did not provide any response to their request, Genting decided to pay a windfall tax of RM 5.74 million (\$2.4 million) on August 14, 2008. Although it is hard to estimate how much dialogue the government and Genting had behind closed doors, Genting chose no legal action against the government and voluntarily paid the windfall tax upon its due date. **Thus, a relational/legalistic index of 1 (totally relational) is assigned.**

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Appendix 1J – Brazil Termoceaná Power Plant

Ownership

Investor	Country of Origin	% ownership
EBx	Brazil	51%
MDU	U.S.	49%

Summary

During the late 1990s, Brazil faced an energy shortage crisis and thus started offering generous concessions to thermal Independent Power Producers (IPPs). As a part of the deal, Petrobras, the Brazilian national oil and gas monopoly, was asked by the government to provide support for these IPPs, including Termoceaná, a 290MW natural gas-fired power plant in northern Brazil. The concessionaire, MPX, was a joint venture between Brazil's EBX (51%) and MDU (49%) from the United States. As a part of the deal, Petrobras would provide a minimum revenue guarantee covering fixed costs and some return on equity. The contract contained an arbitration clause with Rio de Junerio as the arbitration location.

The project was developed during the electricity shortage of 2001–02, when spot prices hit \$600/kWh. By the time the project began operation in late 2002, spot prices had already dropped by 97%, to \$18/kWh. There was suddenly an electricity surplus in the country. The fact that Termoceaná used natural gas to generate electricity made its electricity more expensive than that of other power plants. As a result, since its operation began in 2002, Termoceaná depended on Petrobras to honor the revenue guarantee and to pay for electricity that was not greatly needed.

Beginning in mid-2004, Petrobras held talks with Termoceaná and other IPPs and attempted to acquire them in order to stop paying out the enormous subsidy. They also

attempted to renegotiate the PPA contract but had little success. Finally after months of stalled negotiation, Petrobras obtained an order in Brazilian court that allowed them to deposit the monthly capacity payment into an escrow account until the dispute could be resolved. A day later, Petrobras approached the investors and attempted to have them sell control to Petrobras. The move would prove costly, because the judge reversed her own ruling upon finding out about Petrobras' action, calling it a demonstration of "bad faith" (Business News Americas February 4, 2005).

In Mid-February, 2005, Petrobras filed for arbitration, claiming that a clause in its five-year contracts with several IPPs had become an excessive burden that was unforeseen, and that thus warranted renegotiation. Petrobras argued that through 2004, they have already paid out \$370R million (\$144 million USD) to MPX under the terms of the contract. A month later, MPX agreed to sell the power plant, which cost 100 million to build, to Petrobras for 137 million.

Coding

Strategic Factors

According to the company website, EBX's power plant subsidiary, MPX, has sold an average of 900 MW (Termoceaná's capacity is 290MW) of power to the Brazilian government since 2001. In addition, the parent company EBX is a national conglomerate with business operations in mining, port operations, and energy. Compared to the other operations in MPX and EBX's vast portfolio at the time of the dispute, the Termoceaná project, which cost around 100 million to build, was insignificant. . **Thus, a CIA score of 1 is assigned.**

Since the dispute with Petrobras and the subsequent sale of the project to the national oil company, MPX continued to be active in the Brazilian power market. It now has six power plants in Brazil, with the biggest power plant, Porto de Pecem, producing 720 MW of power annually. In 2009, the company introduced a 5 to 10 billion infrastructure fund to invest in infrastructure projects in Brazil and other Latin America countries. In January 2010, MPX signed a deal with the Brazilian government to build a 360MW coal-powered power plant in Itaqui, Brazil that will cost 586 million USD. As a side note, the project also involves Petrobras. It appears the legal dispute between Petrobras and EBX did not hinder their level of collaboration after the incident. All in all, EBX and its MPX subsidiary had been very active in the Brazilian market and at the time of the dispute the company very much had its eye on the future Brazilian market. **Thus, a FBI score of 1 is assigned.**

Relational/Legalistic Index

Petrobras (representing a government agency) and EBX had negotiations to attempt to modify the original PPA that was costing Petrobras significant amounts of money. Petrobras sought legal actions only after talks stalled for months. Although the judge made a ruling that Petrobras could suspend payments to EBX by depositing the amount into an escrow account until the dispute could be resolved, the two sides finally agreed on a sale price before other courts provided further rulings on the dispute over the legitimacy of the original PPA contract. Because both legal actions and relational bargaining were recorded, and because the two sides could not settle

their differences before the court provided a ruling, relational/legalistic index of 0.33 (mostly legalistic) is assigned.

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Appendix 1K – Kenya Iberafrika Power Project

Ownership

Investor	Country of Origin	% ownership
Union Fenosa	Spain	80%
KPLC Pension Fund	Kenya	20%

Summary

Before privatization of the electricity industry in 1996, Kenya depended heavily on hydro power as its main source of electricity. At that time, only a small percentage of the population, approximately 15%, had access to electricity (Woodhouse 2006). The government wanted to bring more power to the public and at the same time deviate from its heavy dependence on hydro electricity. But for much of the 1990s, Kenya faced an embargo on foreign aid because of the poor record on corruption and democratic governance. Thus the Kenyan government turned to private financing to support the development of power plants.

In 1996, legislation opened the power sector to private investment. At the time, Kenya was experiencing a serious drought and the government needed private investors to build power plants and to bring electricity to meet increasing demand. Kenya Power and Lighting Company Limited (KPLC), the distribution and transmission company with the government as the majority owner (51%), orchestrated the development of two stop-gap Independent Power Producers (IPPs) in 1996. One of these two IPPs was a 56MW diesel-powered generation plant. Union Fenosa submitted the lowest bid and secured the right to build the Iberafrika power plant.

The Iberafrika power plant was the first of two power projects developed by private investors in Kenya. Because it was the earlier private power project in Kenya, the power plant was procured without any independent regulator. The project was commissioned in 11 months. It was set up as a Build-Operate-Own (BOO) project with a 7-year contract. There was no mention of an arbitration clause in the various news reports, and other power projects in Kenya did not pursue arbitration in various disputes. Thus, it is unlikely that the Iberafrika project had arbitration clauses in its contract.

In the early 2000s, when other subsequent power plants went online and the PPP market in Kenya became more mature, the independent regulator ERB was established to monitor tariffs. With the change of government in 2002, ERB was commissioned to review the existing tariff and to push for renegotiations of the original Power Purchase Agreements (PPA) if needed. In 2002, with the original PPA approaching expiration, Union Fenosa was keen to win the second PPA. In April 2002, they voluntarily reduced the original tariff by 37%. In September 2003, nine months after the new government came to power, Iberafrika further reduced the tariff to 59% of the original PPA agreement. In August 2004, Iberafrika successfully secured the second PPA of the project for another 15 years. The tariff for the second PPA agreement was 50% that of the original PPA.

Strategic Factors

Union Fenosa entered the Kenya market in the 1990s. Prior to its involvement in the Iberafrika project, Union Fenosa had performed business in information technology in

the country. Given that IT is not Union Fenosa's core business and that there was little press coverage of Union Fenosa's IT operations in Kenya, it is reasonable to assume the current investment level in Kenya was low compared was the scale of the Iberafrica project. **Thus, a CIA score of 0.33 is assigned.**

As the initial PPA of the Iberafrica project was approaching its expiration date, Union Fenosa voluntarily reduced the tariff in what appeared to be an effort to increase their chance of securing a second PPA contract for the project. In 2006, Union Fenosa submitted a bid for a two-year management contract at Kenya Power and Lighting Company (KPLC), the power distribution and transmission monopoly. The management contract eventually was secured by Supply Board International of Ireland but Union Fenosa's losing effort was indicative of its commitment to continue to do business in Kenya. In 2008, the firm was working on the Nairobi South II generation plant (52.5MW thermal generation) in Kenya. Union Fenosa also completed a 220kV high-tension line at Olkaria in Kenya. While the exact monetary values of these projects were not recorded in news reports, the aforementioned activities in Kenya's power industry suggest that Union Fenosa had significant future business plans in Kenya and that the total values of these projects were expected to exceed twice of that of the original Iberafrica. **Thus, an FBI score of 1 is assigned.**

Relational/Legalistic Index

Before any potential legal action from the government was initiated by the new government that was investigating the legitimacy of concessions approved by the previous administration, Union Fenosa proactively and voluntarily reduced its tariff of

the original contract. As a result, no legal action between the government and the firm was recorded. The two sides agreed to a new tariff through negotiations and **thus a relational/legalistic index of 1 is assigned.**

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Appendix 1L – Independent Power Tanzania Limited (IPTL)

Ownership

Investor	Country of Origin	% ownership
MechMar Corp	Malaysia	70%
Local Investors	Tanzania	30%

Summary

In 1994, Tanzania experienced a major electricity crisis. The government awarded two Power Purchase Agreements (PPA) to two Independent Power Producers (IPPs), one of which was the Independent Power Tanzania Limited (IPTL), which was owned by MechMar Corp of Malaysia, but with a local minority owner (30%) from Tanzania. The project, with its 10 diesel generators of 10MW each, was seen at the time as an emergency solution to Tanzania’s power problems.

According to the 1995 PPA, Tanesco—the Tanzania state-owned power agency that is the sole power distributor in the country—was required to buy all power generated by IPTL for 20 years. Upon the completion of the project in 1998, IPTL reported the total cost of the project was US \$150 million, which would lead to Tanesco’s obligation to pay IPTL \$4.2 million a month for generating 100MW of power. This translated into a tariff of 21 cents/kWh, which would have been among the most expensive in the region, and the government wanted the price to be set at 9 cents/kWh.

The government first argued that the investors breached the terms of the original PPA when they used a different kind of generator than that specified in the original agreement. In 1998, the Tanzanian ministry of energy and minerals said that the government would prevent consumers from being burdened with “extraordinarily high electricity tariffs” (Wilmington Publishing 1998). With the investment cost being a

component of the tariff calculation, the government considered the \$150 million power plant over-priced and argued an acceptable cost for a comparable project would be around \$90 million.

The parties in dispute engaged in negotiations over the final cost of the project. However, talks between the investors and the government broke down and the case was brought to the New York–based International Centre for the Settlement of Investment Disputes (ICSID), as specified in the arbitration clause of the original agreement. In 2001, ICSID reduced the project cost from US \$150 million to US \$123.4 million, a ruling that would translate into lower contractual tariff obligations for Tanesco.

Coding

Strategic Factors

Prior to the IPTL project, MechMar had entered the Tanzania market with a smaller scale project—a 2.5 MW woodwaste burning plant that was completed in 1995.

Because the scale of the current business (woodwaste plant) was only one-quarter of the IPTL scale, and there was no other current business in Tanzania by MechMar or by its subsidiaries, a **CIA score of 0.33 was assigned.** Since the IPTL project, MechMar has not engaged in another power plant project in Tanzania. In fact, since 2006, the company has attempted to sell its Tanzania assets including the IPTL. **Thus, an FBI score of 0 is assigned.**

Relational/Legalistic Index

Because the project was close to completion and the parties needed to agree on the final tariff, which is a function of the construction cost of the plant, the disagreement over the tariff between the two sides started to surface. There were negotiations mentioned by the management of MechMar. However, those talks did not lead to a resolution and the arbitration clause was exercised. Ultimately, the parties had to rely on the court (ICSID) to settle the dispute and the project cost was reduced, against the case of the investors. Thus, a **relational/legalistic index of 0.33 (mostly legal) was assigned.**

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Appendix 2 – Comparison of Case Coding between Coder 2 and Author

1. U.S. California SR-91 Express Lanes

	FBI	CIA	Relational/Legalistic
Henry	1	1	0.33
Laura	1	1	0.33

Differences in coding:

None

Suggested adjustments:

None

2. India Dabhol Enron Power Project

	FBI	CIA	Relational/Legalistic
Henry	1	0.33	0.33
Laura	0	0	0.33

Differences in coding:

The two FBI scores were significantly different because the project was complicated by Enron's bankruptcy in 2001. In February 1997, Enron submitted plans to build five to seven more power plants in India for 10 billion (4 times the amount of Dabhol project). The Dabhol Power Project was the biggest Enron investment in India (2.8 billion) and it was apparent that they were using this project as a first step into the potentially large India power market. The 10 billion commitment (roughly four times the value of Enron project) for five to seven more power plant projects strongly indicates their future intention in the Indian market. Although these planned projects never materialized because of Enron's bankruptcy in 2001, they were commitments made in 1997, 2 years after the initial challenge from the government. As such, I take the position that they would have been delivered if not for Enron's sudden collapse. Thus I have included them in the analysis of FBI as if they were actual delivered projects.

The two CIA score were also slightly different. My record showed there was a power line in operation in 1996. The value of the power line was unknown but it is reasonable to assume it is small compared to the Dabhol project, given that most of the news coverage and reporting was focused on the Dabhol project.

Suggested adjustments:

Treat committed investments as if they were actual future investments. As such assign FBI = 1. Assign CIA = 0.33.

Coder2 Response:

Considering the analysis methodology of ignoring Enron's bankruptcy, I agree with the adjustments to the FBI and CIA. Referring back to the annual reports that reflected the future pipelines of work, I saw those project plans to which you refer and that you counted in the ratings. Please adjust to match yours.

3. Chile Route 78

	FBI	CIA	Relational/Legalistic
Henry	0	1	1
Laura	0	1	1

Differences in coding:

None

Suggested adjustments:

None

4. Hong Kong EHC

	FBI	CIA	Relational/Legalistic
Henry	0.33	1	0
Laura	0.66	1	0.33

Differences in coding:

There have been multiple disputes in the EHC project since its opening in the mid 90s. I was analyzing the 2002 dispute. Thus CITIC's other transportation infrastructure project – WHC was already in operation. As such, CITIC did not add another transport project in Hong Kong since the 2002 dispute and thus the FBI score is 0.33.

There was no report or written record of CITIC engaging in a negotiation with the Hong Kong government. Thus I assigned the value 0 to the Relational/Legalistic index.

Suggested adjustments:

Analyze the 2002 dispute and assign FBI = 0.33; Relational/Legalistic index = 0.

Coder2 Response:

By shifting the date from 1996 to 2002, I get a lower FBI code since the Western Harbor Crossing was already in operation and shouldn't be counted. The FBI should be revised downward to 0.33 since CITIC did nothing more in transportation other than continue operating its prior investment assets.

I agree that there was no public record of a CITIC negotiation with the government. Since there was little to no publication about the legal arrangements, I had assumed that they had not occurred. But likewise there was no record of negotiation, so I can agree with your coding for the leg/rel of 0.

5. Indonesia Karaha Bodas Power

	FBI	CIA	Relational/Legalistic
Henry	0	0	0
Laura	0	0	0

Differences in coding:

None

Suggested adjustments:

None

6. Argentina Autopista del Oeste

	FBI	CIA	Relational/Legalistic
Henry	0.33	0	1
Laura	0.33	0.66	0.66

Differences in coding:

My CIA score was 0 because somehow I did not factor in the fact that Cintra's other investment – Autopista del Sol was already in operation at the time of dispute inception. Cintra's stake in Autopista del Oeste is 49% of 400million = 200million; whereas its stake in Autopista del Sol is 32% of \$800million = 256million (info from Argentina toll road ownership.pdf file). As such the CIA ratio is $256/240 = 1.28$. Thus CIA score should have been 0.66, which is consistent with Laura's result.

My Relational/Legalistic index is 1 because there's no record of legal action being formally filed. Thus, the index is 1 by definition.

Suggested adjustments:

CIA = 0.66; Rel/Legal index = 1.

Coder2 Response:

In staying with the condition that no public record of legal action being filed requires a Rel/Legal index of 1, I agree that this adjustment is necessary and consistent with the facts in the literature reviewed.

7. Malaysia Tanjong Power

	FBI	CIA	Relational/Legalistic
Henry	0.33	0.66	1
Laura	0.33	0.33	1

Differences in coding:

The CIA scores are different because I used 2006 as the year that the conflict officially began, marked by Tenaga's renegotiation initiation. As shown in the annual report, in 2006, the power generation business represented 31% of the firm's total asset. In other words, its gaming and property management was 69% of the asset, more than twice of the power generation business.

Suggested adjustments:

Use 2006 as the renegotiation inception and change CIA to 0.66

Coder2 Response:

Taking the conflict inception to be 2006 and not 2008, my CIA would be higher since in 2006 its non-power assets were twice the investment of the case project. The CIA should be revised to 0.66.

8. Malaysia Genting Sanyen Power

	FBI	CIA	Relational/Legalistic
Henry	0	1	1
Laura	0	0	1

Differences in coding:

The CIA scores are different. I gave it a 1 because Genting is a very big conglomerate in Malaysia. According to the annual report of 2009, Hospitality accounted for 68% of the business

Suggested adjustments:

Confirm the other business values and change CIA to 1.

Coder2 Response:

I overlooked the fact that Genting was heavily invested in other sectors and was miscalculating my CIA by only counting businesses in the power sector. After reviewing the 2009 annual report, I agree with Henry's suggestion that the CIA should be revised to 1.

9. Brazil Termoeeará Power Plant

	FBI	CIA	Relational/Legalistic
Henry	1	0.66	0.66
Laura	1	1	0.33

Differences in coding:

My CIA should have been 1. Forgot to take into account of other business and only used the capacity of other power plants as the basis of comparison; Leg/Ren should have been 0.33 since there was a court ruling

Suggested adjustments:

Change CIA to 1 and change Rel/Leg to 0.33

10. Kenya Iberafrica Power

	FBI	CIA	Relational/Legalistic
Henry	1	0.33	1
Laura	0	0.33	1

Differences in coding:

My FBI = 0 is reflected by the increased investment since the first term of the project. As the initial PPA of the Iberafrica project was approaching its expiration date, Union Fenosa voluntarily reduced the tariff in what appeared to be an effort to increase their chance of securing a second PPA contract for the project. In 2006, Union Fenosa submitted a bid for a two-year management contract at Kenya Power and Lighting Company (KPLC), the power distribution and transmission monopoly. The management contract eventually was secured by Supply Board International of Ireland but Union Fenosa's losing effort was indicative of its commitment to continue to do business in Kenya. In 2008, the firm was working on the Nairobi South II generation plant (52.5MW thermal generation) in Kenya. Union Fenosa also completed a 220kV high tension line at Olkaria in Kenya. While the exact monetary values of these projects were not recorded in news reports, the aforementioned activities in Kenya's

power industry suggest Union Fenosa had significant future business plans in Kenya and the total values of these projects are expected to exceed twice of that of the original Iberafrica. Thus, and FBI score of 1 is assigned.

Suggested adjustments:

Change FBI to 1.

Coder2 Response:

I researched these events and projects mentioned above and agree that they existed. Such future business prospects were clearly front-of-mind for Union Fenosa, as seen by their conciliatory decision to reduce tariffs previously. I accept the new FBI score of 1.

11. Poland Elcho Power

	FBI	CIA	Relational/Legalistic
Henry	0	0.33	0.66
Laura	0	0	1

Differences in coding:

My Rel/Leg score should have been 1 as there was no published record of legal action. CIA should be 0.33 as the developer's stake in the other project should be close to 16% of the Elcho project.

Coder2 Response:

After reviewing investment stakes of the Elcho project and the existing Skawina plant project, I agree that the ratio of the two projects does exceed 10%, thereby meriting a CIA of 0.33.

Suggested adjustments:

Change CIA to 0.33; Ren/Leg index to 1.

12. Portugal Norte Litoral

	FBI	CIA	Relational/Legalistic
Henry	0.66	0.66	0
Laura	1	1	1

Differences in coding:

My Rel/Leg score was a typo, should have been 1; FBI should have been 1 (2.04x); CIA remains 0.66 (2004 Portugal asset = 683M Euro, compared to project worth of 309M Euro)

Suggested adjustments:

Change FBI to 1; CIA to 0.66; Ren/Leg to 1

Coder2 Response:

I agree with the downwards revision of the CIA to 0.66 in light of the assumed asset values mentioned by Henry. As the ratio is below 1:2, the appropriate code is 0.66.

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