Regulative, Normative and Cognitive Institutional Supports for Relational Contracting: *Toward a Contingent Project Governance Framework*

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Abstract

We review, integrate, extend and apply economic, legal, sociological and psychological governance perspectives on relational contracts to address governance challenges arising from the heretofore neglected contractual hazard of "displaced agency"—i.e., the costs that accrue to a series of interdependent transactions as a result of counterparties' incentives to shift costs or responsibilities to a counterparty not represented in the current transaction. We describe the extreme governance challenges that can arise in large, cross-sectoral, multi-phased civil infrastructure projects—including one-off projects for which transactions have no strong "shadow of the future," but where elements of relational contracting are still ubiquitous. The transaction cost economics literature has pointed out that such projects require relational contracting governance, but has not spelled out strategies to attain and sustain the relational governance in detail. We set out a framework based on institutional theory that integrates a range of strategies designed to enhance the efficacy of relational contracts, drawing not only on regulative institutional supports (e.g., laws, regulations, contracts and their enforcement through mediation, arbitration or litigation), but also institutional supports that are normative (e.g., socially shared expectations of appropriate behavior, and social exchange processes) and cognitive (e.g., creating shared identities, scripts or conceptual frameworks to bridge differences in values or interests). Finally, we present a set of propositions that begins to develop a contingent project governance framework of transaction-, counterparty-, relationship-, field- and country-level project characteristics that alter the incidence and efficacy of each of these regulative, normative and cognitive supports for relational contracting.

KEYWORDS: Relational contracting; institutional theory; transaction cost economics; project organization; project governance; infrastructure projects; regulative institutions; normative institutions; cognitive-cultural institutions; partnering.

Introduction

The economic, legal, sociological and psychological perspectives on organization are each increasingly focused on mechanisms that facilitate cooperation among and reduce the incidence of opportunism by counterparties or stakeholders in informal agreements that are sustained due to the value of related ongoing or future transactions (i.e., relational contracts). We build on this work by integrating these perspectives to examine the governance of relational contracts in the face of the heretofore neglected contractual hazard of "displaced agency" —i.e., the costs that accrue to a series of interdependent transactions as a result of counterparties' incentives to pass through or shift costs or responsibilities to a counterparty not represented in the current transaction to the long-term detriment of the current residual claimant. As compared to the opportunistic efforts to divert available rents between existing counterparties, we believe that collective shirking or responsibility shifting among current and future counterparties is a relatively under-analyzed governance challenge yet one that is still critical to performance in a wide array of contexts.

We set out a framework based on institutional theory that integrates a range of strategies designed to enhance the efficacy of relational contracts, drawing not only on regulative institutional supports (e.g., laws, regulations, contracts and their enforcement through mediation, arbitration or litigation), but also normative (e.g., socially shared expectations of appropriate behavior, and social exchange processes) and cognitive (e.g., creating shared identities, scripts or conceptual frameworks to bridge differences in values or interests) institutional supports. Finally, we present a set of propositions that begins to develop a contingent project governance framework of transaction-, counterparty-, relationship-, field- and country-level project characteristics that alter the incidence and efficacy of each of these regulative, normative and cognitive supports for relational contracting.

Economic and legal perspectives on governance focus on financial incentives and formal legal structures that can impose sanctions or enforce financial contracts, constrain and motivate the behavior of counterparties. Economic approaches initially had the strongest purchase in the analysis of atomistic markets or bilateral contracts but, integrated with their legal counterparts, have been usefully extended to examine contractual vs. hierarchical governance (Williamson, 1979). The focus within law and economics on incentives and sanctions generates insights into the codifiable elements of contractual governance and their regulative institutional supports (Scott, 2008) as well as the delineation of court-sanctioned zones for managerial discretion that give rise to substantive differences between the functioning of markets and hierarchies, particularly where contracts are necessarily incomplete. Research on relational contracting incorporates the role of reputational capital in repeated games. Under certain assumptions regarding the reaction of principals and agents to reneging or shirking—e.g., triggering "tit-for-tat" responses (Axelrod & Hamilton, 1981), punishment strategies or community enforcement—reputational capital can cast further light on important distinctions in the functioning of different governance mechanisms. Despite the growing interest in relational contracting within organizational economics, the scope of strategic behavior for a contractor who wishes to minimize the hazard of "displaced agency" remains limited to the *ex ante* design of governance mechanisms that provide financial incentives or other sanctions to enhance efficiency. We demonstrate that such efforts to craft unified, trilateral or network governance hazards are frequently insufficient to mitigate this hazard.

Sociological and psychological perspectives on governance, in contrast to their economic and legal counterparts, focus on underlying patterns of human behavior that price and legal sanction can enhance or moderate, but never fully subsume. These approaches have enjoyed the strongest purchase

in micro-level studies of employment relations, teams, workplace interactions and influence campaigns.[1] Their focus on behaviors that can shape individual perceptions, shared beliefs, affect and group dynamics generates insights into the informal and behavioral elements of governance and the normative and cognitive bases for their enforcement. Across a wide array of contexts, compliance with or the successful invocation of psychological perceptions, collective norms or senses of identity has been shown to alter individual behavior (Gächter & Fehr, 1999, Nee & Ingram, 2001, Ring & van de Ven, 1994). While the existence of financial incentives and legal sanction is acknowledged and the potential for positive or negative feedback between such regulative institutional supports and these normative and cognitive counterparts is occasionally studied, this literature does not focus on the best means to enhance cooperation among and minimize opportunism by counterparties with the explicit aim of improving transactions' financial performance. A large body of literature does, however, link these constructs to individual- and group-level satisfaction, innovation, learning and other potentially performance-related outcomes. Such individual and group-level outcomes reduce the collective shirking at the core of "displaced agency" and are, therefore, core elements of relational governance.

Following this logic, we integrate the analysis of the regulative supports for relational contracting espoused by the economic and legal literatures with the normative and cultural-cognitive supports (Scott, 2008) heralded by the sociological and psychological literatures. We do so in a manner that gives rise to concrete and testable predictions regarding the relative incidence and efficacy of these governance supports for relational contracting as a function not of contractual hazards which we hold constant (i.e., high asset specificity, uncertainty and probity with low frequency and high displaced

[1] Additional sociological literature has examined governance at the international level considering population-level learning, coordination and diffusion (Djelic & Sahlin-Andersson, 2006, Meyer, Boli, Thomas, & Ramirez, 1997). We defer the question of how the governance innovations that we describe herein might diffuse among firms and nations for subsequent research.

agency—the costs that accrue to a series of interdependent transactions as a result of counterparties' incentives to pass through or shift costs or responsibilities to a counterparty not represented in the current transaction to the long-term detriment of the current residual claimant). Rather we draw attention to; (1) the structure of the relationships among counterparties to those interdependent transactions; (2) the ratio of the gains to trade that accrue to the residual claimant of a network of counterparties to the short-term or one-off benefits of opportunistic breach to a given counterparty; and (3) the existence of complementary institutional supports.

Prior research has argued that relational contracting, while ubiquitous, is most pervasive among multiple, highly interdependent but heterogeneous counterparties (Powell, 1990a) engaging in multiple sequential complex transactions (Argyres & Liebeskind, 1999). As a result, we develop our theoretical arguments drawing upon evidence from a sector dominated by such transactions that is of substantive economic importance: the provision of civil infrastructure delivery projects.[2] Transactions in this industry are characterized by high:

- Asset specificity (i.e., the magnitude of the difference in value of specialized investments in their use for a given transaction and in their next best use),
- Uncertainty and probity (i.e., the importance of integrity in process and loyalty to mission and leadership (Williamson, 1999) due to their catalytic role in the process of development,
- Cost and attendant potential for corrupt administration, and
- Centrality to a nation's well being and security).

[2] Civil infrastructure supports the most basic needs of society and business and generally falls into four sub-groups: energy, telecommunications, transport, and water.

Each transaction is potentially one-off and, therefore, too infrequent to justify large fixed governance costs independently. It is nevertheless a tightly coupled element in a sequence of related transactions linking multiple heterogeneous and shifting counterparties over a lengthy time interval (ranging from years to decades). Within this complex system, there exist one or more residual claimants (e.g., end users, taxpayers, lead designers, lead construction contractors and facility operators) who stand to gain financially if cooperation is enhanced and/or opportunistic behavior is reduced in a manner that improves the efficiency of the system. Sizeable potential gains can accrue to citizens who ultimately pay for and use these public goods and shareholders of the corporations that increasingly finance and deliver them from improvements in the efficacy of relational contracting in this multi-trillion dollar sector.

Regulative Institutional Supports

One branch of the construction management literature building on work by (Williamson, 1985, 1975, 1996) has followed the logic of transaction cost economics in arguing that managers in the position of residual claimant should pursue a cost minimizing alignment between the governance of an individual transaction and that transaction's contractual hazards (Eccles, 1981, Gunnarson & Levitt, 1982). Where these hazards are high, opportunistic behavior can be mitigated in unified governance structures where all of the lifecycle project costs and benefits of a project are born by a single entity—i.e. the local government agency or private entity that will design, build, operate and maintain the facility over an extended period. Alternatively, coordination can be enhanced and opportunistic behavior mitigated through carefully specified contractual incentives with appeal to neoclassical contracting (i.e., trilateral governance) or through sharing ownership among stakeholders (i.e., network governance supported by ownership) or relying upon the shadow of the future (i.e., network governance supported by reputational capital).

We demonstrate that, while important and widely adopted, these regulative governance mechanisms are only a subset of the mechanisms that can be employed to generate cooperation among and limit the hazard of opportunistic behavior by counterparties, particularly those that are distant to the immediate transaction within a multi-party multi-phase network of interdependent transactions. As compared to traditional transaction cost logic, the level of contractual externalities between counterparties in one phase (e.g., planning) and another (e.g., construction or operation) is so great as to require extensions to the governance mechanisms typically deployed for intertemporal, bilateral or even multilateral contracts. *In extremis,* a reliance on unified governance (typically by governments) or neoclassical contracting among counterparties at a moment in time only shifts the burden of costs to increasingly distant and diffuse actors who lack the capacity to assess the risks they are taking on or to monitor the underlying behavior of the counterparties and properly incentivize them to coordinate and eschew opportunistic behavior. Such reallocation while arguably in the short-term interests of residual claimants can generate political and social backlash against governments and their contracting partners which undermines the long-term financial performance and even the viability of such projects.

Unified Governance Structures. A design-build construction contractor unifies detailed design and construction services and tenders a proposal to the client to maximize the value that can be delivered for a given budget. The client then picks the design-build tender —typically from a joint venture of one or more construction firms and design firms— that appears to offer them the greatest value for their intended purpose. In addition Design-Build contracting allows construction to begin before design is complete, with the potential to save considerable time over a more conventional, sequential Design-Bid-Build approach.

However, only relatively sophisticated construction buyers can specify their requirements well enough at the conceptual design stage to pick a “Design-Build” or “Engineer, Procure and Construct”

(EPC) contractor that will optimally satisfy its needs and wants for the project. As a result, this approach tends to be used for relatively well specified facilities like industrial plants, warehouses, standard office buildings, highway segments or bridges by large manufacturing and services companies, or large governmental agencies. These sophisticated construction buyers develop a series of similar facilities over time, so they can develop the in-house expertise to specify their requirements clearly and unambiguously enough to exploit this mode of contracting successfully. For other buyers, the subsequent buyer's remorse at what they have bought, or the *ex post* renegotiation costs incurred with the Design-Build construction contractor can outweigh the savings in time and the increases in value from alleviating the agency problem between the design and construction actors, if acting independently.

One solution to this problem has been to extend the scope of the Design-Build construction organization further both upstream and downstream so that the same entity plans, finances, designs, builds, owns and operates the facility. This further internalization, however, can generate yet another conflict in which the ultimate costs of the project are passed onto third parties — the end users—who will ultimately pay higher taxes, or user fees such as highway tolls, to fund the delivery of the infrastructure service, but are unable to assess the risks that they are bearing accurately, or have no choice but to accept them. While such forward shifting of costs may serve strategic purposes especially by political actors with time horizons no longer than the next election cycle, contractors, investors and bondholders need to understand these long-term risks and incorporate them within their financial models.

Another related agency problem arises when a contractor or contractors that will design and build the project also represent part of the consortium financing the project. They then have two ways to make profit: payment for their design-construction services, and income from their share of the

investment returns for the operation of the facilities. The English Channel Tunnel ("Chunnel") project is an example of such a conflict of interest. Transmanche Link (TML), the consortium of five British and five French contractors that built the tunnel, initially provided the majority equity stake in the project. The construction contract for the tunnel was written up during this period and it allocated almost all of the construction risk to shareholders while the contractors participated in decisions and renegotiated their payments for construction services based on redesign, differing site conditions, and other contingencies that would lead total project costs to increase from the original 1987 estimate of £4.7 billion to over £11 billion. At the time, the construction companies had an incentive to underestimate construction costs to promote investment in the project.

The initial public offering in 1987 raised an additional £770 million, providing the vast majority of the equity for the project company, now called Eurotunnel, and diluting the shares held by the construction companies to 7%. Subsequently, as the magnitude of cost overruns and over-optimistic estimates of the travel demand for the tunnel became clear, TML eventually agreed to bear a share of cost overruns; but the effect on Eurotunnel's investors and bondholders was far more dramatic including several major financial restructurings, the suspension of interest payments from 1995 through 1997, and an eventual write-off of half of the £6 billion debt.

Trilateral Governance Structures. Few if any public or private organizations are capable or willing to internalize the full set of transactions involved in infrastructure service provision. Where such integration does occur (often through the creation of a specialized company jointly governed by private companies and the public sector typically referred to as public-private partnerships or PPPs), end users and the governments that represent them are at a bargaining power disadvantage to obtain redress for opportunistic behavior during the design and construction phases of the project, given the difficulty of replacing the incumbent financiers/contractors. In what has been called the "obsolescing bargain,"

(Vernon, 1980, 1977) once the project has been completed, power then shifts to the host government. The completed asset, being large, costly and immovable, is absolutely location-specific; and tolls or other user fees paid to the concessionaire are typically set by the host government and can be arbitrarily reduced in the name of economic or political expediency. Thus, some form of multi-party governance that relies upon neoclassical or relational contracting seems inevitable.

One means to mitigate opportunism in such transactions is through the use of external commitment or bonding mechanisms such as an appeal to arbitration of general contractual commitments or financial guarantors such as surety bonding companies. While in theory, the reliance on independent and impartial third party rulings could resolve the inherent uncertainty in complex and always incomplete contingent contracts, particularly in the aftermath of unexpected shocks or contingencies that render rigid adherence to the terms of the contract costly to one counterparty or another, one or both parties may face incentives to tilt the playing field in its favor by directly or indirectly stimulating political intervention in the dispute. The aim of such influence tactics is typically to avoid the uncertainty of the dispute resolution process and use political or regulatory intervention to secure a more favorable and potentially expeditious outcome. Whether in disputes regarding toll road construction in the United States (Sullivan, 1998), independent power projects in South East Asia (Henisz & Zelner, 2005a, Wells & Ahmed, 2007, Woodhouse, 2006) or oil pipelines in Central Africa (Pegg, 2009) investors placing undue reliance on such contractual remedies to restrain such *ex post* political intervention have frequently met with bitter disappointment.

Network Governance Supported by Ownership Interests. The cost of writing general contracts and pursuing third party intervention of disputes about their interpretation can be prohibitive for infrequent and highly idiosyncratic transactions (Williamson, 1979) particularly those embedded in relationships involving multiple shifting counterparties sequenced over multiple phases. In these cases,

creating a significant, long-term economic stake for the "selectorate" (Mesquita, Morrow, Siverson, & Smith, 1999) can align the interests of many key counterparties. This should increase long-term political support for sustaining fair levels of reimbursement to private firms that develop the infrastructure, and thereby prevent opportunistic behavior against private infrastructure sponsors by future governments. Examples of such cooption include the hiring of minimum percentages of local employees, the awarding of minimum percentages of contract volume to local business entities and the like to compensate and co-opt locals, who could otherwise be vociferous opponents if they felt that they would be inconvenienced by construction or penalized by costs of operation of the facility. Such economically inefficient policies can shift the political calculus around a project creating a feasible solution that a focus on purely economic principles might not allow (Williamson, 1999).

Local pension fund investments and local set-asides similarly align many citizens' interests with those of the infrastructure project sponsors. Clark (2000) and Vives (1999) set early frameworks, suggesting that infrastructure projects had the potential to enhance risk-adjusted returns while matching pension fund obligations for long-term payouts. Clark (2000) also showed that infrastructure investments have had a negative correlation with other assets classes that are common in pension fund portfolios and thus could provide the added benefit of diversification. Australian pension funds have financed much of that country's infrastructure investment over the past decade; Chilean and Argentinean pension funds have held small infrastructure investments since the 1990s through infrastructure funds and securitizations.

Network Governance Supported by Reputational Capital. Even in the absence of an ownership stake, counterparties may perceive an economic benefit to cooperation and a cost to opportunism particularly if their interactions are repeated and specific assets are at stake (Bercovitz, Jap, & Nickerson, 2006). Assuming that counterparties are willing to punish opportunistic behavior by avoiding

subsequent transactions with counterparties observed to be opportunistic, numerous formal economic models (MacLeod, 2007, Weigelt & Camerer, 1988) demonstrate benefits to amassing reputational capital (i.e., the demonstration of cooperative or non-opportunistic behavior). Such models have long been used to model the incidence and utility of warranties, bonus pay, community enforcement and the investment in reputation (MacLeod, 2007). Baker, Gibbons and Murphy (2009) examine the variable impact of reputation on the actions of individual counterparties under different regulative governance mechanisms (e.g., within one organization, in a bilateral employment relationship, within an alliance or joint venture) highlighting how the choice of (a sequence of) regulative governance mechanism(s) can be influenced by the relative importance to performance of one or the other counterparty engaging in opportunistic or non-cooperative behavior (over a given time period). In a study of infrastructure project administration, Chan (2010) found that the long term reputational concerns of a concessionaire, based on having two or more simultaneous ongoing projects, or planned future projects, in a region, led concessionaires to renegotiate relationally rather than pursue litigation when faced with government requests to renegotiate infrastructure delivery agreements.

Summary. While the economic and legal literature has expanded the scope of inquiry substantially, it still perceives the strategic choice variable under the control of the residual claimant seeking to mitigate "displaced agency" as the *ex ante* choice of a regulatively (i.e., legally and contractually) supported governance mechanism. This choice is influenced by characteristics of the transaction (i.e., contractual hazards) and/or the relative importance of non-cooperative or opportunistic behavior by counterparties. While this choice variable is clearly one that is considered carefully within civil infrastructure projects, an equally and potentially even more important set of governance choices for the residual claimant revolve around ongoing efforts to increase the incidence of cooperation and reduce the incidence of *ex post* opportunism over the life of the relationship (Ring & van de Ven, 1994). These efforts occur within a given governance structure and its regulative supports.

They emphasize and seek to manipulate normative and cognitive supports for relational contracting. Such an extension is particularly important as the chain of counterparties expands in scope and the ability to contract with or even directly identify the full range of relevant counterparties becomes increasingly difficult.

Normative and Cognitive Institutional Supports

Another branch of the project organization and management literature has developed what it refers to as a partnership model for project development. Instead of emphasizing financial and legal incentives that alter the payoffs to cooperation vs. opportunistic defection, they emphasize tapping into and/or manipulating pre-existing social structures and psychological processes so as to alter behavior within an existing governance structure.

Collective Norms

Counterparties may eschew opportunistic behavior because they perceive the costs of detection in terms of ostracism from a peer group or loss of reputation among or sanction by actors within that peer group to outweigh the benefits (North, 1990). Prominent examples of the use of such mechanisms include the Maghrebi traders (Greif, Milgrom, & Weingast, 1994) and numerous other ethnic trading networks (Landa, 1995) including the Jewish diamond merchants in New York (Richman, 2005) as well as stewards of common pool resources (Ostrom, 1990, 2005). Managers seeking to tap into such social sanctions to support relational governance among stakeholders to an infrastructure project can either rely upon norms of social exchange (Gouldner, 1960) among members of existing social structures (Jones, Hesterly, & Borgatti, 1997) or, in the absence of such pre-existing social structures, can demonstrate that, despite their outsider status, they follow norms of distributive justice (Blau, 1964, Homans, 1958) or procedural justice (Lind & Tyler, 1988, Thibaut & Walker, 1975) in the hope that the

observation of such legitimate behavior engenders reciprocal cooperation. The former strategy relies on collective norms within existing social structures whereas the latter constructs new social structures by invoking existing social norms of procedural justice.

Norms of Social Exchange. The power of shared identity and interpersonal ties to alter behavior is well established in the sociological and psychological foundations of management (Ring & van de Ven, 1994, Turner, 1987) as well as marketing (Heide & Wathne, 2006, Jap & Anderson, 2007, Jap & Ganesan, 2000, Wathne & Heide, 2000). Shared backgrounds, world views and prior interactions shift the pattern of behavior in negotiations or renegotiations towards collaboration (Gächter & Fehr, 1999, Hoffman, McCabe, & Smith, 1998, Nee & Ingram, 2001). This can be particularly important for transactions characterized by high contractual hazards where the ability to codify all relevant contingencies is prohibitively expensive if not infeasible. This view diverges from the previously discussed economic literature on reputational capital. The "normative and cognitive perspective on relational contracting asserts that increases in cooperation and reductions in opportunistic behavior can occur due to the threat of non-pecuniary social sanction, even in the absence of a contractual obligation that could be enforced or a rational economic calculation based on the shadow of the future. Furthermore, the strength of this sanction and resulting counterparty behavior can be altered by more prominently featuring counterparties that are elements of a potentially sanctioning group, or by emphasizing or otherwise increasing the salience of participants' group membership and identity.

In the context of infrastructure delivery, company efforts to overcome the problem of the "last mile" of pipe or wire in water, telephone and electricity distribution frequently rely upon a sense of shared identity in a group within which failure to cooperate may result in social sanction. In each of the three cases we describe below, the provision of information, monitoring and enforcement by an identifiable peer and community member is designed to trigger reciprocal cooperation in the form of

payment, overcoming the limitations of purely financial or legal incentives on relatively poor customers who often feel entitled to the supply of these basic public services.

In Argentina, more than 850,000 households belong to water cooperatives and, according to Hwang and Ortolano (2009), the degree of community participation is positively associated with cross-sectional variation in their financial and operational performance. They argue that at least three complementary causal mechanisms of support are at play. First, users are generally more willing to pay fees to a local organization in which they have a stake than to a large multinational corporation with other priorities. Second, the social ties add "governance value" in the opposite direction, too. Consumers can rely on social ties between themselves and the cooperative's managers—who are generally also community members—to get low pressure, a leaky pipe, or other service problems attended to in a timely manner by the cooperative's staff. Finally, Hwang and Ortolano (2009) have suggested that the cooperatives promote interaction between members and help to form additional social capital within the community, which reinforces the importance of social sanction.

In the Philippines a subcontractor of Manila Water relies on local monitoring via Aquadors (i.e. individuals who reside within a neighborhood and sell water to clients through connections from their own line, receiving 20% of sales as their salary). The Aquadors also take responsibility for reading meters to clients and billing them daily. As of June 2008, the subcontractor supplied water to over 125,000 people. In addition to alternative providers, Manila Water has made direct efforts to engage local community members. The company also maintains a "Walk the Line Policy," which requires all company employees to walk from house to house and meet customers creating a personal link between the user and service provider.

A similar mechanism was used in the Republic of Georgia by electricity distributors. Relying upon cultural norms that sharply differentiate between theft from a neighbor vs. theft from the government

or business, distributors both save money by installing fewer meters and lower their enforcement costs by relying on self-policing, while still increasing payment rates (Gorst, 2006). The success of this program stands in stark contrast to the failures of the same managerial team when working for American investor AES who incurred more than a $200m loss in its investment in electricity distributor Telasi, partly due to its reliance on the economic incentives and legal enforcement enabled by individual metering (Henisz & Zelner, 2005b).

Norms of Procedural Justice. While the leveraging of social sanctions within preexisting networks of social ties can enhance cooperation among members of such a network, such reliance upon an existing network may be infeasible in many circumstances where the scope of relevant stakeholders exceeds the scope of preexisting social networks. In these instances, a growing body of psychological research (Tooby, Cosmides, & Price, 2006) argues that managers can still craft a sense of community by following decision making processes that are perceived as fair or legitimate (Camerer & Fehr, 2006, Charness & Rabin, 2002, Fehr & Simon, 2000), thereby eliciting cooperation and reducing the likelihood of opportunism among counterparties—even those who are not linked via a network of preexisting social ties to (employees of) the provider.

Theories of procedural justice (Lind & Tyler, 1988; Thibaut & Walker, 1975; Kim & Mauborgne, 1998) emphasize that opportunistic behavior can be constrained, even in the absence of perceived reciprocity (Gouldner, 1960) or distributive justice (Blau, 1964, Homans, 1958), through shared information on the activities, contributions and rewards of other actors in the network; perceptions that concerns about the pattern of activity, contribution and rewards can be voiced, heard and responded to; and perceptions that the behavior of actors towards their peers is fair and consistent. Together this sharing of information, right to effective voice and perceptions of fairness in the application of decision

rules constitute a procedurally just process to which stakeholders may respond cooperatively even where outcomes deviate from their individual self-interest (Dal Bo, Foster, & Putterman, 2008).[3]

These insights have a long history of application to the management of counterparty relationships in the context of large-scale project management in the form of the "project partnership" model.[4] Weston & Gibson (1993) cite core elements of partnering as "trust, shared vision and long-term commitments" that encourage "contracting parties to change their adversarial relationships to a more cooperative, team-based approach" by forming a "team mentality for the benefit of the project." Freedom of speech, openness and innovation are harnessed to craft win-win incentives collectively that maximize opportunity in the face of shared risks (Crowley & Karim, 1995). Harback, Basham and Buhts (1994) draw the analogy to a shift from the design of the best prenuptial agreement to a focus on the win-win goals and give and take behaviors needed for a successful marriage.

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[3] For related applications see Kim and Mauborgne (1993a, 1991, 1996, 1995, 1993b, 1998, 2002) in multinational management; Husted & Folger (2004) in transaction cost economics; Artz & Brush (2000) and in buyer-supplier relations or alliances; Korsgaard, Schweiger and Sapienza (1995) on teams; Arnstein (1969) and Choguill (1996) in community development; Jap (2001) in marketing; and Krick, Monaghan, & Sillanpää (2006) in corporate social responsibility.

[4] While there is no single agreed upon formula for the construction of a successful partnership, key elements suggested by the literature include repeated multi-stakeholder workshops that result in a "partnership agreement" early in the project life and frequent follow-up on its implementation (Larson, 1997, Weston & Gibson, 1993), well articulated objectives (Crane, Thompson, Thompson, & Sanders, 1999, Weston & Gibson, 1993), the *a priori* design of a dispute resolution or problem escalation process (Larson, 1997, Weston & Gibson, 1993), buy-in from participants including top management (Larson, 1997, Weston & Gibson, 1993) and an emphasis on holistic multi-level multi-stakeholder results-oriented problem solving as opposed to an individualistic or hierarchical task-oriented approach (Barlow, 2000). The collective definition of the goal and a plan for achieving it that includes supporting incentives and other reinforcements at each stage of this process is central to success (Crane, Felder, Thompson, Thompson, & Sanders, 1997, Wilson, Songer, & Diekmann, 1995). Frank up-front discussion of what constitutes "fair dealing" helps create norms that guide future behavior (Larson, 1997, Ring & Ven, 1992). More recently, scholars have emphasized the use of sophisticated shared simulations and visualizations to allow group visualization and joint evaluation of project outcomes for different scenarios (Shrage, 2000), and networked communications among project team members (Cheng, Li, Drew, & Yeung, 2001) to facilitate interparty negotiations and foster shared identity.

Quantitative empirical analysis supports the hypotheses that successful partnerships experience lower cost escalation, fewer change orders and greater participant satisfaction (Gransberg, Dillon, Reynolds, & Boyd, 1999, Sarkar, Aulakh, & Cavusgil, 1998). Qualitative studies of a Hong Kong railway extension (Bayliss, Cheung, Suen, & Wong, 2004) as well as comparative case studies undertaken by the governments of Hong Kong (Chan, Chan, Chiang, Tang, Chan, & Ho, 2004) and the United Kingdom (Latham, 1994) provide richer supporting evidence in support of this argument as do case studies of Terminal 5 at Heathrow Airport in London (Gil, 2009), Sutter Health's process of hospital construction (Khanzode, Fischer, & Reed, 2008), the Taralga wind farm in New South Wales Australia (Gross, 2007), the Ohio River Bridges Project (Bailey, Grossardt, Ripy, Toole, Williams, & Dietrick, 2007), the Capital Beltway extension (Groat, 2004, 2006) and Chevron's onshore liquid natural gas processing facility in Angola (Angola LNG, 2006).[5]

Cognitive Frames

In some cases, managers can neither tap into preexisting social structures nor demonstrate adherence to preexisting social norms due to the unwillingness or inability of external stakeholders to engage directly with the focal organization. In these instances, managers may still strategically generate psychological contracts (Rousseau, 1995) or draw upon "social skills" (Fligstein, 1997), communication or

[5] However, Larson (1997) calls for caution in interpreting these results. He highlights the need to differentiate between soft team building exercises such as "BBQ, ten-pin bowling and seven-a-side football" or project newsletters called "Win-Win" (Cheung, Ng, Wong, & Suen, 2003) and more substantive *a priori* discussions regarding the best means to address inevitable *ex post* conflict. Lazar (2000) notes the challenges in building trust and criticizes superficial one-off exercises or tokens of commitment as unlikely to lead to long-standing and productive trust in a relationship as compared to frequent repeated and multiplex interactions among the diverse groups of people ultimately comprising the project team. At the heart of these relationships, there exists the potential for conflict among disparate economic actors and organizational cultures and, as a result, an inherent tension in the relationships between these multiple stakeholders that cannot be eliminated with rhetoric alone (Bresnen & Marshall, 2000a, 2000b, Ng, Rose, Mak, & Chen, 2002).

influence campaigns to alter preferences of counterparties indirectly. Managers may enhance coordination and reduce the incidence of opportunistic behavior by counterparties by crafting the perception that counterparties' individual or organizational identity is linked to that of the manager's organization—e.g., the project company set up as a special purpose vehicle for privatized infrastructure delivery projects—despite the lack of a formal social or contractual connection. Managers with strong social skills possess this…

> *"…ability to induce cooperation among others. Skilled social actors empathetically relate to the situations of other people and, in so doing, are able to provide those people with reasons to cooperate. Skilled social actors must understand how the sets of actors in their group view their multiple conceptions of interest and identity and how those in external groups do as well. They use this understanding in particular situations to provide an interpretation of the situation and frame courses of action that appeal to existing interests and identities."* (Fligstein, 2001: 112).

Despite a lack of formal organizational linkage and a targeting of individuals, these strategies, by taking advantage of individuals' inherent desire for factional or group membership, construct a sense of connection that is sufficiently strong to mirror the patterns of behavior observed of group members outlined above. In contrast to collective norms which grow less efficient as the scope of counterparties expands, social skills that create a link between a desired behavior and an individual's sense of identity are more readily scalable (Scott & Lane, 2000). They frame inspiring shared high level goals and "stories that help induce cooperation from people in their group that appeal to their identity and interests, while at the same time using those same stories to frame actions against various opponents (Fligstein, 2001: 113). Frames enable individuals to "locate, perceive, identify and label" (Goffman, 1974: 21) events and occurrences even if the targeted counterparty has limited or no direct exposure. Most importantly, they

create a link between an individual's sense of self and a course of action amenable to the designer of the frame.[6]

In response to these framing efforts, counterparties to a transaction or set of transactions may alter their behavior because they perceive actions or goals of the network to be legitimate due to the congruence of these actions or goals with their own individual or organizational interests or beliefs (Suchman, 1995: 574) or to the best possible behavior given the tension posed by their multiple identities (Davis, 2007). Such intrinsic motivation may be cued through the use of unified imagery (e.g., logos, terminology, color schemes or other branding campaigns), stories (Polletta, 1998), rituals (Taylor & Whittier, 1992) or symbolic actions (e.g., associations with charities or causes) (Ansell, 1998, Elsbach, 1994). Counterparties may also be prominently featured in the imagery and actions so as to co-opt their individual or organizational identity (Elsbach & Glynn, 1996). Frequent and substantive interaction between counterparties reinforces this sense of shared identity (Dutton, Dukerich, & Harquail, 1994).[7] As in the case of collective norms, a growing body of economic and psychological research highlights the importance of the words, frames or belief systems invoked to support or critique an otherwise identical argument (Levin, Gaeth, Schreiber, & Lauiola, 2002, Levin, Schneider, & Gaeth, 1998, Tversky & Kahneman, 1981a, 1981b).

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[6] For a related consideration of the impact of framing on governance that focuses on prevention versus promotion frames and expectancy violation see Weber and Mayer (2008).

[7] Similar insights relating constructs of identity to the governance of large multinational organizations have previously been applied by scholars seeking to craft a knowledge-based view of firm organization as a contrast to a transaction cost logic. While we disagree with the underlying premise of the strong-form of that literature's critique of transaction cost theory's focus on opportunism (Conner & Prahalad, 1996, Ghoshal & Moran, 1996, Kogut & Zander, 1992, 1996), we do agree that the underlying mechanism of shared identity formation can enhance coordination and reduce the incidence of and impact of opportunistic behavior whether within the boundary of a firm or outside of it (Dyer & Chu, 2000, 2003, Helper, MacDuffie, & Sabel, 2000, Lubatkin, Lane, Collin, & Very, 2007).

Employees may prefer to work for a company they perceive to be socially responsible, demand lower wages or benefits or exert greater effort (Besley & Ghatak, 2005, Bhattacharya, Sen, & Korschun, 2008, Brekke & Nyborg, 2008, Collier & Esteban, 2007, Greening & Turban, 2000, Kim, Lee, Lee, & Kim, 2010, Preston, 1989, Turban & Greening, 1997). Suppliers of other factors of production could make similar choices influencing the cost of capital or production (Bruyn, 1991, Mackey, Mackey, & Barney, 2011, Porter & Kramer, 2006, Sparkes & Cowton, 2004, Waddock, 2000). In studying the motivation of electrical workers on two large coal-fired power plants in the southwestern United States, Borcherding (1974) interviewed two workers doing essentially identical tasks in the power plant's control room. The worker on the first project reported that he was "terminating cables for one of the steam safety systems"; the worker on the second project reported that he was "lighting up the southwestern United States!" The fact that the project manager on the second project had framed the project in an exciting way clearly paid off in multiple dimensions. The second project had smoother labor relations, higher productivity, lower absenteeism and less delay.

Similar framing battles occur in the public policymaking process. Advocates of a policy or position typically frame an event or occurrence as unjust, offer a solution (i.e., their preferred policy or position) to that injustice and mobilize external stakeholders for action (Benford & Snow, 2000). They construct frames via discourse that interpret a series of events based on the presentation and/or obfuscation of a subset of those events; strategies that seek to draw in new supporters by bridging frames, amplifying values or beliefs of potential supporters, extending frames to new issues or, if needed, transforming the content of the frame itself; and engaging in collective struggles between competing frames (Benford & Snow, 2000). At each stage of this process, two prominent tactics are the strategic dissemination of information and the undertaking of actions (e.g., the provision of costly goods or services potentially followed by the publicization of these acts) designed to alter preferences about the focal organization, a policy of importance to that organization or another stakeholder or set of

stakeholders. Given the heavy resource demands of such a campaign, successful diffusion is facilitated where a frame can either directly tap into individuals' sense of self (Gamson, 1992, Snow & McAdam, 2000) or indirectly do so by connecting with political (McAdam, McCarthy, & Zald, 1996) and cultural (Tarrow, 1992) opportunity structures (e.g., a pre-existing conflict or debate closely linked to members' identities and over which members are willing to expend resources).

A prominent example of just such an influence campaign can be found in the battle between dominant and fringe firms in the wireless communications sector (Henisz & Zelner, 2005a). Fringe firms lobby the government intensely to promote policies that will "level the playing field" and thereby increase their market share. Dominant firms lobby just as intensely to protect their turf, often by citing the special obligations that they face as a result of their market position and thereby appealing to the same notion of a "level playing field." The content of the underlying policy – the terms of interconnection between carriers – is rarely, if ever, discussed. The framing battle is, instead, over the label 'fair.'

Toward an Integrated Project Governance Framework

Having established the existence of regulative, normative and cognitive supports for relational contracting in civil infrastructure projects (i.e., documenting that project sponsors in the position of residual claimant expend effort to craft the correct financial incentives and punishments *ex ante* as well as to tap into and manipulate peer group sanctions and individual psychological incentives *ex post*), we now seek to outline a means to integrate the financial, legal, sociological and psychological perspectives on governance in a manner that gives rise to testable propositions for subsequent empirical research. First, we draw upon the inability of the economic and legal perspectives to solve the contracting problems in multi-counterparty, multi-phased transactions like civil infrastructure to highlight additional

baseline transactional features that enhance the likelihood and importance of relational contracting for these extremely challenging governance regimes. Second, we draw upon the nature of the collective norms and cognitive frames invoked by the sociological and psychological perspectives to highlight baseline counterparty relationship features that have the same effect. Finally, we combine these theoretical perspectives to offer predictions on the relative incidence of *ex ante* regulative governance mechanisms versus *ex post* normative and cognitive governance processes in support of relational contracts.

First, an important characteristic of civil infrastructure projects that raises the relative costs of relying upon neoclassical or trilateral governance as compared to relational contracts is the tightly coupled sequence of interrelated transactions among shifting counterparties with negatively interacting subgoals— i.e., one or more subgoals for which a better outcome for one counterparty is worse for the other (Levitt et al 1999). At each stage in the project life cycle, the identity of the counterparties that have these negatively interacting subgoals varies, and their incentive to pass through or otherwise shift costs to future counterparties or others with relatively weak voice in the current phase remains constant.

In the project shaping phase, planning consultants who seek to insure follow-on design consulting engagements conspire with government officials who seek to take credit for launching ambitious new projects to underestimate total costs and overestimate total benefits consistently (Perkins, 2004) saddling future counterparties —particularly future users and/or taxpayers— with enormous liabilities (Flyvbjerg, Bruzelius, & Rothengatter, 2003). In the design stage, design consultants and governments seek to alter the allocation of costs and benefits, often seeking to minimize operating costs that are borne locally at the expense of larger up-front capital costs that are shared regionally or nationally. Design consultants can also deliberately overdesign projects to avoid even the slightest

possibility of a failure, for which they could be liable. They are compensated on cost-plus contracts, seek to insure their consideration in future work and avoid future (opportunistic) litigation. This creates higher costs in construction, but is not easily discernible to governments or taxpayers. During the construction stage, low-bid contractors on fixed price contracts seeking to minimize their cost do battle with the client and engineers over claimed "changes" from the plans or specifications used in bidding. Contrary interpretations that can be claimed to be changes—or not—invariably arise when construction begins, given the inevitable ambiguities and discrepancies among the multiple sets of necessarily incomplete plans and specifications produced by multiple, fragmented, specialist designers. Finally, in the operations phase, the battle is joined between the market efficiency of certain pricing models versus the equity concerns that shape political and social sustainability, with users and politicians conspiring to shift costs back onto, or revenue from, contractors (Henisz & Zelner, 2005a).

Prior research has highlighted the importance of temporal linkages across repeated contracts between identical counterparties (Argyres & Liebeskind, 1999) and in related contracts between different counterparties (Granovetter, 1985, Jones, Hesterly, & Borgatti, 1997, Powell, 1990b) as well as the importance of the 'gains from trade' and the 'gains to shirking or opportunistic behavior' (Baker, Gibbons, & Murphy, 2002, 2009) to the ability to sustain relational contracting based upon the shadow of the future. We join these three elements together to highlight the particular contractual hazard of displaced agency (i.e., the costs that accrue to a series of interdependent transactions as a result of counterparties' incentives to pass through or shift costs or responsibilities to a counterparty not fully represented in the current phase of the transaction) to the long-term detriment of the current residual claimant.

Proposition 1: The incidence of relational contracting increases as displaced agency costs rise

Holding constant the level of displaced agency, a number of country-level and network-level characteristics alter the relative costs or competencies of relational contracting. First, counterparty dependence upon within-group resources as compared to potential external substitutes will reduce the cost of relying upon social sanctions, further advantaging relational contracts. At the extreme, where each counterparty is entirely dependent upon and only interacts with a small number of other counterparties within the network of coupled sequential transactions, the potential cost to them of failing to cooperate or behaving opportunistically is much larger than when counterparties are more anonymous (i.e., numerous and atomistic) and, as a result, are indifferent between contracting within the network vs. outside of it. The degree of variation in the composition of teams from project to project—termed the 'relational instability of the project network' by Taylor & Levitt (2007) tends to be much higher in countries with liberal market economies like the UK and US vs. in countries with coordinated market economies like France, Finland, Sweden and Japan (Hall & Soskice, 2001) in which multiple counterparties tend to work together more frequently on successive projects. This exacerbates the tendency for opportunistic behavior by a given party and renders governance of the transaction more challenging in liberal market economies.

Proposition 2: The incidence of relational contracting in the presence of displaced agency will be higher in coordinated market economies than in liberal market economies.

Transaction-level asset specificity gives rise to contractual hazards that may require investment in formal governance mechanisms to overcome and achieve gains from trade. In contrast, mutual dependence upon a relationship— whether due to characteristics that are transactional, counterparty-level (e.g., a lack of knowledge of alternative counterparties), or country-level (e.g., formal regulatory restrictions on altering the identity of the counterparty) —may generate a self-regulating sanctioning

mechanism via the shadow of the future that allows transactions to continue even in the absence of investments in formal regulative governance mechanisms.

Proposition 3: The incidence of relational contracting in the presence of displaced agency increases with the mutual economic dependence among counterparties.

Mutual economic dependence provides a strong economic rationale for continued cooperation. However, as highlighted above, a similar outcome can be engendered through appeals to collective norms or cognitive frames particularly in the presence of shared backgrounds, world views and prior interactions. In place of or in complement to the economic shadow of the future, the presence of a common identity or dense network of relationships creates a "social shadow of the future" as well as the potential for immediate social or cognitive sanctions for opportunistic behavior.

Proposition 4: The incidence of relational contracting in the presence of displaced agency increases in the presence of shared backgrounds, world views and prior interactions among counterparties.

Having established that these baseline country-level and network-level factors alter the relative costs and competences of relational contracting, we next consider how variation in the structure of economic payoffs or social relations could impact the effectiveness of normative and cognitive supports for relational contracting, compared to their regulative counterparts. One obvious potential change, particularly in the rapidly globalizing realm of civil infrastructure, is the extension of an existing network into a new geographic or political market and/or so as to incorporate new suppliers with heterogeneous past experiences and relevant beliefs. These expansions in scope necessarily create exposure to new counterparties for whom both mutual economic dependence and shared backgrounds, world views and prior interactions are relatively lower than for their pre-existing counterparts (Johnson, McMillan, & Woodruff, 2002, McMillan & Woodruff, 1999a, McMillan & Woodruff, 1999b).

Proposition 5: The expansion of the scope of tightly coupled sequenced transactions to include new counterparties (e.g., new end consumers, a new geographic market, new intermediate suppliers or new political authorities) is positively associated with the incidence of normative and cognitive supports for relational contracts.

Where co-location is prolonged and contact frequent, the slow incremental process of identity shaping through social construction, messaging and strategic communications has a greater likelihood of altering behavior and of justifying the substantial costs in terms of time and resources involved. By contrast, more diffuse or ephemeral ongoing transaction networks make the justification of such expenses more uncertain.

Proposition 6: The duration and intensity of counterparty interactions is positively associated with the incidence and efficacy of normative and cognitive supports for relational contracts.

Our final two propositions highlight interdependencies between the efficacy of regulative and normative or cultural supports. First, while investments in the latter mechanisms develop a sense of shared identity which can enhance the likelihood of cooperation, that tendency towards cooperation by some counterparties could be thought to increase the benefit of opportunistic defection by others who seek to capture or divert rents that the cooperative counterparty has left exposed. We believe that the prevalence of normative and cognitive supports for relational contracts in civil infrastructure despite this risk—particularly in the pre-operation phase—can be traced to the limited potential benefits to any one counterparty from shirking as compared to the system-wide benefits to cooperation, of which a significant portion in any phase of the project accrue to a single residual claimant (e.g., lead designer, construction contractor or operator). That is, the payoff matrix for the counterparties resembles a stag hunt (i.e., coordination) game rather than a prisoner's dilemma. By contrast, where substantial asymmetries exist—particularly insofar as any individual counterparties face relatively large benefits

from non-cooperation or opportunism as compared to cooperation—the efficacy of collective norms or cognitive processes will be substantially reduced. Below some level, the need to construct contractual safeguards or legal limitations on counterparty discretion dictate a shift to stronger regulative supports in either hierarchical or market governance structures.

> *Proposition 7: The ratio of the gains from trade to the residual claimant within the tightly coupled sequenced transactions to the gains from non-cooperation or opportunistic behavior is positively associated with the incidence and efficacy of normative and cognitive supports for relational contracts.*

Finally, drawing on the frameworks of Ring and van de Ven (1994) and Husted & Folger (2004) we note the mutually reinforcing nature of regulative, normative and cognitive institutional supports for relational contracting. Given the necessarily incomplete contracts and uncertainty regarding the magnitude and distribution of potential future payoffs achievable through cooperation, success in achieving those potential payoffs will be a function of ongoing assessments of the negotiations, commitments and executions based on efficiency and equity grounds. Where counterparties have shared backgrounds, world views and prior interactions and subsequently interact more intensively over a longer period of time, the resulting normative and cognitive institutional supports for relational contracting reinforce the efficacy of the regulative institutional supports such as formal contracting or rational cooperation in response to the economic shadow of the future. Similarly, the presence of formal contractual commitments and a clear economic payoff from reciprocal cooperation reinforce the sense of shared identity. This argument is consistent with a growing body of recent literature highlighting the complementarity of formal and informal governance mechanisms (Gulati & Nickerson, 2008, Mayer & Argyres, 2004, Poppo & Zenger, 2002, Zaheer & Venkatraman, 1995).

Proposition 8: Normative and cognitive institutional supports for relational contracting are complementary to their regulative counterparts.

CONCLUSION

The *ex post* governance of relational contracts can be supported by regulative normative and/or cultural-cognitive institutions (Scott, 2008). Regulative institutional supports legally or economically sanction individuals who violate contracts or exceed an allowed range of managerial discretion. Normative institutional supports socially sanction individuals who violate values, beliefs and scripts for appropriate behavior in various social settings that are deemed to be appropriate by a collective body. Cognitive-cultural institutional supports psychically (i.e., through *cognitive dissonance*) sanction individuals whose actions violates internalized frames or schemas for naming, categorizing and understanding tangible and intangible concepts in the world; or a set of values, beliefs, and scripts (Schank & Abelson, 1977) that define and guide appropriate behavior in different settings from the perspective of various groups (e.g., church, company, agency or family) to which an individual considers that he or she belongs.

We used a heretofore neglected source of contractual hazards: displaced agency to examine the relative efficacy of these institutional supports for relational contracting. While we have developed this analysis in the context of the provision of civil infrastructure services, we believe the arguments to be quite general. We believe that the problem of a residual claimant eliciting cooperation among counterparties linked through a series of sequenced and highly interdependent transactions, and whose payoff structure mirrors that of a coordination game rather than a prisoner's dilemma, is ubiquitous in management. We have referenced numerous detailed examples from the development of infrastructure

projects as well as highlighted in passing related literature on teams, buyer-supplier contracts, alliances, diversified multinational corporations, corporate social responsibility and community development.

We do not dismiss the central importance of mechanism design and partner selection in market and trilateral governance structures, administrative fiat in unified governance structures, the alignment of economic interest in bilateral and network governance structures and the strategic choice as to how to govern an individual transaction. We seek to highlight, however, that purely regulative institutional supports for relational contracting may, under certain conditions, usefully be complemented *ex post* by systematically developing collective norms and a cultural-cognitive sense of shared identity.

Integrated Project Delivery (IPD)—the approach used to develop Terminal 5 at Heathrow (Gil, 2009) and the Sutter Hill Camino Hospital in California (Khanzode, Fischer, & Reed, 2008)—embraces all three kinds of institutions to implement and buttress effective relational contracting. First, the economic interests of all key contractors are aligned by using reimbursable cost contracts for design and construction with a shared incentive pool to be divided among the contractors according to a predetermined formula, based on overall project outcomes rather than each contractor's individual outputs. A great deal of effort is spent by the client and its project management team on shaping shared identity early in the project through numerous goal alignment sessions during the conceptual design phase of the project. To create a social shadow of the future, the team is promised that they will be kept together and hired for multiple projects subject to satisfactory performance on each project. Shared 3-D CAD building information models are used to integrate each team member's design information into a unified virtual design and construction model in a co-located workspace that houses multiple contractors, creating a further sense of shared identity, social exchange and shared destiny.

Such normative and cognitive institutional supports come, however, at a cost. The allocation of ownership or rights of employment locally may reduce competition, thereby raising the costs of capital,

or lead to suboptimal innovation particularly in capital-intensive or uncertain technologies. Leveraging of preexisting social ties for monitoring and enforcement opens the door to abuse, including nepotism, insular networks and outright corruption. “Fair Processes” for decision making are lengthier and tend to require more frequent iteration and revision of initial plans. Influence strategies require careful assessment of the identity and preferences of key stakeholders and the ties that connect them, as well as analysis of the best means to influence the collective policy outcome or preference and, finally, the execution of such a strategy. Furthermore, successful framers share many characteristics with propagandists and con artists. Where the price premium for market governance is not too high or the feasibility of unified internal governance exists, relational contracting will often be at a cost disadvantage. In contrast, where contractual hazards are high, invoking all of these costly mechanisms to buttress the effectiveness of relational contracting can be an important complement to neoclassical contracting or unified governance, particularly in the face of displaced agency costs, among mutually economically dependent counterparties with shared backgrounds, world views and prior interactions and where the scope for individual gain from opportunistic behavior is limited as compared to the potential collective gains from cooperation.

Empirical research to explore these propositions that we have developed here could begin with the construction of a representative sample of large infrastructure projects including data on the identity of key contractors and sub-contractors as well as the size, scope and timeline of the project. This data could be further supplemented with press coverage of these projects from which information on project schedules and delays, stakeholder identity and opinions on the project and frames invoked by these stakeholders could be coded. A survey could then be sent to each of the contractors to identify the magnitude of traditional contractual hazards (i.e., asset specificity, frequency, uncertainty and probity), displaced agency costs, the nature of the payoff structure, their degree of economic dependence on the counterparties to this project as well as decision-making processes that adhere to

norms of procedural justice or project partnership. Though such a data collection effort would be time consuming it would generate enormous insight into the strategic decision to supplement the regulative supports for relational contracting with their normative and cognitive counterparts. Comparative cases including multiple projects led by the same lead contractor that appear substantively different in terms of their governance would provide additional insight to the nascent case studies currently examining these topics (Caldwell, Roehrich, & Davies, 2009, Zheng, Roehrich, & Lewis, 2008). Parallel empirical efforts in other domains where relational contracting dominates such as biotechnology alliances, open source software and global supply chains would be needed to address questions of generalizability convincingly.

An interdisciplinary governance framework, particularly if supported by empirical analysis, offers the possibility of connecting strains of literature that share a common objective—i.e., enhancing cooperation and reducing opportunistic behavior so as to improve organizational performance—but have operated in relative isolation due to the disparate and heterogeneous theoretical bases for the regulative, normative and cognitive supports for relational contracting. Whereas a large body of scholarship has already highlighted the understudied nature of alternative institutional supports for contracting (Bradach & Eccles, 1989, McEvily, Perrone, & Zaheer, 2003, Ouchi, 1980), we need further theoretical and empirical work examining precisely when, where and why regulative, normative and cognitive supports of relational contracting can effectively mitigate contractual hazards. By integrating these perspectives in our analysis of the contractual hazard of displaced agency, we have highlighted not only their complementarity, which is well understood in the literature (Bercovitz, Jap, & Nickerson, 2006, Poppo & Zenger, 2002, Ring & Ven, 1994, 1992), but certain boundary conditions within which individual supports are more or less effective.

We hope that scholars and practitioners in a broad range of fields and contexts, who share an interest in the mechanisms by which a set of actors who share a common high level goal such as delivering a new infrastructure asset, but who also encounter difficulties in coordinating their behavior because of potentially misaligned specific local interests and timeframes, can structure their interactions to improve performance, will build upon the insights here to construct an interdisciplinary theory of the economic, legal, organizational, sociological and psychological elements of governance and subject it to empirical analysis.

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