DISSERTATION SUMMARY

Essays on
Delegation and Control in Multi-Unit Firms

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ESSAYS ON DELEGATION AND CONTROL IN MULTI-UNIT FIRMS

In this dissertation, I examine instruments of corporate control and their influence on multi-unit firms' ability to capture value under various threats to appropriation. Concerns over value appropriation and the need for control arise when interests of the firm are not aligned with those of (internal and external) exchange partners. My focus in this dissertation is how large, multi-unit firms use delegation and control mechanisms to influence business unit behavior and performance. I examine, in separate essays, the influence of three aspects of corporate control on the firm's ability to capture value.

Beyond specific contributions of each essay, there are three communalities across these essays, which also mark the broad contributions of my dissertation. First, control is a central construct in my theory development. In my work, control broadly refers to exercising directing or restraining influence. I consider control as a key organization concern, both within and outside the boundaries of the firm. Control concerns are particularly apropos in organizations that operate across –industry or country– boundaries.[1] I spotlight that organizations' ability and incentive to exercise control are both influenced by broader competitive (Essay 1), social (Essay 2), and technological (Essay 3) context. The central theoretical mechanism is the influence of macro context (defined at supra-actor level) on micro (i.e. firm-in-market level) structure and outcomes (see Table 1). As control is instrumental in establishing the link between broader firm-level objectives and market-level outcomes, my work provides a strong link between the literatures of competitive strategy and corporate/international strategy.

Second, access to and deployment of instruments of control are heterogeneous across firms and across markets. As shown in Essay 1, the use of control mechanisms in a multimarket firm is influenced by the specific set of rivals it competes in a given market and its relative market position.

[1] These organizations are typically large, complex, and, by definition, operate in multiple markets. Given high market heterogeneity, delegation and organizational separation are a common characteristic of these organizations, and multi-market operations are frequently accompanied by multi-unit organizational structures (See Baum & Greve, 2001). Most visible organizations, including multi-business firms and multinationals, fall under this definition.

TABLE 1

Key constructs and the empirical setting

	Control	Macro influences	Micro outcomes	Empirical setting
Essay 1: Competition across multiple businesses				
	Organizational control over competitive aggressiveness of subsidiary managers	Competitive overlaps with rivals in multiple markets	Organizational structure and resource allocation	Population of majority-controlled subsidiaries of groups in France (1997-2004)
Essay 2: The influence of macro structure in the international realm				
	Allaying value appropriation concerns vis-à-vis private and public actors in foreign host markets	Macro (i.e., state-state) structure	Relative host market performance	Foreign TNFs operating in over 35 manufacturing and service industries in six host countries (2000/2001)
Essay 3: Information technology and transnational integration				
	Monitoring external vs. internal exchange partners in foreign host markets	Development and deployment of information and communication technology	Transnational integration; Boundaries of the multinational firm	U.S. manufacturing industries (1982-1997)

Essay 2 underlines that heterogeneous host market performance of foreign multinationals depends at least in part on the specific set of rivals they compete in a given host country and the relative macro (i.e. state-state) structural relations between their home countries and the host country in question.

Finally, empirical examination in all essays relies on large and complex datasets that are particularly suitable to test the theoretical predictions. Most constructs that I examine have traditionally been extremely difficult to measure and operationalize. The dataset used in Essay 1 is unique not only because it encompasses the entire population of majority-owned subsidiaries in France over multiple years, but also because it enables me to match internal organization of firms to the external (competitive) environment. Essay 2 is the first study to assess simultaneously the influence of firm, country, and macro-structure factors in a multi-home, multi-host, and multiindustry setting. The industry level panel data used in Essay 3 is probably the most complete dataset on ICT influence on transnational integration to-date as firm level panel data on information and communication technology (ICT) investment intensity is still not available.

ESSAY 1

Competition across Multiple Businesses: The Impact on Organizational Structure and Resource Allocation

Research on multi-market competition has been a growing stream in strategy, organizational theory, and industrial organization economics (see Jayachandran, Gimeno, & Varadarajan, 1999 for a review). A strong underlying assumption of multi-market studies is that firms are unitary actors, who can and do coordinate all key strategic decisions under a central decision maker to whom necessary information from all markets gathered and provided (Golden & Ma, 1993; Haveman & Nonnemaker, 2000). Yet, unitary actor model hardly characterizes large, complex firms operating in multiple businesses. Not only these firms delegate most decisions pertaining to business strategy to their subsidiary managers, they also operate in very heterogeneous settings making information gathering and processing more difficult (Chandler, 1962; Galbraith, 1977). In large multi-market multi-unit firms the knowledge required for strategic decisions, power to make commitments, activities impinging on resource allocation commitments are inevitably dispersed within the organization (Bower, Doz, & Gilbert, 2005). Then, given this dispersion, how do firms manage competition across markets? How do multi-market firms establish coordination across their subsidiaries to achieve forbearance outcomes? What are the likely influences of multi-market competition (and the competitive context, in general) on internal organization of firms?

Drawing on resource allocation and organizational control literatures, I propose that the design of the structural context is central in implementing multi-market strategies. The *structural context* refers to the various organizational and administrative mechanisms designed by and at the discretion of headquarters to influence the actions of the decision makers at lower levels of the organizational hierarchy (Bower, 1970). I argue that firms manage multi-market competitive interaction not only via their direct interventions to their subsidiaries, but also via their commitments that limit or broaden the action space of their subsidiary managers. In markets where aggressive competitive behavior is not desired due to multi-market considerations, headquarters selectively limit potential aggressiveness of its subsidiary in those markets by manipulating the elements of the structural context. More specifically, I propose that corporate headquarters have higher ownership and more direct control over major strategic decisions of these subsidiaries compared to its other subsidiaries. These subsidiaries are also less likely to pursue growth / market share objectives and to be subsidized by the corporate headquarters. In this sense, external (competitive) context influences the internal (organizational) context of multimarket firms.

I test the proposed theory on a panel that corresponds to the entire population of majority-owned subsidiaries of groups (e.g., Danone, L'Oréal, Saint-Gobain, etc.) operating in France between 1997 and 2004. The data are annual and span the period between 1997 and 2004, inclusive. All data used in this study are from mandatory and confidential filings of private (i.e. not state owned) firms to the French government: *Enquête Annuelle d'Entreprise*, *Base de données sur les liaisons financiers*, and *l'enquête REPONSE*. The final dataset contains 37,202 subsidiary-year observations with complete information. Using these data, I estimate and report regressions linking multimarket competition to various dimensions of the structural context. Different estimation methodologies were adopted depending on the measurement of the dependent variables (continuous, ordinal, or dichotomous) and the panel or cross-sectional nature of the relevant sample.

Regression results generally supports my model and show that multi-market contact influences the structural context and resource allocation in multi-business firms. I found that the extent of multi-market contact with more dominant rivals in a given market is associated with higher corporate ownership of the subsidiary operating in that market; more centralization of the determination of subsidiary objectives at corporate headquarters; lower likelihood of setting growth / market share as the primary subsidiary objective; and, eventually, lower subsidiary growth and lower likelihood of investing beyond internal funds available at the focal subsidiary. More generally, the results indicate that the need for strategic coordination and control due to multi-market rivalry is associated with higher corporate control on the subsidiary operating in that market and with instruments that limit incentive and ability of subsidiary managers to engage in rivalrous behavior. This offers the first empirical evidence linking the competitive context to the structural context in multi-market firms.

A central contribution of this study is establishing the theoretical and empirical link between the external competitive context and the internal structure of the firm. In this work, I theorized and provided empirical evidence that the competitive context (viz. inter-firm rivalry across markets) has an additional and separate influence on the design of the structural context. Namely, the structural context is endogenous to the competitive context. Additionally, this paper spotlights the influence of the competitive context on the resource allocation regime. The only established link is on market entry-exit patterns (e.g., Baum & Korn, 1999; Stephan & Boeker, 2001). Little has been done to examine post-entry resource allocation (the sole exception is Haveman and Nonnemaker's (2000) study in California savings and loan industry). The present study provides evidence that, in the context of multi-business groups operating in France, multi-market firms subsidize their subsidiaries that are weak in their respective markets; but under multimarket competition they subsidize their subsidiaries to grow more than the industry average only if those subsidiaries are already strong in their respective markets. Hence, asymmetric market positions are both an antecedent and a consequence of mutual forbearance.

This study also directly contributes to multi-market contact literature. The model I developed in this paper incorporates organizational separation and delegation with multi-market contact literature, which rests on a monolithic, unitary actor view of the firm. I show that mutual forbearance is not incompatible with multidivisional organizational structures and delegation of strategic decisions within firms, and can be achieved via appropriate structural arrangements. Importantly, the theory developed here also show that multi-market competition is relevant for firms that do not act as unitary actors as well, and that resource allocation process has important implications for implementation of corporate and business strategy.

ESSAY 2

The Influence of Macro Structure in the International Realm: Igo Interconnectedness, Export Dependence, and Immigration Links in the Foreign Market Performance of Transnational Firms

Control and value appropriation concerns matter greatly to transnational firms (TNFs) because their units in foreign host markets are palpably exposed to discrimination, misappropriation, and even nationalization. Pertinent to these problems of control in the international realm is a burgeoning literature in which organization scholars, drawing on network and institutional theory, have begun exploring the influence of macro (i.e., state-centered) structure on international exchange and diffusion.[2] In pioneering work, scholars argue and show that macro structure constituted by a global web of inter-governmental organizations (e.g., the EU, or the OECD) and trade relations is argued to inspire trust and diffuse norms among economic actors in the international realm (Guler, Guillén, & Macpherson, 2002; Ingram, Robinson, & Busch, 2005; Drori, Jang, & Meyer, 2006). Yet, the current supply of global governance does not meet current demand, especially to the satisfaction of TNFs (Kindleberger, 1986; Greif, 2006). To what alternatives do TNFs turn to cope with incomplete and uneven global governance? To what extent can heterogeneity in access to those alternatives help us explain and predict, over and beyond traditional factors, heterogeneity in TNFs foreign market performance?

To answer these questions, I deepen the existing work on macro-structure by highlighting sanctioning and monitoring as distinct additional mechanisms. In trust- and norms-centric explanations, the influences of structure operate through exchange partners and the social field (i.e., through second and third parties), and it is those other entities' behavior that allays the control concerns of focal actors. Drawing on resource dependence and strategic control theory, I propose that certain patterns of macro structure can also enable focal actors' own interventions to allay control concerns in a self-help (i.e., first party) manner. Specifically, I hypothesize that export

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[2] By structure, following Zukin and DiMaggio (1990), I refer to non-transient social relations (including groupings, connections, rank and status orderings, dependencies, and power asymmetries) and social frames (including beliefs, conventions, norms and expectations, and rules) shared among actors, and between actors and the social field in which they operate or intend to operate.

dependence (of a host on home country) furnishes the home country with power that may be translated into economic sanctions. Such potential to sanction can help TNFs headquartered in a focal home country protect their interest against public actor malfeasance in dependent foreign host countries. Separately, immigration links (between host and home countries) can foster not only greater trust but also support superior strategic control via superior monitoring of host market operations. Monitoring can help TNFs protect their interest against private actor malfeasance abroad. By this logic, given heterogeneity in macro structure, TNFs from home countries that have greater structural relations to a focal host country can be predicted to experience greater success in economic exchange there.

In order to test the proposed theory, I assembled host market specific information for the years 2000-2001 on all foreign TNFs operating in six host markets—Brazil, China, India, Japan, Mexico, and the USA. I undertook a considerable and to my knowledge novel data gathering effort relying on research assistants *in situ*. This was necessary, because TNFs are not required to and seldom publish country-by-country operating information on sales, let alone on profits or assets. Local language databases, local market research, and, in a few cases, firm level interviews were the primary sources for the foreign TNF host market data. I supplemented these with information from public sources including Hoovers, Compustat, and TNF annual reports. Using these data, I estimate and report Heckman-corrected two-stage log-share ratio regressions. Log-share ratio model accounts for the concordant functional form of market shares (Gensch & Soofi, 1992), and Heckman correction accounts for potential sample selection and survivor bias (Heckman, 1979).

Regression results convey strong support for the proposed theory. The results show that, controlling for conventional factors, the three indicators of structure have positive, direct, and independent effects on TNF foreign market performance. This offers in the international realm the first empirical evidence linking macro structure to micro (firm-level) outcomes. In quantitative terms, the results indicate that a 10 percent disadvantage in TNF-level characteristics (viz., TNF capabilities, experience, and size) could be "compensated" by a 13 percent advantage in the home-host macro structure relations considered here.

In terms of theory, this study contributes to TNF theory and international economic sociology. Existing work on TNFs' foreign market performance has emphasized value creation differences (i.e., heterogeneity in capabilities and experience) among TNFs operating in a given host market. I approach from a different angle and call attention to the influence of relative differences among TNFs in host market value appropriation (i.e., control), and to how macro structure can mediate heterogeneity here. The significance of structure bears heavily on this latter control dimension. In terms of international economic sociology, this paper advances a logic in which actor power and self-interest are supported by structure, as opposed to, what is conventional, being contained by structure. This not only heeds the call to treat power and interest more explicitly in discussions on structure (DiMaggio, 1988; Palmer & Biggart, 2002), it also deepens the "residual" category of political embeddedness (Zukin & DiMaggio, 1990), which category is particularly apropos in the international realm (Jacobson, Lenway, & Ring, 1993; Henisz, 2000).

ESSAY 3

Information Technology and Transnational Integration

Its centrality in theory notwithstanding, control and internalization of foreign operations appear, in practice at least over the past two decades, to be less sought by multinational enterprises (MNEs). There is considerable casual evidence that the control-seeking multinational of an earlier era has been becoming control-ceding. Many multinationals too, including the likes of Philips, GE, American Express, and HP, have been re-architecting the governance of their international operations. The pattern of interest is that even as dispersion and cross-border exchange are becoming more prevalent and prominent in the performance of multinational firms, ownership and control are being ceded by these entities. Intra-mediate trade flourishes, but is now frequently coordinated within an arm's length governance regime. What can we hypothesize about the proximate causes and timing of this evolution in transnational exchange? For theory and future research what are the implications? It is my aim in this paper to pick up this call from both a theory and an empirical angle.

In explaining this transformation and its timing I highlight and focus on the role of information and communication technology (ICT). To conventional transaction cost economics arguments I join incentive theory arguments and appeal to a broader explanation of exchange governance that speaks to both the benefits and costs of internalization. The emergence and deployment of ICT facilitates observability and coordination and leavens concerns related to asset specificity. Further, ICT lowers internal and external coordination costs (Brynjolfsson, 1994). Yet that is not sufficient to explain the pattern. The fact however is that internalization imposes an implicit cost by reducing the incentive intensity compared to the arm's length exchange. Diminished initiative, as a result, affects realized production costs. Hence, if ICT lowers arm's length transaction costs, and, separately, if arm's length governance incentivizes lower production costs, then the net gain from advancement and deployment of ICT is likely to be more pronounced in arm's length governance than in internalized exchange. A testable prediction is that MNEs in industries more susceptible to and employing more ICT will exhibit reduced propensity for transnational integration.

To explore the proposed theory, I assembled a panel, industry-level dataset focused on U.S. manufacturing MNEs. The data are annual and they span the sixteen year period between 1982 and 1997. The data come from four well-known sources: the U.S. Bureau of Economic Analysis (BEA), the U.S. Census Bureau, the OECD, and Compustat. Using these data, and taking into consideration the cross-section and time-series nature of the data, I estimate and report regressions with industry fixed effects.

Regression results and robustness tests are strongly congruent with the predictions. MNEs in industries more susceptible to and employing more ICT exhibit reduced propensity for transnational integration. Internationalization and internalization are less tightly coupled than they were in a pre-ICT era. In quantitative terms, the results indicate that a 10% increase in ICT investment intensity would decrease TI by 0.44%. This is actually a sizable effect. To appreciate the actual (absolute and relative) effect of ICT investment intensity, note that while other factors remained steady or showed only modest changes over the 1982-1997 period, the mean MNE ICT investment per employee rose by nearly 250% (going from $1.3K to $4.6K) over that same period. These results offer the first empirical evidence about the role of ICT in the evolution of transnational exchange and the modern MNE.

Taken together, the preceding arguments and the empirical results hold three main implications. First, the modern MNE is elaborating its transnational governance architecture to take advantage of the emergence of information and communication technology (ICT). In particular, when the use and deployment of ICT is greater, the centrality of internalization is declining. This means that to conventional transaction cost advantages of intrafirm exchange, we must now join production cost advantages of interfirm exchange.

Second, and by implication, I would submit that if we are to better understand and explain modern MNEs, then we should open up MNE theory to incentive theories of exchange governance. The incentive theories of the firm (attributed to Holmstrom and Milgrom, and Grossman-Hart-Moore) can fruitfully complement the transaction cost theories of the firm in enhancing our understanding of the evolution of modern MNEs (see Antras, 2005). Just as transaction cost theory was key to understanding the behavior of 20th century MNEs (Hymer, 1960; Vernon, 1971; Dunning, 1980; Rugman, 1980), I suspect incentive and production cost theories of the firm will be key to understanding evolution in the behavior and organization of modern MNEs. Further, from an empirical standpoint, I would submit that *knowledge* intensity is being joined by *information* intensity as a predictor of patterns of international exchange and their governance.

Third, modern MNEs are elaborating their international activities not only on market-seeking motivations, but more and more on efficiency-seeking motivations. This implies scholars should devote greater attention to vertical and not only horizontal FDI (Hanson et al., 2001; Nachum & Zaheer, 2005). In the context of Dunning's (1980) OLI framework, the L (location-specific advantages) which previously has been in the background is likely to move to the foreground. This raises the question of how we should dimensionalize L advantages. This requires more thinking and is an area for future research.