**The Contractual Governance of Transactions within Firms**

**Abstract**

A central theoretical premise is that firms internalize transactions that are not suited for formal contracting. Yet, there is growing evidence that firms rely on formal contracts to govern some of their transactions *within the firm*. This paper discusses why firms use formal contracts between units and develops propositions for when formal contracts arise. Internalization does not eliminate transactional problems, and informal agreements for transactions between units often suffer from problems understanding what the other unit will do and whether it will do what it promises. We argue that many of the features that make formal contracts valuable tools for market exchange are beneficial within firms, even if court enforcement of the contract is not possible. We suggest that formal contracts between units serve as communication and commitment devices that address coordination and incentive problems within the firm by providing clarity and credibility on the rights allocated to the units in the transaction.

*“Large firms are substantial sub-economies of their own with thousands of participants. This alone warrants more attention to non-market modes of transaction.”*

(Holmström and Tirole 1989, p. 61)

**Introduction**

The governance of transactions within firms has substantial implications for firm performance (Blader et al. 2015, Gibbons and Henderson 2012, Helper and Henderson 2014). Existing research from an organizational economics perspective has focused on the use of authority and informal agreements (also referred to as relational contracts) to govern internalized transactions (Baker et al. 1999, 2002, Gil and Zanarone 2017, Grossman and Hart 1987, Williamson 1985). This focus reflects the prevailing view that *within* firms, formal contracts between units are non-enforceable in courts of law and therefore are non-credible and should not be utilized (Baker et al. 1999, Williamson 1991). Nevertheless, contrary to the assumptions or predictions of incomplete contracting theories, there is growing evidence that firms rely on formal contracts to govern transactions within the firm (Magelssen 2020, Markovits and Rauterberg 2018, Naylor and Lewis 1997). Intra-firm formal contracts are written agreements signed by managers of the transacting units that define rights to perform activities, and rights to assets, income, and enforcement for the transaction; and they are so detailed that they often mirror contracts between firms (see, e.g., the Appendix and the Lockheed example on page 11). Considering that over 60 percent of world trade is generated by transactions within firms (Scott 2009) and 69 of the top 100 economies in the world are firms (World Bank 2016), understanding the governance of internal transactions is theoretically and empirically important.

Despite top managers knowing the goals they want to achieve, including what internal transactions need to occur, they are often faced with an administrative problem whereby “they cannot get the organization to get it done” (Gibbons and Henderson 2012). Such issues stem from coordination and motivation problems within firms (Roberts 2007, Simon 1951). Authority has been studied as a primary means of coordinating internal activities and resolving internal disputes. However, the use of authority is limited by bounded rationality, which makes it infeasible for top management to make all decisions within the firm (Aghion and Tirole 1997, Hart 1995). Moreover, the emphasis on authority often understates the costs of aligning interests and resolving conflict within the firm (Eccles and White 1988, Jacobides and Winter 2005, Nickerson and Zenger 2008, Walker and Poppo 1991). Informal agreements can coordinate activities and align interests within the firm (Baker et al. 2002). Still, these agreements often are challenging to build and refine due to two critical problems: *clarity*—whether each party understands the promises, and *credibility*—whether each party will keep their promises (Gibbons and Henderson 2012). The prevalence of internal transactions means they can influence firm outcomes (Helper and Henderson 2014).

Despite the growing evidence of their widespread use, existing research provides little insight into why and when firms will use formal contracts to govern their internal transactions. We seek to address this theoretical gap in this paper. Scholars in law have written about internal contracts (Iacobucci and Triantis 2007, Rauterberg 2016, Squire 2011) and provide examples from the aerospace, food, construction, electronics, and energy industries of firms using formal contracts between business units (Rauterberg 2016). In a dataset of 102 multinational firms ranging in size from one to several thousand subsidiaries, *all* multinational firms used formal contracts for at least some internal transactions (Magelssen 2021). Governments and regulatory bodies recognize formal contracts between organizational units (e.g. IRS Treas. Reg. sec. 1.482-1(d)(3)(ii)(1) and (2); OECD Transfer Pricing Guidelines (TPG) Chapter 1 D.1.2.3), and in some circumstances, they can be enforced in court.[[1]](#footnote-2)

We theorize that internal formal contracts serve as communication and commitment devices to formalize unit property rights to firm resources. Such formalization alleviates issues of clarity and credibility and, therefore, internal formal contracts can be valuable even if they are not legally enforceable. The firm is a common pool of assets that units may access and use (Segal and Whinston 2013). The common pool aspect of the firm gives rise to internal incentive and coordination problems regarding the use and development of those resources (Ostrom and Hess 2000). Parties often wastefully exploit or underinvest in common-pool resources or do not effectively manage them so that they reach their potential value (Libecap 1993). Such welfare losses can be reduced through formalized property rights. Formalizing property rights allocates responsibility and rights for resource use and incentivises effective management of the resource and its value (Demsetz 1967, Libecap 1993). By formally specifying the property rights of units within the firm, including the residual control rights for decision-making in the event of non-contractible contingencies, the firm clarifies ex ante the roles, responsibilities, and incentives of the units in the exchange. While the CEO or other high-ranking manager could still intervene, they are less likely to do so when an agreement is clearly documented because there is less ambiguity that would need to be resolved and thus less need to resort to help from higher-level managers (i.e., fiat) in the firm. As such, formal contracts also are a commitment mechanism that enhances the credibility of unit rights.

Understanding the need for intra-firm formal contracts revolves around identifying when clarity and credibility issues with rights to common-pool resources can cause problems for value creation. We theorize that formal contracts are more likely to be used when the transacting units do not know each other’s payoffs from cooperating or defecting, when there is a perceived incentive for one or both parties to defect, or when it is not clear what constitutes cooperation. For common-pool resources, informal agreements to motivate and coordinate the effective use of resources can be difficult to build and sustain when the parties are heterogeneous, and there are complex interactions, sizeable externalities, and asymmetric information (Libecap 1993, Ostrom and Hess 2000). These factors undermine the clarity of unit roles and responsibilities and affect their payoff schemes and thus their incentives for defection. We argue that firms are more likely to use internal formal contracts when there are significant differences (e.g., functional, geographic, or cultural) between transacting units and when there are complex interactions between them. In addition, externalities, such as liability concerns, are more likely to involve formal contracts because they influence the possible payoffs of the units and thus reduce the credibility that units will adhere to an informal agreement. Finally, when the units asymmetrically have important local knowledge for value creation, top management intervention can be particularly costly as it can temper incentives for value creation (Aghion and Tirole 1997). The formal contracts can enhance the credibility that top management will not intervene in rights allocations.

We contribute to a growing body of research that uses property rights theory to understand the delegation of decision rights within firms (e.g. Aghion et al. 2014, Hart and Moore 1999) by developing a theoretical framework for when firms will be more or less likely to formalize unit property rights with a formal contract. Although scholars have studied the importance of formalizing property rights between firms (Barzel 1997, Libecap 1993), within firms, they have primarily theorized about the allocation of decision rights and where decision rights should reside with little regard for other types of rights and the mechanisms through which the rights are allocated (see, e.g., Aghion et al. 2014, Hart and Moore 1999). How rights are established, however, is crucial for managerial buy-in and success (Hart 2008). For example, a property right granted by informal deference is likely to be exercised differently than one granted by more formal means. We contribute by developing a theory around how formal contracts can be used to clearly and credibly allocate property rights to units to facilitate exchanges within firms. Understanding the use of formal contracts for property rights within the firm sheds light on how firms address coordination and motivation problems associated with managing their resources.

Regarding transaction cost economics (TCE) (Williamson 1985, 1991), our study suggests that formal contracts are relevant within firms (despite their lack of court enforceability) when crafted by multiple units within a single legal entity. Requiring managers to sign a mutually agreed-upon written contract enhances commitment to the agreement and provides clarity regarding the details of the exchange. Formalized property rights can incentivise units to internalize externalities and exert effort. Thus, the formal contract serves more as a coordination and incentive device and less as a safeguard against opportunism when compared to contracts between firms. While scholars from a transaction cost perspective have focused on the choice of markets, hybrids, and hierarchies to govern transactions, we conceptualize the firm as a set of legally and non-legally distinct units that contract with each other. Thus, we expand on the choice of hierarchy by examining the options for governing transactions internally, a central implication of which is that formal contracts between legal units within a firm may be enforced in courts of law and may be used by external stakeholders to hold the firm to the intra-firm formal contract terms. Thus, formal contracts can, in some instances, bind the range of actions that top management may take.

We contribute to research on intra-firm informal agreements (Gibbons and Henderson 2012, Helper and Henderson 2014) by extending our understanding of when formal contracts can complement informal agreements. Our study suggests that when clarity and credibility issues within the firm are associated with unit property rights, formal contracts can enhance exchange performance. This does not imply that informal agreements become irrelevant, but rather than they are supplemented with formal agreements that document key elements of the exchange.

Our study also adds to scholarly work on markets within the firm. Existing work in this area focuses on the determination of transfer pricing (Holmström and Tirole 1991, Shelanski 2004), including the kinds of prices used (Poppo 1995) and the incentive effects of bringing the market inside the firm (Baiman et al. 2007, Stein 1997).[[2]](#footnote-3) However, pricing is only one aspect of governance and does not eliminate the need for other mechanisms to facilitate coordination.[[3]](#footnote-4) Our study also is relevant to research on internal organization, much of which has utilized agency theory and organizational design.[[4]](#footnote-5) While this literature has made significant contributions to our understanding of coordinating processes within the firm (e.g., Dobrajska et al. 2015, Eisenhardt 1989, Kretschmer and Puranam 2008), less attention has been devoted to understanding transactional governance inside the firm.[[5]](#footnote-6) This study contributes by addressing when firms will choose to use formal contracts to govern their internal transactions.

We structure the paper as follows. We first provide a theoretical background on property rights and transactions within the firm before discussing internal transaction governance options. We then discuss the limitations of informal agreements, followed by our theory for the role of intra-firm formal contracts as communication and commitment devices that solidify unit property rights. Next, we elaborate on the costliness of using fiat to resolve disputes and why formal contracts are a beneficial governance mechanism. We then provide our propositions. Implications, limitations, and concluding remarks follow.

**Theoretical Background**

**Property Rights and Transactions within Firms**

Property rights scholars often conceptualize the firm as a common pool of assets and resources (simply referred to herein as “assets”) that units within the firm may use (Segal and Whinston 2013). The common pool aspect gives rise to ambiguity over rights allocations within firms. Property rights define the actions that a party can take regarding some resource or good that others must observe (Ostrom 2003). Rights form expectations that parties can reasonably hold about other parties, including how a party can benefit or harm, and therefore who must pay whom to modify actions (Demsetz 1967). Barzel (1997) discusses how poorly defined rights occur when the delineation of rights to the parties are not secure.[[6]](#footnote-7) In such cases, both parties can gain by affecting the income stream (Barzel 1997).

Within firms, ambiguity over rights allocations can arise, particularly when units share resources or transact. For instance, in a consumer goods company, a manufacturing unit sells products to a distribution unit. The product contains technology that drives sales and profits due to its quality and features. Although both units have access to the technology, many questions arise as to which unit has the right to make the decisions over the product technology when the parties disagree, and for which aspects of the technology each unit holds the decision rights, the rights of the units to the profits generated from the technology, and which unit is responsible when the transaction or the product face unexpected outcomes.

Transactions that give rise to internal property rights concerns are prevalent within firms. Many firms are multi-unit structures (Caves 1980, Chandler 1990) with sub-economies of transactions (Eccles and White 1988, Holmstrom and Tirole 1989, Tsai 2002). Williamson (1985:1) defines a transaction as a transfer of a good or service across a technologically separable interface. Baldwin (2008) builds on Williamson to define transactions as mutually agreed upon transfers with compensation. An internal transaction, therefore, is a mutually agreed-upon exchange of goods, services, or intangibles with compensation between units of a firm. Although the typical conceptualization of an internal transaction has been between units in stages of a production process (Baker et al. 2002, Coase 1937), they can also occur between similar functional units sharing resources or between divisions (Baldwin 2008).[[7]](#footnote-8)

Scholars have long acknowledged the problems with poorly defined, ambiguous, and/or common-pool resources: parties have reduced incentive to act on opportunities, preserve or build the resource, or mitigate harmful effects on others and opportunistically appropriate value (Alchian 1989, Libecap 1993). These problems are costly due to inefficiencies from misallocated risk, inefficient resource allocation, inefficiently low levels of effort, expenditures on monitoring, and costs from manipulating performance measures (Roberts 2007).

Units within firms care about internal rights allocations as they undertake responsibilities and are tracked by their revenue and costs. For top managers, understanding where costs arise and income accrues enhances the ability to allocate resources to their best use. For unit managers, their unit’s responsibilities, income, and costs affect managerial power, resources, status, performance evaluations, and career paths. Unit resources, rewards, and status often depend on their performance compared to other units (Tsai 2002). However, unit performance is often contingent on transactions with other units. Eccles and White (1988) document cases on the difficulty of managing lateral relationships within the firm, leading units to prefer using third-party suppliers rather than internal suppliers. Internal disputes are not just about pricing. Problems also revolve around whether the internal party met deadlines and timeframes, delivered quality goods, or performed the promised task (Eccles and White 1988, Rauterberg 2016).

Commanding authority, where top managers direct unit activities and resolve disputes (also referred to as fiat or Type I authority), is a central mechanism for managing internal transactions (Grossman and Hart 1986, Williamson 1985). However, information asymmetry and bounded rationality limit the ability of top managers to coordinate and direct all activities, plus such interventions can have a deleterious effect on the motivation and the perceived capability of middle managers who are being overruled (Aghion and Tirole 1997, Farrell 1987). The larger and more diverse the organization and the more complex the transactions, the harder it is for top managers to intervene and make effective decisions throughout the organization because they lack an understanding of the contextual nuances of every transaction they may be asked to direct. Thus, rights are often delegated within the firm (e.g. Aghion et al. 2014, Hart and Moore 1999). We now examine various intra-firm agreements used to allocate rights and govern internal transactions.

**Formalization of Intra-firm Agreements**[[8]](#footnote-9)

Intra-firm agreements (formal and informal) entail mutual consent from the parties about what will be exchanged and the compensation. Intra-firm agreements can be viewed as a participatory integration mechanism (Castañer and Ketokivi 2018, Lazzarini et al. 2008), enabling managers to negotiate and design the exchange.

Despite the emphasis of existing research on informal agreements within firms, intra-firm agreements differ in the degree to which they are formalized, that is, the extent to which they are explicit, hard, or concrete (Macneil 1980) (see Figure 1).[[9]](#footnote-10) The more the parties have an implicit understanding of their rights in the exchange—how they will interact, including when different contingencies may arise—the more informal the governance relationship (Ring and Van de Ven 1992).

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Figure 1 provides an overview of different types of intra-firm agreements with the governance of the exchange gradually increasing in formalization moving from left to right along the dimension.[[10]](#footnote-11) At the far left are informal, unwritten agreements. Informal agreements are unwritten codes of conduct that govern the exchange (Baker et al. 2002: 39). These can be implicit agreements based on shared understandings, precedent, or expected behaviors or oral agreements discussed and negotiated between the units. For example, a unit manager of an electronics firm may call up the manager of the component manufacturing unit and ask for a shipment of 1,000 components. The managers may agree on a price and estimated time of delivery for the components. The units can increase formalization through an informal written agreement, such as an email, that confirms the main terms of the agreement and leaves the details of the transaction implicit. In the preceding example, the manager would send a follow-up email stating that they agreed to 1,000 units at $1.15 per unit. Informal written agreements can be used as a reference, but garner flexibility and ease by not requiring extensive negotiation or explicit specification of the terms, nor explicit definition of the enforcement mechanism. In contrast, a formalized agreement is a detailed, written documentation of the agreement with signed consent by the parties but does not contain adjudication or enforcement mechanisms.

A formal contract is a written agreement between units that specifies the rights, terms, conditions, compensation, and adjudication and enforcement mechanisms for the exchange (Markovits and Rauterberg 2018). Intra-firm formal contracts often use parties internal to the firm (but third party to the transaction) or a balanced joint committee for adjudication of disputes. Such adjudicators may include a committee, agreed-upon adjudicator, panels of peers, an independent arbitrator appointed by the firm’s board, internal court system, business group, or a third business unit that is not involved in the transaction (Rauterberg 2016). For instance, Markovits and Rauterberg (2018) describe how a Lockheed Martin intra-firm contract specifies that disputes will be resolved by a joint committee with members of both divisions. In contrast, the natural gas company Gazprom relies on an internal court system (Rauterberg 2016). Other intra-firm formal contracts use external enforcement mechanisms, as in the case of subsidiaries that assign enforcement to third-party courts of law. The specification of an mechanism that assigns dispute resolution away from the chain of command is intriguing.

The Appendix details the elements of a formal contract between a manufacturer and a distributor within the same firm. The units are wholly owned subsidiaries, and the formal contract clearly designates that the terms of the agreement will be governed by state law (U.S. state redacted for privacy). Similar to formal contracts between firms, this contract defines terms and conditions of the exchange and rights to assets, perform activities, compensation, termination, monitor, warranties, and enforcement mechanisms.

Though the components tend to be the same, there is variance in the extent to which intra-firm formal contracts reflect inter-firm contracts. This variance, in large part, is due to whether the unit is a legally distinct (a subsidiary) versus a non-legally distinct unit. We discuss the differences between intra-firm formal contracts that specify internal versus external alternative dispute resolutions in the section “Legal Distinction Between Units.” Nonetheless, even formal contracts between non-legally distinct units are often negotiated by the unit managers and are similar to inter-firm contracts.

For instance, Markovits and Rauterberg (2018) provide the example of two Lockheed Martin divisions creating a formal contract for an internal joint venture (JV) to design and manufacture military aircraft. Because the divisions were within the same legal entity, the contract was not court enforceable. The contract specified the divisions’ rights to perform specified activities, the investments in the JV, employee transfers, control rights, income rights, and dispute resolution mechanisms. Lockheed viewed the internal JV as very successful. Four years later, one of the divisions that entered into the JV was sold to BAE, at which point the contract was transferred to BAE by replacing the Lockheed division name with the name of the BAE acquiring entity. The internal formal contract had become a legally enforceable contract between two independent firms by simply replacing a name. Four years after the acquisition, the contract was taken to court by BAE, and the court upheld the contract (Markovits and Rauterberg 2018).[[11]](#footnote-12) Despite the internal formal contract’s lack of legal enforceability and, therefore, lack of “credibility” (Baker et al. 1999, Williamson 1991), the contract successfully governed the exchange and was subsequently validated when it was kept in force as the transaction became inter-firm. This example demonstrates that intra-firm formal contracts can be very similar to inter-firm contracts, as this contract was upheld in court after the BAE acquisition externalized it.

The process of establishing the intra-firm formal contract varies: units can negotiate, or headquarters can set the contract terms. For some companies, like a large, global entertainment company, top management has standard contracts that are used when sharing resources across divisions or co-creating content, and managers negotiate the terms for nuances and exceptions. A director for the entertainment company explained that the standard global contract helps the company create a collaborative environment. Rather than competitively negotiating each contract term separately, “it removes the gamesmanship and makes it an equitable transaction, in the spirit of the global policy.” [[12]](#footnote-13) The contracts provide clarity on unit rights. For instance, animation studios hold control rights over the entertainment company’s animated characters. When other units want to use the animated characters, animation studios work with them and oversee it. They must obtain animation studios’ approval that the characters are in the same spirit as the artists originally intended.

Regardless of whether top management dictates the initial allocation of rights and lets the units work out the remaining details of the transaction, or whether the units fully negotiate the rights allocations in the formal contract, our predictions of when formal contracts will be beneficial hold. Although the party(ies) that set the terms may affect how rights are allocated, the role of the contract in guiding the exchange and credibly committing to the rights allocated to the units is still the same.

The terms of the intra-firm formal contracts are important to the units, and therefore often, the units invest in negotiating for their rights in the agreements. A subsidiary of the natural gas company Gazprom states that “many multinational firms do not act as a single controlled group and can have degrees of independence which mean that negotiations between related parties [subsidiaries] often already have all the attributes of negotiations between unrelated parties” (OECD 2015, p. 361). Managers from Reed Elsevier, a publishing, content, and analytics firm, have publicly stated that the intra-firm formal contracts are valid devices for governing the exchange and that the internal contract terms are often “strongly negotiated … the terms of related party contracts cannot be simply disregarded” (OECD 2015, p. 683).

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Existing research primarily focuses on the two ends of the governance dimension: 1) the use of informal, unwritten agreements (or simply “informal agreements”), and 2) the use of formal contracts (see Table 1). Because it is infeasible due to space constraints to have a theory for all aspects of the dimension in Figure 1, we follow extant work and focus on informal agreements and formal contracts.

An extensive literature on the transactional relationships *between* firms suggests that formal contracts can complement informal agreements in governing transactions (e.g., Levin 2003, Macleod and Malcomson 1993, Malcomson 1997). The premise that firms do not use formal contracts *within firms* because they are non-enforceable in courts of law overlooks the role of formal contracts as communication and commitment devices. An expanded view of the role of contracts between firms has highlighted that contracts play a large role in coordination and adaptation (Mayer and Argyres 2004, Ryall and Sampson 2009a, Vanneste and Puranam 2010). Legal enforcement of inter-firm contracts is often only used as a means of last resort; few inter-firm contracts are ever taken to court (Macaulay 1963), and many firms enter into contracts that are unenforceable in courts of law (Gil and Zanarone 2017, Ryall and Sampson 2003). If firms willingly enter into external contracts that are unenforceable in courts of law, then the legal enforceability of formal contracts should not preclude firms from using them internally as the contracts still serve a key purpose in coordinating the transaction.

Within firms, scholars have noted coordination and incentive problems arising from lack of clarity and credibility that inhibit building and reinforcing informal agreements (Gibbons and Henderson 2012). We, therefore, look to the conditions under which informal agreements break down to understand when formal contracts may complement informal agreements in governing transactions within firms.

**Challenges in Building, Refining, and Maintaining Informal Agreements**

The Grossman-Hart-Moore property rights framework was extended by Baker et al. (2002) to include informal agreements. Informal agreements have an implicit allocation of property rights based on an understanding between units, norms, or customs in rights allocations (Libecap 1993). Despite the “implicitness,” conditions such as repeated exchange or a strong organizational culture can make the rights allocations implicitly well specified (see e.g., Halac 2012, Macleod 2007). Informal agreements must be self-enforcing such that the value of the future relationship is sufficiently large that neither party reneges (Baker et al. 2002: 40, Gil and Marion 2013). Most work on informal agreements has focused on the steady-state and overlooked how such agreements initially develop (Gibbons and Henderson 2012).

Within firms, two main problems make it difficult to build and refine informal agreements. First, the lack of clarity, or the parties’ mutual understanding of the promises made in the agreement, can undermine or even preclude an informal agreement (Gibbons 2020, Gibbons and Henderson 2012, Helper and Henderson 2014). To build an informal agreement, the parties must have a shared understanding of: 1) the tasks for the transaction (i.e., what constitutes cooperation); and 2) the relational knowledge, which entails how each party might respond, the possible behaviours available to defect or cooperate, and the payoffs (rewards and punishments) from all of the actions (Gibbons 2020, Gibbons and Henderson 2012). Relational knowledge is particularly difficult to develop since bounded rationality, including cognitive biases and limitations, inhibits comprehensive understanding of how other units may behave (Foss 2003). Even with aligned goals and interests, parties often interpret and respond to signals differently (Weber and Mayer 2014).

Second, a lack of credibility of whether the parties will keep their promises can inhibit an informal agreement (Gibbons and Henderson 2012). Informal agreements rely on calculative trust that the units will engage in the transaction as intended (e.g., Klein 1996). When units have misaligned interests, the expected payoffs (rewards and punishments) motivate them to adhere to the agreement. The lack of credibility of informal agreements has been widely studied and is driven by factors such as the inability to punish, fluctuating returns, and payoff schemes (Halac 2012, Macleod 2007).

While the lack of credibility or clarity alone may be sufficient to undermine an informal agreement, the presence of both interacts in complex ways creating a significant impediment to building an informal agreement (Gibbons and Henderson 2012, Helper and Henderson 2014, Macleod 2007). Incentive problems exist within firms because it may not be in the interest of individuals or units to act in ways that provide solutions to coordination problems (Alchian and Demsetz 1972, Eisenhardt 1989, Roberts 2007).Units tend to look out for their own best interest at the cost of other units and may not exert sufficient effort or may want to maximize their benefits gained (Roberts 2007). For informal agreements, information necessary for clarity may be distorted or withheld since it may not be in the unit’s interest to reveal it (Gibbons and Henderson 2012).

Below, we contend that firms use intra-firm formal contracts as communication and commitment devices in allocating property rights within the firm. Thus, formal contracts can be beneficial when there are problems with the clarity and credibility of unit rights in the transaction. Formalization of rights affects the clarity and securitization of incentives, responsibility and coordination, and agreement enforcement.

**Role of Formal Contracts in Allocating Property Rights**

There is an inherent link between property rights and formal contracts. Classical property rights theory suggests that formal contracts reallocate various property rights among contracting parties, focusing on the challenges arising from measurement and enforcement (e.g., Barzel 1997). Modern property rights theory tends to more narrowly focus on ownership as a means to induce relationship-specific investment, suggesting that property rights help address the limitations of formal contracts (e.g., Merges 2005). The party with residual income and control rights maintains strategic discretion in the event of unforeseen contingencies. Thus, “contractual incompleteness can be overcome by assigning a property right to one or the other of the transactors before the contractual exchange takes place” (Merges 2005: 8). We draw on both modern and classical property rights but mainly follow the more classical property rights tradition of looking at the challenges of assigning and enforcing the rights themselves (Alchian and Demsetz 1972, Demsetz 1967).

Intra-firm formal contracts assign property rights to the units, thereby creating a sub-hierarchy of rights at the transaction level within the firm. Property rights can prevent holdup problems by securing a party’s bargaining position and enhancing its enforcement option for authority over the assets and rights to income (Merges 2005). In addition, the allocation of property rights creates the basic incentive system that influences resource allocation (Libecap 1993). Thus, property rights can alleviate underinvestment and inefficient resource allocation (Aghion and Tirole 1997).

Formal contracts solidifying property rights are not costless. In comparison with informal agreements, formal contracts require additional time and effort to formalize the agreement. Although firms, such as a large engineering firm, may have formal procedures for bidding and writing an intra-firm formal contract, the contract can take time to put in place, and work typically does not start until a contract exists.[[13]](#footnote-14) The process of establishing or amending formal contracts slows organizational response. Formal contracts can create high adjustment costs and sticky rights allocations (Magelssen 2020). Despite these costs, they can provide internal benefits, including serving as communication and commitment devices for solidifying unit rights.

***Communication device.*** Formal contracts provide clarity on unit roles and responsibilities by explicitly delineating unit property rights. To illustrate, a firm operating in the semiconductor industry has a sales representative and service support formal contact between a Malaysian subsidiary and a US subsidiary. The formal contract clearly delineates the Malaysian unit’s rights to sell and service products in its Territory, defined as Malaysia, and that it does not have such rights outside the territory. The formal contract states: “[Malaysian Subsidiary] further agrees that (a) it shall immediately send to [US Subsidiary] all inquiries relating to the Products received from customers outside the Territory, and (b) [US Subsidiary] shall have no obligation to pay any commissions to [Malaysian Subsidiary] with respect to any orders for the Products received from any customer outside of the Territory. [Malaysian Subsidiary] shall have no power or authority to (i) sell any of the products, (ii) enter into any contract or binding agreement with respect to the products, or (iii) accept or fill any orders for the Products.” Thus, the unit’s rights to sell and service goods are distinguished from other units that also sell and service goods within the firm.

The rights defined in the formal contract provide transparency as to the possible actions of the parties and their possible payoffs. For difficult-to-contract activities, assigning control rights to make decisions over assets and the income from those decisions alleviates ambiguity as to what will occur—one unit will hold authority and call the shots.

Notably, these internal contracts assign transaction-level authority and rights to access assets. Markets contain authority properties (Macaulay 1963, Stinchcombe 1985) that are established through formal contracts that specify the quality control and inspection systems and rights over assets, decisions, and modifications to contractual provisions (Gulati and Singh 1998; see, e.g. Stinchcombe 1984 for a list of hierarchical elements that are established through contracts). Similarly, intra-firm formal contracts can assign control rights (including to income streams, which serve as contractual safeguards—see Dewatripont and Tirole (1994)) and establish monitoring mechanisms, some of which can be seen in the example in the Appendix. Thus, formal contracts are a way of explicitly codifying the allocation of control and decision rights over assets in an internal transaction.

Formalizing the intra-firm agreement in the contract can lead units to reveal more information as they negotiate the exchange because they must codify it in writing and sign the agreement. The parties’ concerns in reaching their goals and their willingness to make concessions to reach a mutual agreement are evidenced in the formal contracts. For instance, in a formal contract on a purchasing agreement between a retail subsidiary and a trading subsidiary, the retail subsidiary wanted flexibility to deviate from the typical inventory supplied by the trading subsidiary. The trading subsidiary was concerned that the retail subsidiary would source lower quality goods that might undermine the brand or disintermediate the trading subsidiary. The formal contract specifies that:

*“In the event that the [Retail Subsidiary] finds that it is in the [Retail Subsidiary]’s best interest to deviate from its past practices regarding the inventory level or type of Merchandise that it shall carry in the Stores (collectively, “Additional Merchandise”), then … the [Retail Subsidiary] may purchase such Additional Merchandise from any other vendor approved by [Trading Subsidiary] in its reasonable discretion; provided, however, that [Trading Subsidiary] shall still continue to provide the [Retail Subsidiary] with all of its commercially reasonable requirements regarding the Merchandise and provided further that all Additional Merchandise purchased from any source other than [Trading Subsidiary] shall be of a standard of quality at least as high as the Merchandise supplied to the [Retail Subsidiary] by [Trading Subsidiary]. To the extent necessary, the [Retail Subsidiary] shall cause the sources of Additional Merchandise to obtain licenses for production from [Trading Subsidiary] and to submit for review by Trading’s Counsel (designated in Section 5.1) samples of all proposed Additional Merchandise to be purchased from a source other than [Trading Subsidiary]. The [Retail Subsidiary] shall not sell or otherwise distribute Additional Merchandise without [Trading Subsidiary]’s written approval.”*[[14]](#footnote-15)

In the process of negotiating the formal contracts, the units detail how they will work together and how they might be able to verify the activities of the other unit. To illustrate, a computer equipment company has a formal contract between a Singapore manufacturing subsidiary and a French service subsidiary. The contract specifies that they will interact using the English language; that the French subsidiary will be subject to the export controls of the United States Department of State and Commerce; and specifies the Singapore subsidiary has the rights to monitor, inspect, and audit the books and facilities of the French subsidiary.

***Commitment device.*** Formal contracts are a commitment device that restricts a party’s future choice set by making certain choices more expensive (Bryan et al. 2010). Formal contracts require mutual consent and must be signed by managers of the units. Symbolic acts of commitment can reinforce the commitment to an agreement (Exley and Naecker 2017). They provide a record of what was agreed to in the exchange and grant rights to monitor compliance with contract terms (Hadfield and Bozovic 2016). For agreements to be enforced by others, one needs to know what was breached, and therefore agreements almost always have to be written to be enforced (Markovits and Rauterberg 2018). Formal intra-firm contracts safeguard against defecting by exposing the units to penalties, sanctions, and reputation costs if they violate, thus making political intervention more difficult (or for the parent to impose a decision not aligned with the original agreement). For instance, as noted by a director that sits on several service firm boards, service firms use formal contracts to force units to precisely define the output to be provided so that the scope or criteria for the deliverable may not be arbitrarily changed after the work is in progress or completed. This practice has successfully reduced conflict between units over complex deliverables.[[15]](#footnote-16)

Specification of adjudication and enforcement rights further enhances the credibility and commitment of the units to the rights assigned. For managers, a key advantage of using formal contracts is an alternative dispute resolution mechanism where the units do not need to seek executive intervention or wait as issues are escalated. Formal contracting reduces uncertainty regarding the outcome of top management intervention, which may be subject to political pressures. Shifting dispute resolution away from managers can temper internal politics (Rauterberg 2016) and undermine the parent unit’s reputation if it intervenes. Consequently, formal contracts act as commitment and communication devices within firms and are valuable even if they are not legally enforceable.

**Formal Contracts as Communication and Commitment Devices: Example**

To illustrate both communication and commitment functions of formal contracts, a managing head of a trading room from a financial firm relates that, before the financial firm merger with one of its competitors, the financial firm used informal agreements between units. Any time a new trading desk was needed, the manager would negotiate the desk with the IT group located in India. There were many back and forth discussions and a lot of time spent to reach an agreement. The manager commented,

*Before the formal contracts were put in place, it was a hassle. It was really complex. We spent so much time having to work things out and come to a common understanding. A lot of time was wasted. There were too many issues and we would never seem to know who to go to or who was going to be responsible to pay for it when something new came up.*

The informal agreements lacked clarity and caused inefficiency. After the acquisition of its competitor, the merged financial company began using formal contracts for all intra-firm transactions. The manager remarked,

*What a relief it was once we had formal contracts…. It provided a common language that everyone could understand…. It also made it easier to have good relationships with people in other units. There were no longer discussions. We knew what to expect and what we were supposed to do, and who was to approve or pay for what…. People stopped fighting about things. No one wants to fight with their boss or the person that works with you. No one wants to be the one to go against what was already agreed to.*[[16]](#footnote-17)

This example highlights the clarity and commitment value of the formal contract. For managers, solidifying rights and responsibilities for the transaction reduces conflict and politics.

**Costliness of Top Management Intervention**

Although top management can step in to resolve disputes from informal agreements, it is costly for top management to use fiat to intervene in disputes. Top management intervention tempers units’ incentives (Aghion and Tirole 1994, Baker et al. 1999). Managers do not want executives to intervene excessively or inappropriately and often are uncertain about when executive intervention is desirable (Brickley et al. 1996, Garicano 2000).

Having a high-ranking executive adjudicate disputes can have adverse consequences—for the managers involved and for firms. Eccles and White (1988) note that managers are reluctant to raise issues since it can undermine the manager’s reputation and perceived competence, and lead to lost autonomy and reduced career prospects. For example, when P&G undertook its Organization 2005 reorganization, there was an implicit warning attached to every escalation of a dispute that the parties involved would be replaced the next time a dispute was escalated (Piskorski and Spadini 2007:17).

Raising disputes or decisions through the many layers of a firm often reduces efficiency (Aghion et al. 2014, Argyres 1995). Top management has limited information processing capacity and limited ability to collect information from lower levels of the organization (Aghion and Tirole 1997, Hart 1995). Beshears and Gino (2015) refer to leaders as “decision architects” who design firms in such a way that decisions are made effectively at the appropriate level without constant interference from above or dysfunctions from cognitive biases or information problems. It is beneficial to have decision-making and conflict resolution mechanisms proximate to where the information resides in the organization (Dobrajska et al. 2015). The idea that firms can easily and cheaply use fiat to resolve disputes is at odds with the political behavior within firms (Hu et al. 2017, Oswald and Jahera 1991). Having someone with less knowledge of the transaction making key decisions leads to suboptimal outcomes for the units involved and the firm overall. Consequently, managerial fiat should be an option of last resort (Leavitt 2005).

It can be more effective for executives to use their authority to set the rules around which lower levels of the organization transact (also referred to as Type II authority, Simon 1991). For instance, in a large engineering firm, top management set policies that provide clear contracting guidance to unit managers. Every internal transaction over £25,000 must have a formal contract with clear procedures for the units to bid and create the formal contracts.[[17]](#footnote-18)

Formal contracts are communication and commitment devices that can enhance the clarity and credibility of unit rights in the exchange, as well as providing a mechanism for adjudication to enforce the agreement without appeals to fiat. As such, formal contracts can facilitate certain types of intra-firm activities.

**Propositions**

**Choice between Informal Agreements and Formal Contracts**

We focus our theorizing on when firms choose to rely on formal contracts to complement informal agreements versus relying on informal agreements without using formal contracts. Our baseline expectation is that firms will use unwritten, informal agreements for internal transactions and will only complement informal agreements with formal contracts when the benefits outweigh the costs of creating the formal contract. As previously discussed, we focus on the factors that cause coordination and motivation problems for common-pool resources and thus make it difficult to build and sustain informal agreements: differences between units (e.g., functional, geographic, and/or cultural), transactional complexity, liabilities, and asymmetric information (Libecap 1993, Ostrom and Hess 2000). While we do not argue that these four factors are exhaustive, we believe they align with extant research and represent the main factors for deciding when to utilize a formal contract for an intra-firm exchange.

***Transactional Complexity.*** Transactional complexity is “the degree to which subtasks assigned to different parties interact with one another” (Schepker et al. 2014: 215). Informal agreements are especially difficult to build when parties interact in complex ways (Gibbons and Henderson 2012). For complex transactions, unexpected situations can arise that threaten to derail even strong relationships between well-intentioned parties (Argyres et al. 2007). Units must have an intricate knowledge of parties’ tasks and payoffs and how they might respond to contingencies that arise. Relational knowledge of the other party’s tasks in the transaction can be difficult to transfer and build across units because an understanding of tasks is embedded in tacit knowledge (Gibbons and Henderson 2012, Helper and Henderson 2014). The more complex the transaction, the more difficult it is to understand each party’s role fully, what it will do in different circumstances, and its potential payoffs. The interaction of subtasks can lead to misunderstandings and conflict between units over responsibilities and power (Kretschmer and Puranam 2008). Parties might not fully disclose private knowledge or reach a consensus on how to adapt. Thus, coordinating to share tacit knowledge is critical for complex transactions (Gulati and Singh 1998, Parmigiani and Rivera-Santos 2011).

A central aspect of coordination for complex transactions is ex post decisions. The incompleteness of contracts makes the allocation of control rights for ex post decision making of utmost importance (Schepker et al. 2014). Formal contracts can be used to credibly assign transaction-level authority to units within the firm so that it is clear which unit will coordinate and direct the other unit for adaptation to unforeseen changes.[[18]](#footnote-19) The formal contract does not need to incur the costs of specifying all possible contingencies; rather, it can simply assign who will control ex post decisions for coordination. By allocating rights to particular aspects of the exchange to the different units, even though the units may not fully comprehend the other’s tacit knowledge about the task, a formal contract aligns expectations and creates a mutual understanding of the rights and responsibilities of the parties (Malmgren 1961, Mayer and Argyres 2004). This view aligns with scholarly work that suggests that formal contracts are not more complex for complex transactions but instead have more clauses that assign broad decision rights to one party or specify procedures for centralized or consensual decision making (Aggarwal et al. 2011, Schepker et al. 2014). The formal contract in the Appendix demonstrates how internal formal contracts allocate control rights. It specifies that the manufacturing unit has residual control rights over all intellectual property related to the products. The distributing unit has the right to distribute products in the territory and enter into contracts for service agreements with customers regarding the products. The manufacturing unit maintains control rights over approving marketing materials and pricing products.

Extant research from a TCE perspective suggests that formal contracts clarify agreement terms and coordinate the exchange. Similarly, we argue that the formal contract clarifies unit rights to coordinate. Formal contracts serve as a framework to coordinate the exchange, support cooperation, and facilitate the development of trust, and thus can augment the building and sustainment of informal agreements. Key features that create the framework for the exchange are designating who is the project manager (Ryall and Sampson 2009b), defining provisions for monitoring the process (Argyres and Mayer 2007), establishing managerial practices, and defining roles and responsibilities (Mayer and Argyres 2004). As illustrated by the formal contract in the Appendix, intra-firm formal contracts allocate control rights and rights to joint adaptation mechanisms (such as information disclosure), distribution of costs and benefits of contingencies, and dispute resolution. These serve to coordinate complex activities and clarify expectations (Ryall and Sampson 2009a) and create predictable, aligned expectations and reliable processes and routines for units dealing with each other (Argyres et al. 2007, Bernstein and Peterson 2020), which helps build trust (Argyres et al. 2007, Mayer and Argyres 2004).

Formal contracts can help increase the likelihood that cooperation will endure. The clarity of the contract terms on who holds authority, how the units will interact, and information flows reduces the risk of a breakdown in the relationship from incongruent understandings of process and product requirements (Bernstein and Peterson 2020, Poppo and Zenger 2002). Formal contracts are more effective than informal agreements in providing clarity and securing the rights and interests of the parties, including decision rights under different circumstances (Reuer and Ariño 2007), and thus do more to help avoid future conflicts over responsibilities and power. The combined use of relational and formal contracts when there are greater levels of complexity leads to enhanced exchange performance (Bernstein and Peterson 2020, Poppo and Zenger 2002).

Mayer and Argyres (2004) discuss how the need to design and plan the tasks and contingencies for complex transactions leads to more information being revealed about the other party, causing the marginal cost of codifying the additional plans in the contract and clarifying the tasks to fall. A formal contract forces the parties to negotiate the rights and responsibilities explicitly and thus reduces ambiguity (Carson et al. 2006, Klein and Leffler 1981). Just as formal contracts between firms serve to “plan the collaboration, set partner expectations, and consequently reduce misunderstandings and costly missteps” (Ryall and Sampson 2009: 208), intra-firm formal contracts, by clearly and credibly allocating rights, can provide transparency for coordinating complex activities.

The financial firm example above demonstrates how a complex transaction that takes a lot of effort to execute under an informal agreement became more efficient and effective after the adoption of formal contracts because the transaction clarified the rights of the parties and was a commitment mechanism that prevented people from going against the agreement. Therefore, we propose:

*Proposition 1: The greater the transactional complexity, the more likely a formal contract will be used in the internal transaction.*

***Transactional Liability*.** Many transactions involved large *liabilities*—potential costs associated with failed products, projects, or service errors. Liabilities are a form of externality. Externalities occur when a pecuniary or nonpecuniary cost or benefit affects a third party that did not choose to bear it (Demsetz 1967). Liability apportionment can cause tension in the event of an adverse outcome where one unit bears the brunt of the consequences. Therefore, the value of defecting on an informal agreement is influenced by externalities: units may seek to shift liabilities to others or appropriate windfalls (Macleod and Malcomson 1993, Roberts 2007). Managers care about the performance of their units since it affects their career and resources they control, and are often motivated to respond to externalities in a self-interested manner (Roberts 2007). Thus, externalities frequently are a source of tension, conflict, and politics between units and can lead to suboptimal transactional outcomes.

As incentives to defect increase, informally allocated property rights are no longer sufficient for the relationship (Libecap 1993). Mayer, Nickerson & Owan (2004) examine the benefits of specific types of contractually guaranteed monitoring rights in the presence of externalities. The greater the potential liability arising from externalities, the more likely the credibility of the informal agreement will be called into question. The implicit nature of property rights under informal agreements leads to misunderstandings on the roles and weaker incentives of the units in managing these types of externalities (Libecap 1993, Segal and Whinston 2013). It gives rise to moral hazard where units may not exert sufficient effort (Eisenhardt 1989, Jensen and Meckling 1995).

Formalized property rights enhance the efficiency and effectiveness of the use of assets and resources when there are externalities such as costly liabilities (Segal and Whinston 2013). A central function of property rights is internalising externalities (Demsetz 1967). Formalizing property rights addresses problems with incentives by allocating the costs and benefits of externalities to the party taking action (Libecap 1993). Such allocation of rights provides a means to safeguard assets, where units are motivated to maximize the asset’s value (Schepker et al. 2014).

Formal contracts inside the firm effectively ensure that the division whose actions are primarily responsible for problems ex post bear the costs associated with those problems. For firms, understanding if one division or another is liable for an error matters because knowing liability provides greater clarity to track and monitor units and unit manager performance, making it easier to apply incentives to foster unit manager incentives (Aghion and Tirole 1995) and achieve a more efficient internal resource allocation. Defined liability, for instance, motivates internal suppliers to provide higher quality components. Thus, liability facilitates adaptation: the unit bearing the costs and income is motivated to actively respond and manage a negative outcome without arguing about responsibility.

For managers of the transacting units, the rights allocated are important, especially when things go awry. For example, within the buildings and infrastructure division of the large engineering firm, there is a highway unit, an infrastructure unit, a structural unit, and a tunnels unit. When one unit gets a project but does not have the capabilities to perform the entire project, it will contract other units within the firm for the parts of the project that it needs. Thus, when the tunnels unit receives a third-party job to build a new rail line but does not have the expertise for the land drainage work, it contracts the infrastructure unit. An internal formal contract between the tunnels unit and the infrastructure unit is negotiated and signed by the managers. The contract outlines the price, the scope of work, a work plan of the activities required to complete the work, the timeframe for completing it, and warranties and liabilities for the project. For the managers involved, their scope of work, liability, and responsibility are critical. These provisions determine who will be held accountable if problems arise. If the infrastructure unit does not meet the deadline or fails to meet quality and safety standards or deliver what was promised, it is liable. If changes are required due to the tunnels unit or if the scope of work changes, the contract stipulates that the tunnels unit would bear the responsibility and costs. As stated in an interview with a manager,

*Contracts are important for assigning responsibility. No one wants to bear the liability or risk in the project. If you are assigned it in the contract, that means it is on you and you are held accountable when things go wrong. If it is assigned to you, you make sure everything happens so that things do not go wrong.*[[19]](#footnote-20)

Thus, formal contracts provide a clear assignment of liabilities in the transactional exchange so that units direct their attention to mitigating the problems for which they are responsible. The rights allocated provide information about each unit’s performance and alleviate the “moral hazard in teams” problems (Aghion and Tirole 1995). Combining control and income rights increases the party’s incentives to focus on managing the asset to limit harmful costs and enhance benefits (Demsetz 1967, Ostrom 2003). Formalization enhances accountability and thereby incentivizes appropriate ex ante action to avoid ex post liability. Therefore, we propose:

*Proposition 2: The greater the potential liability of an internal transaction, the more likely a formal contract will be used in the internal transaction.*

***Differences in transacting units.*** Transacting units may differ in their roles, tasks, knowledge, culture, or geographic location or may be very similar along with one or more of these dimensions. For instance, an electronics company has two manufacturing units located in Japan. One manufacturing unit sells its components to the other unit, while the other unit sells its products to a distribution unit located in Germany. The two Japanese manufacturing units are more similar in terms of key performance metrics and goals, knowledge and expertise, geography, and culture. Regarding the relationship between the parties, those who are more similar are likely to encounter fewer transaction difficulties because of their shared context and experience, creating a common frame to understand their agreement (Weber and Mayer 2014). The similarities enable a common understanding of the task and relational knowledge that facilitates the exchange.

Although information may be easier to share within firms than across a firm boundary, differences in specialization and location can lead to information asymmetry between transacting units, which affects the understanding of the transactions and decisions to be made. Heterogeneous parties often do not understand or recognize informal rights (Libecap 1993). Divergence in the characteristics of units can lead to differences in their perspectives, goals, and identity (Gil and Marion 2013). All of which may create misunderstandings and disparate expectations about each unit’s rights and responsibilities and make informal agreements challenging to build and sustain.

While many types of differences may influence how divisions interact, we briefly discuss three to help illustrate the role of differences in creating a need for a formal contract for intra-firm transactions: geographic, cultural, and functional differences. Geographic and cultural distance affect the clarity of the exchange and whether the parties understand what constitutes cooperation. Functional differences affect the clarity and credibility of informal agreements. We discuss each in turn.

First, geographically remote units will find it more challenging to build an effective informal agreement. When units communicate more frequently or intensively, their actions are more likely to be observed, and they are more likely to develop reputational capital (Macleod 2007). Therefore, the units are more likely to adhere to an informal agreement (Gibbons and Henderson 2012). Communication and information sharing are needed for partners’ expectations about the exchange to converge (Malmgren 1961). The frequency of communication declines with distance (Giroud 2013), which complicates informal agreements. Geographic distance makes it costlier to observe the actions of the other unit (Kalnins and Lafontaine 2004, Weber et al. 2009), more difficult to build relationships (Weber et al. 2011), and more likely that the units will have different norms due to influences of the local environment (Giannetti and Yafeh 2012). Lack of frequent interaction reduces the ability to transfer tacit relational knowledge. It also reduces insight for the available courses of action and cause and effect relationships (Klein and Leffler 1981, Levin 2003).

Second, cultural differences create divergences in implicit understandings about the norms of behavior and how to act in different circumstances. Such divergences undermine the clarity of informal agreements as each party has a different implicit understanding of the actions to be carried out. There is a large literature on the effects of cultural distance (Fisman et al. 2017, Hegde and Tumlinson 2014), but the main takeaway is that this type of distance increases the potential for misunderstandings and even perceptions of opportunism because of the disparate expectations. Different cultures can also have different views of the appropriateness of sticking to verbal commitments versus seeing only formal commitments as truly binding (Beck et al. 2018).

In addition to lack of clarity, differences between units can have the additional issue of credibility concerns, as in the case of functional differences between units. Functionally similar units have a stronger common understanding of tacit and relational knowledge because of domain overlap and similar goals and performance metrics. It is more difficult to share relational knowledge and clarify expectations when the units perform very different functions that require distinct expertise. Units that are functionally very different are likely to have disparate tacit knowledge and be evaluated based on different key performance metrics, which shape managers’ goals and incentives. To illustrate, in a multinational consumer goods company, the manufacturing units are evaluated based on their costs per unit and the distributors are assessed based on their sales revenue. Differences in goals lead to diverging preferences and self-interested actions (Levin 2003). As incentives diverge, the benefits from defecting increase and units have reduced credibility of adhering to an informal agreement (Gil and Zanarone 2018, Levin 2003).

Differences between units lead to reduced communication or greater potential for misunderstandings, which can undermine the clarity of an informal agreement. Under these conditions, a formal contract can help allocate rights for reporting, monitoring, and procedures to transfer knowledge to structure the relationship more effectively. Empirical studies have found that alliance partners are more likely to use formal property rights when the parties are less proximate to each other (Robinson and Stuart 2007). Allocating rights to perform activities clarifies the units’ roles and responsibilities in the case that what constitutes cooperation is unclear. This can enhance the ability to create a clear and credible agreement that will result in a successful exchange.

Moreover, when the differences between units affect both clarity and credibility of informal agreements, formal contracts secure the parties’ interests in the transaction by clearly documenting what the parties agreed upon. The formal contract can ensure the rights allocations for income make it in the parties’ interests to cooperate. Formal specification of provisions for monitoring, addressing liability issues, and specifying penalties enhance commitment that bolsters the units’ credibility in adhering to the agreement. The contracting process enhances future exchange performance by developing relationships between parties and complements informal agreements through the formal specification of limits and expectations (Poppo and Zenger 2002).

In summary, these three types of distance all pose significant challenges for informal agreements and create a situation in which formal contracts can facilitate more effective governance of intra-firm transactions. Therefore, we propose:

*Proposition 3a: The greater the cultural and geographic differences between units involved in the transaction, the more likely a formal contract will be used in the internal transaction.*

*Proposition 3b: The greater the functional differences between units involved in the transaction, the more likely a formal contract will be used in the internal transaction.*

***Importance of Unit Decision-Making Expertise (Local Knowledge)*.** Informal agreements within firms are vulnerable to intervention by top management such that rights allocated in informal agreements are considered “loaned not owned” (Baker et al. 1999: 56). Extant work focuses on two types of intervention: intervening in control rights and intervening in rights to income (Baker et al. 1999, Foss et al. 2012, Williamson 1985). The ability to intervene in informal agreements can undermine the credibility of the agreement and tempers unit incentives to incorporate relevant information and maximize effort in decision making (Aghion and Tirole 1994, Baker et al. 1999).

When local (contextual) knowledge is crucial, fiat-based intervention is more likely to result in a worse outcome than when the relevant knowledge to make an effective decision is more high level or easily understood with minimal contextual nuance. Problems with intervention are especially costly when local unit knowledge is vital for performance outcomes. Information and knowledge are difficult to transfer, creating significant impediments to clarity for an informal agreement. Often units have information and expertise not available to or not verifiable by top management (Foss et al. 2012). Relevant expertise significantly affects the ability to assess ideas, comprehend their implications, and make relevant decisions (Fabrizio and Thomas 2012).

To illustrate, for a large pharmaceutical company, a unit with specialized expertise in drug discovery has deep insight into the research process and which future projects may be more valuable to invest. For this unit, their expertise in selecting and directing research projects is valuable. Intervention that tempers this unit’s incentives to propose projects is costly because others do not have similar expertise for achieving successful innovations in this area. This contrasts with a unit in the same pharmaceutical firm that runs clinical trials. The expertise required for running clinical trials is less specialized or tacit. Thus, the effects of reduced incentive of the unit to propose new ideas or exert effort due to intervention are less costly.

The cost of available dispute resolution mechanisms is a critical element of governance choice (e.g., Williamson 1991). Internally, the default dispute resolution mechanism for informal agreements is fiat, so we are more likely to observe formal contracts when fiat is likely to lead to problematic outcomes, such as when local (contextual) knowledge is key to making optimal choices about the governance of the transaction.

When local knowledge is vital in making decisions about organising the transactions, greater effort should be taken to reduce the likelihood of fiat-based intervention. Formal intra-firm contracts serve to more clearly codify the agreement and enhance credibility while allowing the parties to articulate a dispute resolution mechanism. While the parties are unlikely to eliminate the chances of upper management exercising fiat and changing the terms of the internal contract, they can minimize the probability of this happening with a well-crafted, formal, intra-firm contract.

The formal contract serves as a commitment mechanism that increases the costs of intervention and creates high adjustment costs for removing rights, enhancing the credibility of property rights, including control and income rights to the assets (Magelssen 2020). By explicitly writing and agreeing to the formal contract terms, the formal contract enhances the verifiability of whether the parent intervenes to counter the original agreement and thus can create a greater cost to the parent’s reputation than informal agreements. Moreover, assigning dispute resolution to a party not within the chain of command puts top management one step farther away from intervening in the transaction. Allocating control rights motivates the exertion of effort (Aghion and Tirole 1997) and incorporation of local information in decisions (Dessein 2002, Foss et al. 2011). The enhanced credibility of property rights provides the unit with the incentives to exert effort and take the initiative (Magelssen 2020), making formal contracts beneficial for governing the exchange.

*Proposition 4: The more crucial a unit’s decision-making expertise (local knowledge) is to the transaction, the more likely a formal contract will be used in the internal transaction.*

**Comparing Internal Formal Contract Predictions and Existing Research Between Firms**

In theorizing about the role of formal contracts within firms, a key question arises as to how our predictions differ from extant work on contracting between firms. We briefly discuss how each of our predictions aligns and diverges with extant work on contractual governance between firms. Our aim is to focus on the main arguments in the literature and is not intended to be exhaustive.

A key distinction we want to make is that the prior work on inter-firm contracts has examined formalization primarily as a response to exchange hazards and has focused more on what should be in the contract rather than the benefits of formalized contracts as a complement to relying on informal governance. TCE has very little to say on how firms manage internal transactions because Williamson stated that managers use authority, and disputes are resolved by fiat. Williamson did not say much about how to actually govern intra-firm transactions, largely (implicitly) assuming that processes and authority would be the key elements to facilitating internal work. We unpack how intra-firm exchanges work in a way that parallels work on inter-firm contracts. There is no real parallel inside the firm to the choice between external sourcing or internalization because all our contracts are internal. Our work is most similar to work that examines how to govern inter-firm exchanges rather than work that looks at where to organize transactions—inside or outside the firm.

***Transactional Complexity.*** Research building upon TCE has predicted that complexity will lead to a preference for hierarchy over markets. At first, research on formal contracts between firms emphasized that because bounded rationality makes it difficult to specify all contractual contingencies for complex transactions, formal contracts face significant opportunism hazards (Rivkin 2000). Thus, complex transactions are more efficiently internalized into a hierarchy where the incentives for opportunism are dulled (see, e.g., Masten 1984). Thus, the core link between complexity and internalization is mitigating opportunism. However, more recent work on complexity and contracts has examined the role of formal contracts in coordination, adaptation, and facilitating information sharing necessary for complex transactions (Bernstein and Peterson 2020). This stream of research goes on to highlight how informal agreements and formal contracts are complements for complex transactions (Gong et al. 2007, Luo 2002, Poppo and Zenger 2002). We argue that within firms, the advantages of formal contracts in a complex transaction outweigh the disadvantages of their incompleteness because coordination is often a greater challenge than traditional opportunism.

A central part of coordination is ex post decision making. Bounded rationality combined with complexity creates a situation where ex post decision making becomes of utmost importance (Schepker et al. 2014). Generally, scholars have focused on ex post decision making in the form of hierarchy to govern complex transactions (Masten 1984, Nickerson and Zenger 2004). Under hierarchy, the owner has control rights to make the decisions in responding to ex post contingencies.

Within firms, while the incentives of opportunism are dulled, the need for ex post decision making for complex transactions persists. Bounded rationality limits the ability of top management to handle all ex post contingencies for intra-firm transactions. Raising decisions through the many layers of a firm often reduces efficiency (Aghion et al. 2014, Argyres 1995). Although the formal assignment of control rights to units comes at the cost of top management’s loss of control, it is beneficial to have decision-making and conflict resolution mechanisms proximate for organizational responsiveness to contingencies (Lawrence and Lorsch 1967). Thus, issues surrounding authority at the transaction level are paramount. An internal formal contract assigns property rights to units, which provides transaction-level authority for coordination between units.

***Transactional Liability.*** Our logic for liabilities provides consistent predictions with TCE. A transaction cost framework predicts that when there are externalities to a transaction, the transaction governance will depend on the parties’ assessment of the transaction costs associated with mitigating or contracting for the externalities (Luo and Kaul 2019, Williamson 1979, 2010). Within firms, we argue that the role of the formal contract is to assign rights so that the units internalize the beneficial and harmful effects and thus motivate the unit to manage the liabilities effectively.

***Differences in transacting units*.** Our prediction for using formal contracts when there are differences between units aligns with research on formal contracts between firms. The more similar the units, the more able they are to use relational (or informal) governance to facilitate exchanges because trust can be more easily built. When the parties are more different, formal contracts can play a greater role in facilitating inter-firm exchange because they face greater challenges in aligning expectations due to their cultural or geographic differences (Kogut and Singh 1985, Weber et al. 2011). In addition, parties with cultural or geographic differences may want to capitalize on firm-specific advantages arising in part from those differences, and therefore are likely to use formal contracts to govern the exchange (Reuer and Lahiri 2014). A formal contract can help govern the activities and safeguard against risks.

When there are functional differences between the parties, the transaction will, subject to specific transaction cost considerations about asset specificity and uncertainty, be governed by a formal contract. The parties will attempt to capitalize on their functional differences to promote a successful exchange by safeguarding against opportunism in the formal contract (Williamson 1999). Parties with functional differences will use a formal contract to ensure mutual understanding in execution (Baker et al. 2011).

***Importance of Unit Decision-Making Expertise.*** Existing work on contracting between organizations has not focused extensively on the importance of local knowledge. While local knowledge can lead to integration, this is not always possible or even desirable, so a formal contract can play a key role in leveraging that local knowledge and directing how and when it can be used (Parmigiani and Mitchell 2010). To the extent that knowledge has played a role, TCE would suggest that there is value in documenting decision-making processes (e.g., Mayer and Argyres 2004). In addition, prior work has explored how knowledge plays a role in who should negotiate a formal contract to facilitate an exchange (e.g., Argyres and Mayer 2007). Formalizing decision-making in the contract helps ensure that those with the knowledge will make initial decisions and play key roles in deciding how to adapt when certain types of things occur.

**Legal Distinction Between Units**

Scholarly emphasis on informal agreements to govern intra-firm transactions is due to the idea that any intra-firm formal contracts are not enforceable in courts of law and therefore are not credible (Baker et al. 1999, 2002, 2011, Williamson 1975). Williamson (1991) refers to the firm’s contract law regime as forbearance because courts typically do not intervene in intra-firm disputes. Extant work, however, overlooks the legal structure of the corporate group. Transacting units within the firm may be non-legally distinct units, such as a digital strategy business unit or a change management business unit in a consulting firm, or they may be legally distinct units, such as wholly-owned corporate subsidiaries. [[20]](#footnote-21) Corporate groups composed of wholly or partially owned legally distinct units (subsidiaries) represent a significant portion of firms worldwide (Bethel and Liebeskind 1998). Thus, the governance of transactions can be expanded within hierarchies to include transactions between units that are separate legal entities and between units that are not separate legal entities (see Figure 2).

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Insert Figure 2 here

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This distinction matters because legally distinct units have standing in courts of law even though they are part of a larger firm (see, e.g., Sinclair Oil Corp. v. Levien, 280 A.2d 717 (Del. 1971)). Bethel and Liebeskind (1998) noted that subsidiaries have the same legal right to contract as to any legally incorporated firm. Courts respect the concept of separate legal entities and uphold the rights assigned to subsidiaries. Claimants against a subsidiary generally cannot seek recourse from the parent (e.g. In re Union Carbide Corp. Gas Plant Disaster, 809 F.2d 195 (2d Cir. 1987), cert. denied, 484 U.S. 871(1987); the United States v. Bestfoods et al., 524 U.S. 51 (1998))[[21]](#footnote-22) and top management cannot transfer property rights without adequate compensation to a unit (EY 2013; OECD TPG).

Legally distinct units must fulfil local regulatory reporting criteria concerning their activities and responsibilities and have legal and financial obligations for employees, suppliers and customers, debt holders, and minority shareholders (if any). Although the parent often bears responsibility for the actions of its legal units, it is not necessarily the case (U.S. v. Bestfoods et al., 524 U.S. 51 (1998); U.S. v. Kayser-Roth, 272 F.3d 89 (1st Cir. 2001). Legal units can go bankrupt, and, depending on the circumstances (e.g. “piercing the corporate veil”), the parent may not be held accountable.

Non-legally distinct units, in contrast, may be tracked separately with business unit financial and operational reporting within the firm but do not have to report to external stakeholders separately. The parent is held accountable for legal and financial responsibilities to external stakeholders for the activities of non-legally distinct units.

***Quasi-formal and formal contracts.*** Because subsidiaries have legal standing, their intra-firm contracts specify the court of law under which disputes can be submitted. For example, the intra-firm formal contract in the Appendix specifies that “Any dispute between the parties relating to the validity, performance, interpretation or construction of this Agreement shall be submitted to the courts located within the State of [U.S.A. STATE], U.S.A.” In contrast, non-legally defined units leverage alternative dispute resolution mechanisms, such as a committee, agreed-upon adjudicator, panels of peers, an independent arbitrator appointed by the firm’s board, an internal court system, business group, or a third business unit that is not involved in the transaction (Rauterberg 2016). Therefore, we distinguish between intra-firm quasi-formal contracts that assign adjudication away from the direct line of authority within the firm and intra-firm formal contracts between legally distinct entities that assign adjudication to a party external to the firm.

When a breach of an intra-firm formal contract occurs, subsidiaries have the right to sue other subsidiaries in courts of law (Bethel and Liebeskind 1998). A VP at a motion picture studio company noted that any such disputes would likely be resolved internally before going to court. It is very costly to pay legal fees on both sides of the court case. Since the transfer of a court settlement is internal, firms try to avoid legal costs by resolving the dispute internally and withdraw the court case before the entire process unfolds with a court ruling.[[22]](#footnote-23)

Formal contracts between subsidiaries can also be called upon in courts of law for issues related to minority rights (whether a minority owner is treated fairly or whether the firm is transacting with related parties unfairly for the focal subsidiary), buyers and suppliers (for recourse over transactional issues tracing the rights back within the firm), and for creditors (that income is in accordance with its income rights—particularly if the subsidiary is going bankrupt). Governments uphold subsidiary property rights assigned in formal contracts and require that the firm compensates a subsidiary for the net present value of the rights to the asset if top management or a unit wants to transfer property rights internally (e.g., OECD TPG; IRS Treas. Reg. §1.482). Transfers of property rights between legal entities are heavily scrutinized by tax authorities (particularly those related to intellectual property). The firm can be exposed to penalties if it does not adequately compensate the units for transferring property rights (see, e.g., Stamp v. Inamed Corp., 777 F. Supp. 623 (N.D. Ill. 1991); IRS 2006). This creates costs for top management intervening in the formal contracts or transferring the rights allocated to the units. Top management may be less inclined to intervene unless the benefits outweigh the negative reputational costs, adjustment costs, or possible sanctions if regulatory bodies intervene.

***Logics of enforcement.*** Intra-firm formal contracts have different logics of enforcement (resolving disputes) depending on whether the formal contract is between non-legally distinct or legally distinct units (see Table 2). Disputes involving quasi-formal contracts are more likely to be decided based on the strategic importance to the firm. Adjudication by parties employed by the firm that understand the firm and have vested interest in its success will be more likely to consider strategic factors for the firm in adjudicating disputes and thus are more likely to weigh the firm’s best interest in resolving the dispute.

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The logic of enforcement for formal contracts between legally distinct units is based on the parties’ intent as interpreted by a third party. Courts of law rely on intent in deciding disputes. External stakeholders such as tax authorities, local regulatory bodies, minority shareholders, lenders, creditors, suppliers, and customers may take actions to ensure adherence to the terms of the intra-firm formal contract (FDIC v. AmFin Financial Corp. 757 F.3d 530 (6th Cir. 2014); In re Bob Richards Chrysler-Plymouth Corp. 473 F.2d 262 (9th Cir. 1973); General Rubber Co. v. Benedict, 215 N.Y. 18, 109 N.E. 96 (1915)). In so doing, it provides an additional condition that can restrict or increase the costs for the set of actions that top management can take, enhancing the credibility of the formal contract will be upheld.

The difference in the legal standing of various units within the firm calls into question the concept of forbearance as the contract law regime within the firm (Williamson 1991). The idea that firms control the resolution of all disputes within their boundaries is limited by the firm’s choice to create separate legal entities, shifting the legal regime to involve third parties, including the courts. Most theories of the firm focus on firms as a single legal entity in which managerial fiat can be used to adjudicate disputes. However, an expanded view that also considers the units within the corporate group provides a more nuanced understanding. Intra-firm quasi-formal contracts provide communication and credibility benefits. Shifting to intra-firm formal contracts between legally distinct units introduces the possibility for third party enforcement and makes contract formalization even more valuable to the firm.

***Implications.*** A key reason to use intra-firm formal contracts is that they increase the costs of intervening in the transaction and, therefore, enhance the intra-firm agreement’s credibility. We, therefore, expect that Propositions 1–4 above are likely to be even more critical when the transacting internal parties are legally distinct entities. Governments can impose costly penalties if top management intervenes in a subsidiary’s control or income rights (EY 2013). Due to the high adjustment costs, top management often considers transferring or revoking subsidiary property rights for key assets such as intellectual property to be prohibitively costly.[[23]](#footnote-24) Similarly, courts will uphold the rights and legal standing of legally defined units to utilize third party enforcement mechanisms (e.g., the U.S. legal system) to adjudicate contract disputes, including disputes against improper intervention by the parent (see e.g., The Chemours Company v. DowDuPont Inc., et al., C.A. No. 2019-0351-SG (Del. Ch. Mar. 30, 2020).

Intra-firm, the legally distinct units can use the third parties to reinforce their rights for intra-organizational issues. For instance, in some tax court cases, a wholly owned subsidiary manager may use the local tax authority to discipline the parent by leveraging the local government’s ability to impose penalties if the parent does not adhere to the contract. Before ever going to the local government, managers can leverage the ability of the local government to penalize the parent if it adjusts their rights (by intervening in the agreement) without adequate compensation. Consequently, the subsidiary may not have to sue but instead uses the legitimate threat of a third-party enforcer. Importantly, using a third-party enforcement mechanism alleviates some tension with the subsidiaries’ internal reputation because it does not need to sue its parent. Yet, it can, either openly or discreetly, leverage a third party to uphold the formal contract terms. The threat increases the costs of the parent intervening. Therefore, in legally distinct units, the intra-firm formal contract significantly enhances the agreement’s credibility due to the potential for third-party enforcement.

Conversely, the formal contract also provides the parent with mechanisms to discipline managers of the units. They formally assign responsibility and include clauses for the unit adhering to laws such as international trade and export laws, a foreign corrupt practices act, and accounting standards. Subsidiary breaches of the contracts can then affect the managers’ career prospects. Thus, the legal standing of the unit can provide further enhanced credibility than quasi-formal contracts.

**Discussion**

Given the sheer economic significance and theoretical importance of internalized transactions, it is crucial to understand how firms make internal governance decisions. While a great deal of research has focused on a wide variety of market and hybrid governance arrangements, much less attention has been paid to intra-firm transactions. Contrary to the notion that formal contracts are non-credible within the firm and therefore should not exist internally (Baker et al. 2001, Williamson 1985), firms often use formal contracts to govern internal transactions. We theorize that the factors that make informal agreements difficult to develop and maintain may be alleviated by using formal contracts to more clearly and credibly assign internal property rights. While scholars have emphasized the use of informal agreements when actions cannot be fully specified in advance (e.g. Gibbons and Henderson 2012), a property rights perspective provides the role of formal contracts as delineating and credibly assigning control rights, which enables adaptation for unforeseen events and contingencies by assigning transaction-level incentives and authority for adaptation.

In contributing to the literature on the governance of transactions within firms, we conceptualize the firm as a set of legally and non-legally distinct units that contract with each other. Thus, we expand on the choice of hierarchy by examining the options for governing transactions internally, a central implication of which is that formal contracts between legal units may be enforced in courts of law and may be used by external stakeholders to hold the firm to the intra-firm formal contract terms. Thus, formal contracts can constrain the possible actions of top management.

Zenger and Hesterly (1997) assert that because firms are increasingly becoming disaggregated structures of units that interact with each other in market-like ways, we must rethink the traditional comparative institutional framework. Several scholars have noted the abundance of “internal hybrids”—governance structures incorporating market mechanisms within the firm (Makadok and Coff 2009, Zenger 2002). While these studies recognize that firms increasingly have market-like attributes, they do not address how, given increasing disaggregation within firms, formal contracts enable the firm to address internal exchange problems. We draw on research that questions the view of firms and markets as discrete institutions (Eccles and White 1988, Stinchcombe 1985), and we add formal contracts as a mechanism that introduces market-like attributes, beyond higher-powered incentives, within the firm. An important implication is that formal contracts affect not only pricing and incentives but also coordination factors, as the contracts specify unit rights, including control rights over aspects of the transaction.

Organizations are increasingly complex (Ghoshal and Bartlett 1990), which makes coordinating adaptation and resolving all transactional problems by commanding authority (Type I authority) and informal governance less effective and even infeasible for many firms. The limitations of hierarchy become apparent as a firm grows and its internal transactions become more numerous and complex. Moreover, transactional problems give rise to coordination and incentive issues that commanding authority alone cannot fully resolve. We theorize that formal contracts are a way in which the firm employs Type II authority within the firm. Formal contracts alleviate the burden on top management to coordinate activities and address conflicts among subunits.

Consequently, top managers can oversee more transactions, which is essential as the firm grows. Williamson (1985:135) asserted that selective intervention is impossible because otherwise, we would observe one enormous firm if firms could mimic markets. Yet, media highlights the rise of big firms that account for significant percentages of the global economy. The world’s 500 largest firms accounted for over 21% of the global economy in 2019, and Fortune 500 firms accounted for two-thirds of U.S. gross domestic product in 2019 (Fortune 2019). Williamson (1985, 1996) was clear that the weaknesses of hierarchy (internal organization) include attenuated incentives, bureaucracy, and the impossibility of selective intervention. We suggest that formal contracts can create stronger incentives and decrease bureaucratic interventions in transactions. This study offers intra-firm formal contracts as a reason for the increasing prevalence and size of large firms.

This study raises important questions about the boundaries of the firm. We build upon property rights theory, where the ownership of assets can stop hold-up problems (Grossman and Hart 1986). Thus, one key difference from a property rights perspective is that although opportunism persists within the firm, the way that it plays out within versus across firms in transactions is different. Internalization changes the opportunity set of actions available to the units involved in the transaction. Once a transaction is internalized, the parties involved do not have to worry about value expropriation where one party may walk away from the exchange. For instance, an internal supplier cannot walk away with assets and sell them to a competitor. Instead, opportunism exists in the form of political activity and strategic sharing of information (Hölmstrom 1979, Jensen and Meckling 1979).

Another key difference is that in markets, formal contracts are negotiated by separate firms, whereas in firms, the formal contracts are negotiated with related units and have the potential of a third party (i.e. the parent) that can step in and mediate the terms of the contract between units. In markets, scholars have studied the distortions of rights allocated in formal contracts due to size (Leiponen 2008, Lerner and Merges 2003), power (Elfenbein and Lerner 2003), and financial resources of the entities (Elfenbein and Lerner 2003, Lerner et al. 2003, Lerner and Merges 2003). Within firms, the parent may force the units to allocate rights in ways that markets do not. Thus, although internal and external formal contracts have similar *components*, the *allocation of rights* within those components may be different. This can both provide advantages, in the form of gains from when markets would achieve inefficient resource allocations, and disadvantages that might stem from inefficient rights allocations due to politics and power within the firm. The difference between internal and external contracts is the subject of another future study.

An essential contribution of our research is in articulating the role of formal contracts in the organization of activities within firms. We illustrate that formal contracting within firms is an alternative mechanism beyond organization structure, process documents, and informal agreements by explicitly addressing transactions between units within the firm. Formal contracts can be beneficial in providing clarity and credibility to the exchange, even when decision making is centralized. Formal contracts are used across all organizational structure types—centralized, international, and divisionalised structures (Magelssen 2021). For firms with a centralized structure, the formal contracts are between the parent and the subsidiaries. Formal contracts are a participatory mechanism whereby the units negotiate terms and discuss and resolve potential issues before entering into the transaction. As such, formal contracts serve as an ex ante coordination device that can reduce the potential for ex post conflict by establishing a mutual understanding of the units’ rights. Having a formal contract can also limit the use and organizational costs of commanding authority. Intervention by top managers may be viewed poorly if the top manager goes against the contract and the rights of the units involved.

Many interesting research questions emerge from this study. First, the characteristics and types of formal contracts used within firms are theoretically and empirically interesting. This research raises questions for the theory of the firm and the contractibility of internal transactions. Since the transactions within firm boundaries are likely different from transactions outside of firm boundaries, studying these differences and differences in the negotiated contract terms, characteristics, and contract types may provide valuable insight into the boundaries and the nature of the firm. Second, we view formal contracts as complementary to other organizational design mechanisms. Future research that studies how aspects of organizational design influence the use of formal contracts in ways that markets cannot duplicate can augment our understanding of the differences between firms and markets. Third, research examining how external factors, such as legal, societal, or cultural differences, affect the use and design of internal contracts and how these external factors interplay with the internal factors explored in this work would be valuable to researchers and practitioners. Since legally distinct units have greater responsibilities to external stakeholders, we expect external factors to be particularly salient for formal contracts between legally distinct units within the firm. In contrast, firms are likely to have more discretion in contract design between non-legally distinct units.

Finally, examining the relationship between firm strategy and internal contracting can be a fruitful line of enquiry. For example, questions that explore whether firms create internal contracts for strategic purposes such as spin-offs, tax avoidance, or power distribution and the performance consequences of internal contracting can all enrich our understanding of internal transaction governance. Thus, we hope that the propositions developed herein will provide a foundation for research on formal contracts within firms and stimulate productive research on firm strategy and firm boundaries in the process.

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**FIGURE 1**

**Continuum of Formalization of Intra-firm Agreements**



**TABLE 1**

**Comparison of Research on Governance Mechanisms used for Internal and External Transactions**

|  |  |  |
| --- | --- | --- |
|  | **Formal Contracts** | **Informal Agreements** |
| **External** | - Allow parties to clarify objectives, roles, and responsibilities in the exchange (Argyres and Mayer 2007, Mayer and Argyres 2004). | - Rely on values and agreed-upon processes for governance (Macneil 1980). |
| - Legal enforcement used as a means of last resort (Macaulay 1963); contracts may be unenforceable (Gil and Zanarone 2017, Ryall and Sampson 2003).  - Facilitate coordination and adaptation (Mayer and Argyres 2004, Ryall and Sampson 2009a, Vanneste and Puranam 2010). | - Self-enforcing via reputational capital, visibility, strong organizational culture, frequency (Baker et al. 2002, Halac 2012, Klein 1996, Macleod 2007).  - Implicit allocation of property rights based on an understanding between units, norms, or customs in rights allocations (Libecap 1993). |
| **Internal** | - Reduce internal politics by shifting dispute resolution away from managers to insulated adjudicators (Rauterberg 2016).  - Used as communication and commitment devices to allocate property rights within the firm. | - Can lack clarity or shared understanding of tasks for the transaction and relational knowledge (Gibbons 2020, Gibbons and Henderson 2012). |
| - Can lack credibility, driven by factors such as the inability to punish, fluctuating returns, and payoff schemes (Halac 2012, Macleod 2007). |

**FIGURE 2**

**Continuum of Transactional Relationships**



**TABLE 2**

**Enforceability and Logic of Enforceability of Formal Contracts**



1. See, for instance, R.T. French Co. v. Commissioner, 60 T.C. 836 (1973); In re Nortel Networks, Inc., 532 B.R. 494 (Bankr. D. Del. 2015); Sinclair Oil Corp. v. Levien, 280 A.2d 717 (Del. 1971); Proctor & Gamble Co. v. United States, 733 F. Supp. 2d 857 (S.D. Ohio 2010); Bausch & Lomb Inc. v. Commissioner, 933 F.2d 1084 (2d Cir. 1991). Intra-firm formal contracts between subsidiaries are often enforced in tax court, bankruptcy court, state court, and federal court, subject to jurisdictional considerations. [↑](#footnote-ref-2)
2. The intra-firm written contracts are conceptually distinct from the internal capital market in that they are a mechanism that governs the exchange, but they influence the internal capital market through influencing rights to income. In other words, they provide rich content on the coordination of activities and mechanisms for adaptation and dispute resolution when coordination problems arise. [↑](#footnote-ref-3)
3. Our research is related to research on the firm as a nexus of contracts (Alchian and Demsetz 1975, Jensen and Meckling 1976). Scholars from this perspective focus on formal contracts and suggest that the difference between the governance of external and internal transactions is less distinct than that proposed by Coase (1937) and Williamson (1985, 1991). Specifically, rather than view the market as governed by contracts and the firm by authority, the firm is conceptualized as a nexus of contracts at two levels—a nexus of formal contracts with external organizations, and a nexus of formal contracts with internal and external individuals (Alchian and Demsetz 1975). This view ignores the firm as a nexus of contracts between internal units that transact. [↑](#footnote-ref-4)
4. Organizational design scholars have studied the use of organizational structure; processes, rules, and routines; and informal structure as integration mechanisms across units. Organizational structure establishes authority over organizational activities based on structural positions of the units (Weber 2009). However, organizational structure does not specify how units will interact in an exchange or in the co-development of a good, service, or technology. Transactionally, the organizational structure does not always convey a power structure. Transacting units often are not in the same vertical structure on an organizational chart, and therefore it is not always clear who holds the authority in an internal transaction. [↑](#footnote-ref-5)
5. Studies from various theoretical perspectives have suggested that, similar to external hybrid arrangements that occur between firms, internal hybrids exist and are prevalent; these studies link internal hybrids to structural features such as the M-form, profit centers, and teams (Hennart 1993, Makadok and Coff 2009, Zenger 2002). Nevertheless, this work has not considered the use of formal contracts between transacting units as an element of internal hybrids. [↑](#footnote-ref-6)
6. It is impossible to perfectly define a property right. Property rights differ in terms of how well they are delineated and securitized. with poorly defined rights at one end of the continuum and well defined rights at the opposite end. [↑](#footnote-ref-7)
7. A rich literature focuses on the modularization of tasks and the emergence of units and transactions within firms (Baldwin 2008, Bethel and Liebeskind 1998). We take as given the units of the firm and the transactions between units and focus on when firms will use a formal contract to govern a transaction between units. [↑](#footnote-ref-8)
8. Firms may use transfer prices, process documents, and/or intra-firm agreements as lateral transactional governance mechanisms. Scholars have largely focused on the use of transfer prices for incentives (Holmström and Tirole 1991, Shelanski 2004) and process documents for coordination of activities. Transfer prices explicitly specify unit rights to compensation for the transaction (Shelanski 2004) and can be used to track unit performance. The type of transfer price used is based on the type of incentive needed to provide the unit in the transaction (Holmström and Tirole 1991). While often set in advance with adjustment mechanisms for contingencies, transfer prices typically do not explicitly specify enforcement mechanisms nor how the divisions will work together. Process documents codify the coordination of activities by describing the workflow, how work will be accomplished, and who will perform what activity (Takeishi 2001). As a coordination device, processes, rules, and routines set forth in the process document provide regularity and coherence to a group and enable actors to predict the behavior of others (March and Simon 1958). Process documents address a limited range of issues that might arise; they do not stipulate compensation, require mutual consent, or address mechanisms for enforcement. If a process breaks down, fiat is typically used. [↑](#footnote-ref-9)
9. Formalization of intra-firm agreements is conceptually distinct from formal versus real authority within firms. The literature on formal versus real authority conceptualizes formal authority as “the right to decide” and real authority as “the effective control over decisions” (Aghion and Tirole 1997, p. 1). As noted by Aghion and Tirole (1997), formal authority may be a result of informal or formal contracts. Real authority of units is based on where information lies within the organization, and whether the top managers will rubber stamp the decisions proposed by those units with the information, rather than based on agreements between these units. Real authority, therefore, is conceptually distinct from informal agreements within the firm. [↑](#footnote-ref-10)
10. There are many variations in the extent to which an intra-firm agreement is formalized. We highlight several categories along the dimension to exemplify differences and acknowledge this list is by no means exhaustive. [↑](#footnote-ref-11)
11. While firms might put in place a contract in preparation to spin off a unit, most contracts are in place for many years (if not decades) with amendments to update the contract to changing conditions. In the Lockheed example, the contract was in place for approximately four years before the sale of the division to BAE. [↑](#footnote-ref-12)
12. Interview with director on May 12, 2021. [↑](#footnote-ref-13)
13. Information provided in an interview with a manager on October 12, 2019. [↑](#footnote-ref-14)
14. Redacted example from an intra-firm formal contract between a retail subsidiary and a trading subsidiary. [↑](#footnote-ref-15)
15. Information from an interview by one of the authors on January 8, 2019. [↑](#footnote-ref-16)
16. Interviewed on March 19, 2020. [↑](#footnote-ref-17)
17. Information provided in an interview with a senior manager on October 12, 2019. [↑](#footnote-ref-18)
18. We build on the property rights perspective. Thus, our focus is not on the contractual specification of non-contractible efforts, but rather unit-internalization of property rights to motivate effort. When there is non-contractible effort involved, formalizing property rights to the unit within the firm can align incentives encourage effort (Magelssen 2020). [↑](#footnote-ref-19)
19. Information provided in interview with manager of the engineering firm on October 12, 2019. [↑](#footnote-ref-20)
20. Legally distinct entities, also referred to as legally defined units or subsidiaries, are units within the corporate group that have legal entity status in courts of law. [↑](#footnote-ref-21)
21. Justice Souter delivered the opinion of the Court, writing: “It is a general principle of corporate law deeply ‘ingrained in our economic and legal systems’ that a parent corporation . . . is not liable for the acts of its subsidiaries . . . ‘Neither does the mere fact that there exists a parent-subsidiary relationship between two corporations make the one liable for the torts of its affiliate’” (Quoting Douglas and Shanks 1929). [↑](#footnote-ref-22)
22. From an interview conducted on March 7, 2021. [↑](#footnote-ref-23)
23. Information provided in interviews with multinational firm executives and experts. [↑](#footnote-ref-24)