

2019

## A Bargaining Dynamic Transaction Cost Approach to Understanding Framework Contracts

Juliet P. Kostritsky

Case Western Reserve, [juliet.kostritsky@case.edu](mailto:juliet.kostritsky@case.edu)

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### Recommended Citation

Kostritsky, Juliet P. (2019) "A Bargaining Dynamic Transaction Cost Approach to Understanding Framework Contracts," *American University Law Review*. Vol. 68 : Iss. 5 , Article 4.

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## A Bargaining Dynamic Transaction Cost Approach to Understanding Framework Contracts

# A BARGAINING DYNAMIC TRANSACTION COST APPROACH TO UNDERSTANDING FRAMEWORK CONTRACTS

JULIET P. KOSTRITSKY\*

*This Article recognizes that the new production innovation economy has spurred the adoption of the long-term agreement (“LTA”) with its information sharing protocols. Those information sharing protocols help parties navigate uncertainty and promote informal enforcement. Despite the advantages, preliminary empirical data suggests that parties continue to use alternatives to the LTA. To explain the use and non-use of LTA’s in the supply chain, this Article suggests a bargaining lens explanation. Each party in the supply chain will seek to solve durable problems of opportunism under conditions of uncertainty and will adopt a particular type of contract (LTA or alternative) only if the benefits of achieving the parties’ goals through that contract form outweigh the costs. Firms constantly seek a way to minimize costs while maximizing contractual benefits. That search underlies the deliberate choice of some suppliers to opt into or out of an LTA because they do not see the new benefits of the LTA to be greater than the net benefit of an alternative. This bargaining lens theory will also provide guidance on whether and how the law should formally sanction parties. Finally, the Article will offer advice for lawyers advising clients in the supply chain.*

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\* Everett D. and Eugenia S. McCurdy Professor of Contract Law, *Case Western Reserve University School of Law*. Elizabeth Connors, Jessica Ice, Rachel Ippolito, Steve Kovacic, James Oliver, and Stephanie Starek provided extraordinary research help. Thanks are also due to Liza Vertinsky, Professor of Law, Emory University School of Law, for her insights and to Stewart Macaulay and William C. Whitford of the University of Wisconsin School of Law for encouraging me to do the empirical research on this project. Peter M. Gerhart and Bill Whitford provided valuable insights on an earlier draft.

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INTRODUCTION: A BARGAINING LENS THAT EXPLAINS  
THE RISE OF THE LTA AND THE PERSISTENCE OF ALTERNATIVES  
AS A COST MINIMIZING STRATEGY

Long-term agreements (“LTAs”) in the supply chain, with their information sharing provisions, have been heralded as a new way of doing business.<sup>1</sup> Recent scholars examining how these LTAs are structured explain their emergence as a byproduct of a new deverticalized production economy and the increased uncertainty in an innovation economy.<sup>2</sup>

Much of the literature examining LTAs in the manufacturing and innovation context have conceptualized these agreements as a blend of formal<sup>3</sup> provisions that enable informal enforcement<sup>4</sup> in a variety of

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1. See Frank Mobus & Bill Sanders, *Having Trouble Negotiating Successful Long-Term Agreement? Change Your Tactics!*, SUPPLY CHAIN MGMT. REV. (June 3, 2016), [http://www.scmr.com/article/having\\_trouble\\_negotiating\\_successful\\_long\\_term\\_agreement\\_change\\_your\\_tact](http://www.scmr.com/article/having_trouble_negotiating_successful_long_term_agreement_change_your_tact) (suggesting that LTAs present a “real opportunity for efficiency and savings” and highlighting the problem with short-term solutions).

2. See, e.g., JOSH WHITFORD, *THE NEW OLD ECONOMY: NETWORKS, INSTITUTIONS, AND THE ORGANIZATIONAL TRANSFORMATION OF AMERICAN MANUFACTURING* 18 (2005) (describing a “shift” in the production economy throughout the twenty-first century); Gillian K. Hadfield & Iva Bozovic, *Scaffolding: Using Formal Contracts to Support Informal Relations in Support of Innovation*, 2016 WIS. L. REV. 981, 985 (providing a list of some of the “pervasive uncertain[ies]” in present-day innovation contacts).

3. See Ricard Gil & Giorgio Zanarone, *Formal and Informal Contracting: Theory and Evidence*, ANN. REV. L. & SOC. SCI. 141, 142 (2017) (conceptualizing formality in terms of verifiability to a “third party”).

4. See Ronald J. Gilson et al., *Braiding: The Interaction of Formal and Informal Contracting in Theory, Practice, and Doctrine*, 110 COLUM. L. REV. 1377, 1415–16 (2010) [hereinafter Gilson et al., *Braiding*] (advocating that formal enforcement be “low-powered” and suggesting that “parties’ specific investments in information” are left to informal enforcement mechanisms).

ways. Recent scholars have studied LTAs in two primary contexts: the innovation economy and the standard form contract LTA in a manufacturing context between Original Equipment Manufacturers (“OEMs”) and automobile suppliers.<sup>5</sup> These scholars have treated these LTAs as a new phenomenon, and a new way of doing business that departs from the vertically integrated firm.<sup>6</sup> Instead of *making* parts, companies now *buy* externally and enter contracts to govern their purchases.

Scholars of LTAs begin with the premise that these LTAs are all necessarily incomplete. In the context of innovation of a new product that is yet undiscovered, the contract cannot specify performance obligations because of the uncertainty about the final product. In the manufacturing context, the uncertainty is different: it concerns whether the supplier will effectively collaborate with the buyer to produce high quality goods by participating in a process of learning by monitoring that will improve both the quality and timeliness of production.

One response to this uncertainty in each setting is to provide formal contract provisions that obligate the supplier or the innovator to share information.<sup>7</sup> Innovation scholars posit that although these information sharing provisions are “formal,” they facilitate informal enforcement that results in a “braiding” of formal contract provisions and informal norms for enforcement.<sup>8</sup> Some argue that such settings call for “low-powered sanctions.”<sup>9</sup> Others, such as Professor Matthew Jennejohn, argue that braiding theory does not fully explain the diversity of arrangements that include unanimity requirements for decision making.<sup>10</sup> He explains unanimity requirements as a specific response to threats the parties face, such as entropy and spillover.<sup>11</sup>

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5. See Robert Gibbons, *Firms (and Other Relationships)*, in *THE TWENTY-FIRST-CENTURY FIRM: CHANGING ECONOMIC ORGANIZATION IN INTERNATIONAL PERSPECTIVE* 186, 194–96 (Paul DiMaggio ed., 2001) (automobile industry); Hadfield & Bozovic, *supra* note 2, at 995 (innovation economy).

6. See WHITFORD, *supra* note 2, at 17–18 (noting a trend toward more “networked firm[s]” and examining sociologists’ explanations of long-term collaborations as the cause).

7. See Lisa Bernstein, *Beyond Relational Contracts: Social Capital and Network Governance in Procurement Contracts*, 7 J. LEGAL ANALYSIS 561, 576–77 (2015) [hereinafter Bernstein, *Beyond Relational Contracts*] (describing information sharing provisions as “preconditions” to a cooperative contracting relationship).

8. Gilson et al., *Braiding*, *supra* note 4, at 1383.

9. *Id.* at 1415.

10. See Matthew Jennejohn, *The Private Order of Innovation Networks*, 68 STAN. L. REV. 281, 309–10 (2016).

11. *Id.* at 327.

This Article takes a different approach, while still drawing on the literature of these scholars. The arrangements parties enter into in a variety of settings—to purchase or sell goods or to innovate on a product—can best be understood in terms of a bargaining dynamic that looks at how the private interests of the parties are turned into joint interests in the agreement reached.

It is a mistake to talk about the form of a contract without first understanding the bargaining needs and positions of the parties, and how those needs get reflected in the form of the agreement, given the options each party has. The form of the contract is not an end in itself. As a result, to analyze the form that contracting takes, one must understand the function that each party needs the contract to perform, as well as the kinds of transaction costs that each party must minimize if they want to go forward with their projects. These costs include opportunism, asymmetric information, uncertainty, and other frictions, such as entropy and spillover highlighted by Jennejohn.<sup>12</sup> Each party approaches the bargaining with its own private goals and will reach a bargain only if the benefits of achieving those goals—through a particular contract type or form—outweigh the costs. This means firms are constantly looking for a contract form that will minimize their costs while maximizing contractual benefits.

This Article examines the choice of contractual form through this lens of bargaining theory. The choice of contractual form depends on how each of the parties defines its individual interests and its willingness to sacrifice some of its interests in order to get a deal that advances other interests—all in a cost minimizing way.

Explaining the choice of contractual form must also include one factor that has previously been ignored in the literature: the need for a document that functions as a planning tool for the transaction.<sup>13</sup> This Article will also examine a range of reasons why parties would enter written LTAs, including the benefits they offer of facilitating planning while minimizing misunderstandings.<sup>14</sup> The planning needs of parties will be greater in some settings than others.

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12. *See id.* at 314–15.

13. *See* E-mail from William C. Whitford, Professor Emeritus, Univ. of Wis. Sch. of Law, to author (Nov. 7, 2017, 6:20 PM) [hereinafter Whitford E-mail] (on file with the American University Law Review) (explaining that “[w]hen a new business relationship is formed (or a new product is introduced into an existing relationship), there is a great deal of planning by both sides”).

14. *Id.*

Another purpose that may underlie the use of LTAs that take the form of standard form contracts (SFKs) is centralizing the processes and standards governing the sale of goods in a uniform document, whose costs can be recouped by repeated use over multiple transactions.<sup>15</sup> The Article will suggest that certain types of LTAs that take the form of SFKs drafted by OEMs offer other advantages such as “centraliz[ing] decision-making.” SFKs by OEMs centralize “control over terms that need to be standardized for various reasons.”<sup>16</sup>

Using the bargaining lens, this Article will seek to identify explanations first for why parties to a transaction use a particular form, such as a purchase order or an LTA, and second, whether they use an LTA that is a bespoke contract or a SFK LTA. This Article offers a transaction cost minimizing explanation to rationalize the choice of form and particular provisions in terms of how the LTA or other formal arrangement responds to problems that parties face when significant obstacles hinder complete contractual solutions. The Article also explores other functions of LTAs, such as planning and centralization of uniform terms. The transaction cost minimizing explanation for the choice of form that is tied to the lens of bargaining theory.

Although LTAs were initially thought to offer some security for buyers for future business, LTAs now place more requirements on suppliers than on buyers. Because buyers have been demanding more from suppliers in return for less than a binding commitment, some suppliers view the LTA as undesirable, prompting them to opt out of signing one or to use different arrangements in certain settings.

This Article will also consider alternatives to using LTAs and will suggest that parties deliberately choose among several options for selling goods, including avoiding an LTA altogether, and it offers some tentative explanations for why and when parties opt for alternatives to the LTA paradigm with its information sharing protocols. Further, the Article suggests that parties can rely on informal enforcement mechanisms regardless of whether they opt for an LTA or another means of exchanging goods such as a purchase order; therefore, there must be other reasons to adopt an LTA. It will examine whether some of the benefits offered by LTAs drafted by OEMs, such as centralized control and planning and control of opportunism under conditions of

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15. *Id.* That would benefit large manufacturers who engage in repeat buying transactions with suppliers.

16. *Id.* One reason might be to offer assurances to suppliers that all suppliers are treated equally. That might account for stickiness in the adopted terms.

uncertainty, can be achieved by other written agreements such as purchase orders, at least when those agreements reference elaborate documents such as quality control manuals available on the internet.

This Article seeks to explain the “alliance diversity”<sup>17</sup> arrangements in the supply chain context as different means for controlling contractual hazards while minimizing costs. The total cost minimization may explain why, in some contexts, “formal” LTA contracts may be cost justified.<sup>18</sup> Both automobile suppliers to OEMs and parties involved in joint innovation use formal contracts that take the form of LTAs.<sup>19</sup> Although the context of these agreements differs, what may have tied them together is that they both involve large sunk costs, which means parties cannot exit easily. These costs arise from the demand of OEMs for informational disclosures on cost and quality, as well as large investments in parts for automobile manufacturers as well as innovation funding partners in the biotech and pharmaceutical arena demanding information on research progress and investment. Where, however, the product is fungible and can be easily resold, parties may avoid the cost of LTAs and operate purchase order by purchase order.<sup>20</sup> Uncertainties exist in all three contexts concerning product quality and reliability of the counterparty (and, in the

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17. Jennejohn, *supra* note 10, at 282. Professor Jennejohn focuses on specific governance mechanisms such as veto rights that do not serve the same purpose as the information sharing protocols of “fostering informal constraints on opportunism.” *Id.* Rather, Professor Jennejohn finds that there are diverse provisions which respond to unique and “multivalent” hazards. *Id.* at 313. *But see* Hadfield & Bozovic, *supra* note 2, at 988 (explaining the diversity of arrangements in a different way). Hadfield and Bozovic posit that parties in innovation contexts use formal and detailed contracts as a means “to coordinate beliefs about what constitutes a breach of a highly ambiguous set of obligations” when norms about what constitutes proper performance are otherwise absent. *Id.* at 981. Establishing such coordination permits identification of breaches and that in turn facilitates informal enforcement. *Id.* at 988 (“[F]ormal contracting provides essential scaffolding to support the beliefs and strategies that make informal means of enforcement . . . effective.”). This Article is concerned with “alliance diversity” as well, but it focuses on alternative strategies for exchanging goods, including the use and non-use of LTAs as the example.

18. Comments in survey refers to “administrative burden” of LTAs. Juliet P. Kostritsky & Jessica Ice, LTA Survey (Default Report) (May 10, 2018) [hereinafter Kostritsky & Ice Survey Results] (on file with the American University Law Review).

19. Of course, purchase orders and acceptances are an alternative contractual arrangement that is no less “formal,” even though it may not contain as many contractual provisions.

20. *See* Interview with General Counsel of large manufacturer (Feb. 22, 2017) [hereinafter General Counsel Interview] (on file with the American University Law Review).

innovation context, reliability of the product itself). There are ways of achieving planning benefits without an LTA and ways of achieving standardization through incorporating quality standards of excellence available online. Thus, sunk costs may be the differentiating factor that helps explain why automobile suppliers rely on LTAs, while makers of other products (some fungible, some not) often do not.

The Article also suggests that using the bargaining dynamic to understand the parties' individual interests and their joint desire to minimize transaction costs to maximize value can illuminate differences in agreements on such matters as the structure for resolving disputes. In the innovation context, unanimity is often required for decisions made during the collaboration. Why would such unanimity be required in such contexts? And why would many agreements not require such unanimity?<sup>21</sup> And why, despite the presence of LTAs in the automotive setting, would a leading researcher suggest that LTAs are not elaborate contractual mechanisms, but instead, a structure for learning by doing and monitoring that revolves around information sharing and benchmarking?<sup>22</sup> Why would that less contractual, more pragmatic approach that is premised on a way of operating, be a win-win approach for OEMs but not for innovation collaborators? Jennejohn suggests one answer to this conundrum based on the need to exclude a counterparty from appropriating property.<sup>23</sup> This Article suggests that a bargaining theory lens transaction cost minimizing explanation that builds on the need to protect property and sunk costs in situations where the uncertainty about continuing relationships makes a long-term agreement without veto provisions less satisfactory for controlling appropriation at the least cost.

The Article also explores why these frameworks break down, and it ties both the diversity of arrangements and their possible breakdown to legal enforcement issues. It addresses whether, when, and why, as the contract innovation theorists suggest, legal remedies should be

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21. See, e.g., Sun Microsystems, Inc., Sun Microsystems Int'l B.V., Mitac Int'l Corp., & Synnex Corp., Master Supply Agreement § 28.3 (May 1, 2007) [hereinafter Sun Microsystems MSA], <https://www.sec.gov/Archives/edgar/data/1177394/000119312507120639/dex101.htm> (providing that upon failure to resolve disputes, either party may seek legal remedy). The MSA does not mention any unanimity requirement in the dispute resolution process. *Id.*

22. See Susan Helper et al., *Pragmatic Collaborations: Advancing Knowledge While Controlling Opportunism*, 9 INDUS. & CORP. CHANGE 443, 445–46 (2000) (arguing that collaborative development has become “more central to the activity and organization of firms than the standard view allows”).

23. Jennejohn, *supra* note 10, at 324.

restricted to “low-powered sanctions.”<sup>24</sup> The bargaining dynamic lens may also illuminate which enforcement mechanism would be consistent with a transaction cost-value maximizing outcome for the parties. To resolve that issue of enforcement and to resolve what enforcement approach would be cost minimizing and value maximizing, this Article engages literature on the role of law intersecting with the informal enforcement of norms and analyzes both the experimental literature on crowding out,<sup>25</sup> the law and economics of norms,<sup>26</sup> and the purpose behind norms<sup>27</sup> to ascertain the proper role for law when informal enforcement exists in a contract with some formal terms. It suggests that the bargaining lens may also offer insights into what level of enforcement would be warranted in different settings.

Part I will analyze the origins of LTAs in the new industrial economy. Part II will address the contracting obstacles parties face in all

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24. See Gilson et al., *Braiding*, *supra* note 4, at 1415. Professors Gilson, Sabel, and Scott advocate for the use of low-powered sanctions, at least in innovation contexts, and suggest courts respond “in uncertain environments by enforcing the chosen methods of mutual cooperation on terms consistent with the arrangements themselves—that is, by imposing low-powered sanctions designed to encourage compliance with the verifiable elements of the information exchange regime (and the informal relations it supports).” *Id.* But see Hadfield & Bozovic, *supra* note 2, at 982 (suggesting that even where parties to a contract for innovation use formal contracts, legal enforcement is largely irrelevant). The benefit to the formal contracts is not in laying the groundwork for legal enforcement, but in clarifying the parties’ obligations for the purpose of informal enforcement.

25. See Iris Bohnet et al., *More Order with Less Law: On Contract Enforcement, Trust, and Crowding*, 95 AM. POL. SCI. REV. 131, 132 (2001) (noting that “[l]egal rules can ‘crowd in’ as well as ‘crowd out’ preferences” for contract performance); see also Robert E. Scott, *The Promise and Peril of Relational Contract Theory*, in REVISITING THE CONTRACTS SCHOLARSHIP OF STEWART MACAULAY: ON THE EMPIRICAL AND THE LYRICAL 105, 112 n.35 (J. Braucher et al. eds., 2013) (discussing literature on crowding out phenomenon).

26. See Juliet P. Kostritsky, *The Law and Economics of Norms*, 48 TEX. INT’L L.J. 465, 467 (2013) (conceptualizing norms as “self-imposed constraints that parties use to reduce . . . frictions” of exchange).

27. In some instances, norms exist to solve problems that are difficult to solve by contract because state enforcement is weak, and the problem may be difficult to solve by express contract. One such problem was how to constrain shirking and opportunism by agents used by merchants in long-term trade among the Maghribi traders when state enforcement was weak. See Avner Greif, *Contract Enforceability and Economic Institutions in Early Trade: The Maghribi Traders’ Coalition*, 83 AM. ECON. REV. 525, 526 (1993). Norms arose to constrain the conduct of agents, and “[agency relations] were governed by an institution that might be called a coalition. Expectations, implicit contractual relations, and a specific information-transmission mechanism constituted the constraints [and] supported the operation of a reputation mechanism.” *Id.*

exchanges and the risks of opportunism in the supply chain that parties want to control. Part III will examine the legal issues surrounding these structures. Then Part IV will detail the distinctive features of the information sharing and supplier excellence training programs in many LTAs, examine whether these information sharing protocols have always existed, and analyze if and why they were part of the formal agreement. Next, Part V will examine alternative ways of exchanging goods and suggest reasons why parties opt out of an LTA but still achieve their long-term goals. Part VI will explore relational contracts and parties' positions in a network as mechanisms for informal enforcement. Further, Part VI will consider how informal enforcement can facilitate the transfer of information used to sanction counterparties, regardless of whether the parties opt for an LTA or another mode of exchanging goods. Part VII looks at network governance as an alternative or supplement to relational contracts, LTAs, and other supply chain relationships. Part VIII considers how networks fail, the consequences of network failures, and potential solutions for network failures. Part IX examines what the role of legal enforcement should be when parties are using agreements that are partially enforced by informal sanctions. Part X offers advice to lawyers negotiating agreements concerning the supply of goods. Part XI concludes that various types of arrangements will allow for informal enforcement and can be beneficial for parties in the supply chain, where informal enforcement breaks down, legal enforcement is appropriate if cost minimizing.

#### I. DIFFERENCES IN SUPPLY CHAIN ARRANGEMENTS

A firm vertically integrates when it internally manufactures parts or goods that are necessary for its final product.<sup>28</sup> Alternatively, firms can buy on the spot market<sup>29</sup> or engage in a long-term relationship with

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28. See R.H. Coase, *The Nature of the Firm*, 4 *ECONOMICA* 386, 392 (1937) (suggesting that transaction costs might cause a company to produce rather than buy, thereby explaining the origins of the firm). Professor Oliver Williamson expanded on this notion of transaction costs by suggesting that opportunism was a friction or transaction cost whose risk would cause a firm to vertically integrate. See OLIVER E. WILLIAMSON, *THE ECONOMIC INSTITUTIONS OF CAPITALISM: FIRMS, MARKETS, RELATIONAL CONTRACTING* 56, 91 (1985) [hereinafter WILLIAMSON, *CAPITALISM*] (explaining *non-standard* vertical integration as a response to contractual hazard created by bilateral dependency).

29. See John Paul MacDuffie & Susan Helper, *Collaboration in Supply Chains: With and Without Trust*, in *THE FIRM AS A COLLABORATIVE COMMUNITY: RECONSTRUCTING TRUST IN THE KNOWLEDGE ECONOMY* 417, 417 (Charles Heckscher & Paul S. Adler eds.,

another autonomous entity to acquire the parts.<sup>30</sup> The question of how to obtain the parts or goods—the make or buy decision<sup>31</sup>—has implications for the boundaries of the organization of the firm.<sup>32</sup> One problem with buying externally is that it leaves firms vulnerable to holdup when there is bilateral dependency,<sup>33</sup> which leads firms to vertically integrate. While vertical integration could constrain opportunism by suppliers, there are offsetting costs to integration.<sup>34</sup> Inter-firm arrangements to acquire goods are making a comeback due to the costs of integration and the need for research and development firms to collaborate on technology developments to reduce internal costs.<sup>35</sup>

Relations with external firms raise two issues. First, there is the question of how the buy or sell decision will be arranged. If firms trade, what types of formal contractual agreements will they use and why? Two primary methods include: (1) exchanging a purchase order and an acknowledgement, and (2) entering into a long-term agreement or

2006) (discussing buying on the spot market as likely to involve “low-bid competition” and “low asset specificity”).

30. This Article will focus on bilateral agreements between parties in the supply chain but will later consider whether the presence of a network will affect the analysis.

31. See Naomi R. Lamoreaux et al., *Beyond Markets and Hierarchies: Toward a New Synthesis of American Business History*, 108 AM. HIST. REV. 404, 406 (2003) (detailing Alfred Chandler’s explanation of the decision to make product internally in terms of “competitive advantages” of the large firm who “could exploit economies of scope as well as of scale by diversifying their operations into other industries”); see also Gibbons, *supra* note 5, at 188 (suggesting that the “‘make-or-buy’ decision should instead be viewed as ‘make or cooperate’ where both options involve important relational contracts”); WILLIAMSON, CAPITALISM, *supra* note 28, at 91 (explaining the decision to adopt *non-standard* vertical integration as a solution to the holdup problem).

32. See WHITFORD, *supra* note 2, at 32 (“The economics of organization is devoted precisely to explaining when transactions are best coordinated by fiat within hierarchies and when spontaneously in the market—that is, to explaining the boundaries of the firm.”).

33. See WILLIAMSON, CAPITALISM, *supra* note 28, at 114–15 (offering the vertical integration of Fisher Body into General Motors as an example of a company integrating to avoid supplier holdup). But see Helper et al., *Pragmatic Collaborations*, *supra* note 22, at 459, 452–60 (explaining GM’s acquisition of Fisher Body as part of an “effort to construct a variant . . . of a collaborative supplier system”).

34. See OLIVER E. WILLIAMSON, THE MECHANISMS OF GOVERNANCE 18 (1996) [hereinafter WILLIAMSON, MECHANISMS] (recognizing that integration has costs “[b]ecause incentives are degraded and because neither assent nor selective intervention agreements can be costlessly enforced, acquisition gains are always attended by added bureaucratic costs”).

35. See Ronald J. Gilson, Charles F. Sabel & Robert E. Scott, *Contracting for Innovation: Vertical Disintegration and Interfirm Collaboration*, 109 COLUM. L. REV. 431, 438 (2009) [hereinafter Gilson et al., *Contracting for Innovation*] (“[F]ear of holdups . . . no longer compels firms to vertically integrate.”).

an LTA.<sup>36</sup> There is a separate question of what form the LTA will take—will it be a SFK between an OEM and a supplier, or an individually crafted innovation contract? Further, what types of governance mechanisms, if any, exist for resolving disputes? Initially, the LTA had offered suppliers some security for future business, but as buyers imposed more onerous requirements in return for less than a binding commitment, some suppliers are drawn to other arrangements.<sup>37</sup>

Second, what informal enforcement do parties use to enforce formal (contractual) obligations, a phenomenon in the sale of goods first empirically examined by Stewart Macaulay.<sup>38</sup> Today, some scholars tie informal enforcement to a change in the formal governing agreements.<sup>39</sup> These agreements include formal contract provisions mandating the exchange of information between the parties.<sup>40</sup> Some scholars believe that changes in the LTAs, including information exchange, herald a new way in which the sale of goods takes place.<sup>41</sup>

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36. As a preliminary matter, we need to define terms to describe the parties in these LTAs. The buyer is the customer who purchases goods from a supplier who manufactures parts or other inputs for a buyer. The buyer may also be an original equipment manufacturer like an airplane or a car manufacturer. The buyer and supplier are linked in a supply chain defined as a network of firms involved in “designing, producing inputs for, assembling and distributing a good.” Susan Helper, *Supply Chain Data for the 2020’s: Report Prepared for Economics and Statistics Administration, U.S. Department of Commerce* (July 2016) (on file with the American University Law Review). In some subset of these agreements, the parties may be involved in collaborating on a joint product.

37. See *infra* Part VII for a discussion of other arrangements not involving an LTA or a purchase order.

38. See Stewart Macaulay, *Non-Contractual Relations in Business: A Preliminary Study*, 28 AM. SOC. REV. 55, 55 (1963). Other scholars have noted the importance of informal enforcement intrafirm. See PETER M. BLAU & W. RICHARD SCOTT, FORMAL ORGANIZATIONS: A COMPARATIVE APPROACH 6 (1962) (noting “[i]t is impossible to understand the nature of a formal organization without investigating the networks of informal relations and the unofficial norms as well as the formal hierarchy of authority and the official body of rules, since the formally instituted and the informally emerging patterns are inextricably intertwined”).

39. See generally Gilson et al., *Braiding*, *supra* note 4, at 1382 (arguing that informal obligations “interact within a formal governance structure” to regulate the exchange of information without “impos[ing] legally enforceable obligations to buy or sell anything”).

40. See Bernstein, *Beyond Relational Contracts*, *supra* note 7, at 564–65. The information shared may relate to a supplier’s finances, quality, and engineering capability. If the firms are involved in collaboration and innovation, the information exchanged may also concern investments in research or funding. See Gilson et al., *Contracting for Innovation*, *supra* note 35, at 436–37 (labeling the latter exchanges as “contracts for innovation”).

41. See *id.* at 435.

These formal provisions for informational exchange in LTAs facilitate informal enforcement.<sup>42</sup> The information, when combined with self-help provisions tied to the information, allows buyers to self-enforce, encourages cooperation,<sup>43</sup> and increases trust levels.<sup>44</sup> The contracts for innovation, another form of LTA, also include benchmarks for progress and funding obligations, as well as general provisions obligating parties to act in good faith toward the development of a joint product.<sup>45</sup> These provisions all result in a braiding of formal contract provisions and informal enforcement.<sup>46</sup> This is because the provisions enable all parties to self-enforce obligations, regardless of whether the provisions set a standard that a supplier must meet in an excellence manual, set compliance standards for the obligation to act in good faith toward a product or research investment, or provide some other guidance to the parties “to manage behavior during the life of the relationship.”<sup>47</sup>

By providing a formal contract provision in an LTA that references excellence standards or provisions for “managing” obligations, the parties have built-in standards<sup>48</sup> to deal with uncertainty about the quality or the product. The formal informational exchange, as well as the innovation provisions guiding conduct and investment, all

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42. Gilson et al., *Braiding*, *supra* note 4, at 1384 (attributing parties’ raised trust and willingness to utilize informal enforcement mechanisms to the information sharing regime).

43. See Bernstein, *Beyond Relational Contracts*, *supra* note 7, at 576–78 (pointing out that information exchanges encourage continued cooperation by helping avert misunderstandings about what performance is expected). Dispute resolution mechanisms in some LTAs play a similar role in discouraging conflict.

44. *Id.* at 593.

45. See Gilson et al., *Contracting for Innovation*, *supra* note 35, at 461 (examining the components of John Deere’s “Achieving Excellence” governance mechanism and its benchmarks).

46. Gilson et al., *Braiding*, *supra* note 4, at 1383–84 (classifying the information sharing protocols as “neither fully formal nor fully informal”). Gilson, Sabel, and Scott go on to explain that the protocols are not formal because they are not based on calculated incentives applicable to performance obligations; and, they are not informal because they are not “a gift relation, in which the parties simply and generally pledge to exchange like (information) for like.” *Id.* at 1384.

47. Hadfield & Bozovic, *supra* note 2, at 987.

48. See Louis Kaplow, *Rules Versus Standards: An Economic Analysis*, 42 DUKE L.J. 557, 660 (1992) (distinguishing “rules” from “standards” based on the “extent to which efforts to give content to the law are undertaken before or after individuals act”). Kaplow clarifies that “[a] standard may entail leaving both specification of what conduct is permissible and factual issues for the adjudicator.” *Id.*

constrain opportunism by raising switching costs for both parties.<sup>49</sup> If either party has to switch to a new supplier or a new customer, that party will have to explain their actions to a successor and bear the cost of switching.<sup>50</sup> In addition to constraining opportunism by facilitating informal enforcement, LTAs may be valued because they provide a positive benefit—they help to cement relationships with customers.<sup>51</sup>

One unanswered question is why manufacturers of fungible products might operate purchase order by purchase order and eschew LTAs.<sup>52</sup> Can such parties self-enforce without a formal LTA, and can they achieve the benefits of constraining opportunism and assuring quality products without an LTA? Many of the provisions for assuring quality do not need to be part of an LTA. Instead, a short form purchase order can refer to a quality manual and require that, “[s]eller also warrants that its processes shall comply with the buyer’s quality manual and that all goods will comply with industry standards.<sup>53</sup> Even without entering into an LTA, a buyer can assure the same benefits of quality assurance in goods and the processes by which they are manufactured. By incorporating quality standards from the web, such purchase orders can also achieve the advantages of the standardization and buyer control of quality, which inhere in the SFKs between OEMs and the automobile suppliers.

Some current scholars point to provisions in the LTA as a new means of insuring informal enforcement or of coordinating agreement on

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49. See WHITFORD, *supra* note 2, at 36–37 (noting that interfirm arrangements may have “situational advantages over competing forms”).

50. Of course, switching costs occur whenever parties are doing business with one another, since it will be costly to switch due to the costs of doing so. This would be true regardless of whether an LTA is in place or not.

51. See Interview with \$2 Billion Manufacturer (Aug. 22, 2017) [hereinafter \$2 Billion Manufacturer Interview] (on file with the American University Law Review) (citing the desire of one section of the company to negotiate LTAs to cement relationships with customers who were not already doing business with the manufacturer pursuant to Terms and Conditions or a purchase order). The desire to conduct all business by LTAs was confined to one section of the company where the LTA was viewed as a “relationship differentiator” with positive effects. *Id.* Other sections of the company did not follow the practice of uniformly negotiating LTAs. *Id.*

52. See General Counsel Interview, *supra* note 20.

53. See, e.g., DEERE & CO., PURCHASE ORDER, TERMS AND CONDITIONS 2, [https://jdsn.deere.com/wps/wcm/connect/jdsn/e5ff9a43-66d2-49b8-af76-b4d20ff4a817/purchasing\\_terms\\_and\\_conditions\\_mexico\\_eng.pdf?MOD=AJPERES&CVID=lj8Pgzs](https://jdsn.deere.com/wps/wcm/connect/jdsn/e5ff9a43-66d2-49b8-af76-b4d20ff4a817/purchasing_terms_and_conditions_mexico_eng.pdf?MOD=AJPERES&CVID=lj8Pgzs) (last visited June 1, 2019).

what constitutes a breach.<sup>54</sup> But the same overall goals can be achieved at a lower cost by simply requiring manufacturers to warrant in their purchase orders that their goods meet the standards of excellence and that its processes comply with buyer requirements. Such warranties could help OEMs streamline provisions that all suppliers had to comply with, thereby assuring suppliers of equal treatment.<sup>55</sup>

Despite these new arrangements, parties' problems in exchanging goods are durable. This Article examines what is new in the production of products and the accompanying contractual agreements. However, it posits that more can be learned by looking at what is durable in terms of problems parties face, and by asking whether, and how, the new practices in LTAs comprise new solutions to old problems. By looking at the problems the parties face and then considering the individual interests of the parties and the bargaining dynamic, one can analyze why the parties would adopt various kinds of contracts with various provisions in order to maximize value by controlling contractual hazards at the least cost.<sup>56</sup>

In devising solutions to problems, parties confront significant barriers that preclude the achievement of completely contingent contracts.<sup>57</sup> Moreover, judicial enforcement is too costly for most parties to litigate most disputes.<sup>58</sup> Parties have therefore always resorted to a combination of formal contracts and informal enforcement,<sup>59</sup> even without the formal orchestrated information

54. See Bernstein, *Beyond Relational Contracts*, *supra* note 7, at 577; Gilson et al., *Braiding*, *supra* note 4, at 1383; Hadfield & Bozovic, *supra* note 2, at 988.

55. Whitford E-mail, *supra* note 13.

56. See WILLIAMSON, *CAPITALISM*, *supra* note 28, at 32–34 (outlining a “simple contracting schema” for transaction cost economics).

57. See *id.* at 50–63 (detailing how asset specificity, bounded rationality, and opportunism preclude completely contingent contracts); see also Steven Shavell, *Contracts*, in 1 *THE NEW PALGRAVE DICTIONARY OF ECONOMICS AND THE LAW* 436 (Peter Newman ed., 1998) (defining a complete contract as one in which “the list of conditions on which actions are based is exhaustive”).

58. Macaulay, *supra* note 38, at 64. The costs of dispute resolution have caused economists to question the validity of a system centered on legal centralism and prompted consideration of alternative governance structures and dispute resolution outside the legal system. See WILLIAMSON, *CAPITALISM*, *supra* note 28, at 20–21 (questioning the assumptions of legal centralism).

59. See BLAU & SCOTT, *supra* note 38, at 6. By 1962 it was uncontroversial (at least among sociologists) that “[i]t is impossible to understand the nature of a formal organization without investigating the networks of informal relations and the unofficial norms as well as the formal hierarchy of authority and the official body of rules.” *Id.*

exchange that is at the heart of many LTAs. Despite the incorporation of information sharing in formal contract terms, the way parties enforce matters pertaining to quality may not be significantly different. What appears to be new is that the detailed information sharing provisions that facilitate informal enforcement are part of a “formal governance structure that regulates the exchange of highly revealing information.”<sup>60</sup> The new LTAs may lower the cost of such informal enforcement by making more information observable.<sup>61</sup> Of course, they do entail other costs, such as the negotiation, lawyer, and drafting costs.

This Article differs from the contract innovation scholars and from scholars like Professor Lisa Bernstein, who study standard form contracts between OEMs and suppliers. Such scholars provide insight on how the formal informational-transfer mechanisms can enhance informal enforcement by making more actions observable,<sup>62</sup> by “coordinat[ing] beliefs about what constitutes a breach of a highly ambiguous set of obligations,”<sup>63</sup> increasing the number of actions to observe,<sup>64</sup> and by recognizing the ways in which the iterative actions can “endogenize” trust<sup>65</sup> and raise switching costs, thereby constrain opportunism<sup>66</sup> and make firms more competitive.<sup>67</sup>

This Article instead focuses on how the form of the contract reflects the needs of the individuals to the bargain and the function that each party needs the contract to perform, as well as the kind of transaction costs parties must minimize in order to maximize value. Thus, in some instances, parties in the supply chain may opt out of LTAs, even though

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60. Gilson et al., *Braiding*, *supra* note 4, at 1382. Moreover, today, the product itself or the quantity might remain uncertain, and the formal contract provisions might relate to informational transfers while the product remains unspecified. *See id.*

61. *See id.* at 1386 (highlighting that the information exchange makes “capabilities and character” observable). Once those matters are observable, switching costs are higher. Higher switching costs constrain opportunism because a party would have to expend resources to find a new partner.

62. *Id.* at 1399.

63. Hadfield & Bozovic, *supra* note 2, at 981.

64. Bernstein, *Beyond Relational Contracts*, *supra* note 7, at 592–93.

65. Gilson et al., *Braiding*, *supra* note 4, at 1386.

66. Gilson et al., *Contracting for Innovation*, *supra* note 35, at 486–89.

67. Jane K. Winn, Contractual Governance and the New Managerial Revolution 7 (Sept. 9, 2016) (unpublished manuscript) (on file with the American University Law Review); *see also* Gilson et al., *Contracting for Innovation*, *supra* note 35, at 440 n.22 (noting that Nokia’s success was attributed to its ability to its flexibility in meeting “shifting market and competitive conditions”).

they face many of the same uncertainties about the reliability of the counterparty and the quality of the product being delivered.

Recognizing the inescapability of the opportunism problem is central to understanding the parties' choices among supply chain agreements (a bespoke LTA or an SFK or opting out) and the related legal enforcement issues.<sup>68</sup> While the protocols for information transfer enhance the buyer's ability to compete, reduce uncertainties about competence and reliability,<sup>69</sup> and allow the supplier to furnish a credible commitment, they can also leave the suppliers vulnerable to a buyer's opportunistic exploitation of the information shared, suggesting that there are additional costs posed by these mechanisms. Under the bargaining lens, those costs would be considered by parties weighing whether their individual interests would be served by a joint agreement that would minimize transaction costs to maximize value. Alternatively, parties might consider whether the costs of the opportunism potential would suggest that (1) either no LTA be agreed to, or (2) certain provisions on cost sharing be omitted from the information protocols, or (3) that the parties privately "hedge"<sup>70</sup> by not fully cooperating or sharing information to push back on opportunism potential.

Because preliminary research suggests that not all parties in the supply chain of goods or product innovation utilize LTAs with formal information sharing protocols,<sup>71</sup> the question arises as to why and when parties would adopt such provisions, or when alternative arrangements might achieve their various goals at the least cost to maximize surplus.

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68. See WILLIAMSON, *CAPITALISM*, *supra* note 28, at 30 (discussing opportunism as a characteristic of human behavior).

69. Gilson et al., *Braiding*, *supra* note 4, at 1403–04 (discussing reliability); see also WHITFORD, *supra* note 2, at 96 (discussing the importance of "competence uncertainty—the problem of getting innovations from suppliers who were once asked only to execute").

70. WHITFORD, *supra* note 2, at 85

71. General Counsel Interview, *supra* note 20. One factor is whether the risks to the buyer from not having information about the reliability and competence of the supplier are great enough to justify the transaction costs of the LTA and, further, whether the risks are insurable. For example, if the buyer has a just-in-time production scheme and the buyer's competitiveness depends on the supplier making continuous improvements and the buyer relies on benchmarking, etc., then the risks to the buyer of not having a wealth of information about reliability, quality, and competence may justify the investment of laying out the protocols in an elaborate LTA. A similar cost benefit analysis for the supplier would assess whether the benefits of having an LTA outweigh the costs. What additional protections or benefits does an LTA offer that a sale by purchase order does not? What provisions are most important to a supplier and can they be achieved in some other less costly means? What downsides exist to entering an LTA?

The choice of a governance mechanism to contain opportunism where asset specificity exists depends on which arrangement is least costly and surplus maximizing. This Article offers some tentative suggestions tied to bargaining theory, transaction costs, and asset specificity.

This Article will draw on research of others, as well as my own interviews with Ohio manufacturers, to examine arrangements in different settings<sup>72</sup> and suggests some possible answers to the choices about contractual form. I am researching the question of what arrangements various manufacturers use in a survey of 1875 manufacturers in Ohio. By considering alternative arrangements in the supply chain involving both standard products and customized products involving large sunk costs, as well as innovation, this Article seeks to explain different types of inter-firm arrangements using a bargaining lens that considers the individual interests of the parties, the particular context, the durable problems faced by parties, and the transaction cost minimization of contractual hazard theory.

Highlighting “alliance diversity”<sup>73</sup> in the supply chain, this Article will examine how the parties can solve uncertainties of various types and achieve their goals with or without formal protocols of information sharing or investment guideposts. That choice of the particular arrangement will also depend on whether that arrangement controls contractual hazards and achieves the parties’ goals at the least cost, thereby maximizing surplus for the parties.<sup>74</sup> The value of the information sharing must be considered in conjunction with why and when the parties will opt for an LTA that includes information sharing protocols, opt out of an LTA, or choose another alternative.<sup>75</sup>

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72. These settings include: original equipment manufacturers and automotive suppliers who routinely enter into such agreements; manufacturers of parts for the airline industry, some of which are catalog orders; as well as intensely collaborative ventures in the pharmaceutical industry.

73. Jennejohn, *supra* note 10, at 282.

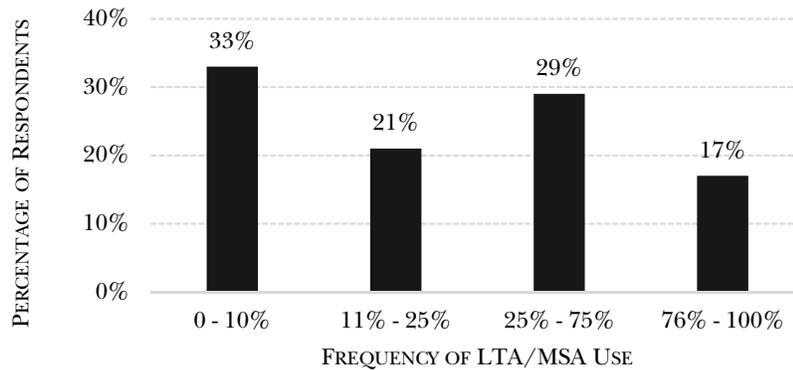
74. WILLIAMSON, MECHANISMS, *supra* note 34, at 12 (emphasis added) (“Transactions, which differ in their attributes, are aligned with governance structures, which differ in their cost and competence, so as to effect a discriminating—mainly a transaction cost-economizing—result.”); see also WILLIAMSON, CAPITALISM, *supra* note 28, at 1 (noting “the transaction cost approach maintains that these institutions [of capitalism] have the main purpose and effect of economizing on transaction costs”).

75. The majority of companies taking our survey (54%) indicated that they utilize MSAs and LTAs less than 26% of the time in their dealings (see the graph below). Of the forty-seven companies that indicated that they ever used LTAs and MSAs, 30% indicated their primary concern in terms of a future lawsuit would be a provision to

Finally, the choice of how to organize the purchase and sale of goods may depend on whether a large OEM customer with bargaining clout demands that a supplier sign the OEM's LTA. Thus, the power and market dominance play a role in whether the parties exchange goods using an LTA's as some large buyers insist on them.<sup>76</sup>

protect capital equipment or tooling costs. Additional concerns included indemnity for intellectual property infringement and damages caps.

MANUFACTURERS LTA/MSA USAGE



MANUFACTURERS LTA/MSA USAGE	
PERCENTAGE OF LTA USAGE BY MANUFACTURERS	RESPONDENT COUNT
0% - 10%	21
11% - 25%	13
26% - 75%	18
76% - 100%	11

76. Survey results confirm this hypothesis. Kostritsky & Ice Survey Results, *supra* note 18.

## II. TIES TO THE NEW PRODUCTION ECONOMY: THE DEMISE OF THE CHANDLERIAN FIRM

Framework LTA contracts are new in some ways; they are tied to the new production economy and the de-verticalization of buyers. The vertically integrated firm that used to predominate—the Chandlerian firm—outsourced very little production except for fungible products.<sup>77</sup> Firms did not want to outsource production with large sunk costs because they feared that parties making important customized investments might hold up the vertically integrated firm by demanding more money for critical components.<sup>78</sup> To avoid that holdup risk, firms in the early twentieth century manufactured critical components inside the firm.<sup>79</sup>

However, in this new production economy, large buyers began to outsource more products and production, as the high cost of research and development has driven firms to collaborate with suppliers and purchase externally.<sup>80</sup> Although LTAs have existed between firms for decades, the formal provisions in LTAs<sup>81</sup> for orchestrated informational exchange look different today because of changes in the production economy that prompt closer collaboration on jointly developed products.<sup>82</sup> These collaborations comprise a network of firms that exist between markets and hierarchies.<sup>83</sup> As a result of de-verticalization of firms, suppliers have become key players in producing

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77. See Helper et al., *Pragmatic Collaborations*, *supra* note 22, at 444 (explaining Albert Chandler's "central theme . . . that the firm, and property in general, exist to reduce the hazards of collaboration that could not efficiently be overcome in market exchange").

78. See *id.* (discussing asset ownership as "powerful instruments for limiting the extortion and deception that daunt cooperation"); see also *id.* at 451 (questioning whether the automotive industry's Fisher Body acquisition was because of hold up concerns and suggesting a new rationale).

79. See *id.* at 455 (detailing the shift toward vertical integration in the automotive industry between 1915 and 1925).

80. See *id.* at 448 (questioning General Motors's takeover of the Fisher Body company in 1926 as "the prototypical example of vertical integration to overcome problems of hold-ups").

81. See Bernstein, *Beyond Relational Contracts*, *supra* note 7, at 581–82 ("[I]t is not uncommon for supplier qualification questionnaires to ask if the supplier is a 'certified' supplier to any of its customers . . ."); see also *id.* at 583 (discussing buyers' access to information from suppliers about "quality control systems and quality control reports[] and . . . its books and/or other records").

82. Gilson et al., *Contracting for Innovation*, *supra* note 35, at 449 (explaining that there are significant challenges for contracting due to the need for "structuring transactions in the face of continuous uncertainty").

83. These firms may be autonomous but part of a network characterized by information sharing, as well as "[a] mutual orientation" and the "exercise [of] voice rather than exit." WHITFORD, *supra* note 2, at 37.

goods and collaborating.<sup>84</sup> This change necessitates more complex contractual arrangements to govern the cooperation necessary to produce innovative goods or to enhance the quality of existing goods.<sup>85</sup> In either situation, development depends on inputs from each party.

Some of these protocols help buyers remain more competitive<sup>86</sup> and ideally permit suppliers and buyers to produce higher quality products. The exchange of information serves different purposes. By transferring knowledge, these protocols actually allow for a new way to organize production that “involves an immense coordination of specialized knowledge.”<sup>87</sup> Sharing information in a creative venture allows parties to collaborate on a complex project such as developing a new airplane like the Boeing 787 “Dreamliner.”<sup>88</sup> It permits buyers to leverage information and expertise that they lack themselves,<sup>89</sup> allowing companies to “leverage” the expertise of external suppliers,<sup>90</sup> rather than developing it all in-house. This in turn reduces the costs of production for the buyer.

Ideally, where there is a “mutual orientation,”<sup>91</sup> these protocols can facilitate “communication and problem solving.”<sup>92</sup> The new frameworks in these LTAs can expedite collaboration and innovation in these inter-firm arrangements in a variety of ways. The information sharing

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84. Helper et al., *Pragmatic Collaborations*, *supra* note 22, at 455–56

85. See Gilson et al., *Braiding*, *supra* note 4, at 1382 (noting that parties in multiple industries use contracts that implement both formal and informal contracting to meet the parties’ needs under uncertainty).

86. Bernstein, *Beyond Relational Contracts*, *supra* note 7, at 612; Winn, *supra* note 67, at 7.

87. WHITFORD, *supra* note 2, at 35.

88. See Christopher S. Tang & Joshua D. Zimmerman, *Managing New Product Development and Supply Chain Risks: The Boeing 787 Case*, 10 SUPPLY CHAIN F. 74, 75, 77–79 (2009) (describing how Boeing utilized a novel tiered supply chain to reduce the time and cost required to develop the 787 “Dreamliner”).

89. See WHITFORD, *supra* note 2, at 17 (discussing OEM’s reliance on “suppliers’ specialized technology”).

90. Jennejohn, *supra* note 10, at 281 (“[A] collaborative approach gives a firm access to external expertise without executing a full acquisition.”).

91. WHITFORD, *supra* note 2, at 37 (citing Walter W. Powell, *Neither Market nor Hierarchy: Network Forms of Organization*, in 12 RESEARCH IN ORGANIZATIONAL BEHAVIOR 295, 303 (Barry M. Staw & L.L. Cummings eds., 1990)).

92. *Id.*

protocols<sup>93</sup> that characterize some LTAs are highly orchestrated and help to transfer knowledge, cost data,<sup>94</sup> and information about quality.

The transfer of information permits contracting when uncertainty about what the final product will look like—a matter that is unknown and unknowable ex-ante—precludes contracting on the final product. The modern collaborative contract thus presents an additional species of uncertainty not present when the product is fungible.

The arrangements governing the sale of goods examined here may, but not always, involve highly “collaborative methods of innovation.”<sup>95</sup> Regardless of whether collaboration is a key feature, all of these arrangements exist between markets and hierarchies. Often, they comprise long-term trading relations between autonomous partners. The question is why the parties operating outside pure markets and centralized hierarchies choose a particular form of alliance with a particular contractual arrangement.

The knowledge sharing protocols that are at the heart of these LTAs allow the buyers to produce higher quality end products. Because the supplier is sharing information about quality during production, the buyers can engage in error detection<sup>96</sup> and make adjustments to improve the quality of the production and head off problems before they arise,<sup>97</sup> which allow parties to coordinate on who must invest at what point.<sup>98</sup>

Professors Ronald Gilson, Charles Sabel, and Robert Scott tie the parties’ new arrangements to solving problems of information when

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93. See Gilson et al., *Braiding*, *supra* note 4, at 1377; see also Bernstein, *Beyond Relational Contracts*, *supra* note 7, at 581 (discussing “buyers’ practice of granting status designations” to high performing suppliers with associated certain benefits of increased access to “information sharing”).

94. However, one interviewee working at a large manufacturer indicated a real reluctance to share cost data with customers. See Interview with Manufacturer (Aug. 24, 2017) [hereinafter Manufacturer Interview].

95. Jennejohn, *supra* note 10, at 281. The contract innovation scholars have applied their analysis to Deere-Stanadyne supply contracts where innovation was only a potential issue for future products. See *infra* Section IV.3; see also *infra* note 211 and accompanying text.

96. Helper et al., *Pragmatic Collaborations*, *supra* note 22, at 443, 446.

97. *Id.* at 445–46; see also Winn, *supra* note 67, at 18 (noting shifts in “focus from arguing about who should bear the financial cost of mistakes to reducing the volume of mistakes in the first place”). Sometimes it can lead to collaboration without trust in which automakers outsourced mainly to cut costs. Later, automakers took a more “strategic” approach to collaboration. Andrew Schrank & Josh Whitford, *The Anatomy of Network Failure*, 29 SOC. THEORY 151, 165–66 (2011).

98. See Jennejohn, *supra* note 10, at 281, 307.

there is a lack of preexisting trust in a highly uncertain environment<sup>99</sup> and where reputational controls may not work. The information sharing protocols “allow[] the parties to assess each other’s disposition and capacity to respond cooperatively.”<sup>100</sup> Jennejohn highlights the benefits certain LTA provisions can have in solving previously neglected contractual hazards, such as entropy and spillover.<sup>101</sup> Unlike Gilson, Sabel, and Scott—who find the concern over “the resolution of the hold-up problem” to be “anachronistic”<sup>102</sup>—opportunism may still be central for analyzing firms and their contractual arrangements under conditions of uncertainty and contractual incompleteness.

### III. DURABLE PROBLEMS CONFRONTING ALL EXCHANGES AND THE CONTRACTING OBSTACLES

Regardless of the particular market forces operating on the supplier and buyer, some of which might deepen the need for collaboration to innovate, and some of which might lead to increased uncertainty about a product itself, all parties in a supply chain face durable issues; the parties need to control these problems in an efficient manner to ensure high-quality goods.<sup>103</sup>

Focusing on the resolution of contractual hazards at the lowest cost is central to understanding the variety of inter-firm arrangements, and departs from the view that the braiding mechanisms mainly exist “as tools for fostering informal constraints.”<sup>104</sup> Instead, this Article posits

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99. See Gilson et al., *Contracting for Innovation*, *supra* note 35, at 435 (explaining that the high degree of uncertainty about the nature of the product that the parties are collaborating on producing makes it impossible to specify the product *ex ante*).

100. Gilson et al., *Braiding*, *supra* note 4, at 1382.

101. Jennejohn, *supra* note 10, at 314 (explaining that entropy refers to the fact that “resources must be spent to synchronize efforts and learning processes among team members” and spillover refers to the fact that “parties cannot capture the full value of their assets without spending resources defining and policing asset boundaries”).

102. Gilson et al., *Contracting for Innovation*, *supra* note 35, at 438.

103. Gary Herrigel, *Emerging Strategies and Forms of Governance in High-Wage Component Manufacturing Regions*, 11 *INDUSTRY & INNOVATION* 45, 55 (2004) (“[I]t seems clear that in the current environment of consistent vertical disintegration, OEMs have a stable and consistent array of concerns: they need increasing amounts of design/development capacity from suppliers, they require high levels of quality in production, and they are desperately concerned with cost reduction. It is just that they do not require an optimum of all three things from every relationship with suppliers.”); see also Macaulay, *supra* note 38, at 63 (“One ought to produce a good product and stand behind it.”).

104. Jennejohn, *supra* note 10, at 282.

that the braiding mechanisms and the contracts are adopted to solve problems or contractual hazards, while lowering the costs of achieving those goals so as to maximize surplus. Parties will adopt information transfer mechanisms and other LTA provisions only if doing so improves informal enforcement and helps the parties achieve their goals without imposing additional costs that outweigh the benefits of information transfer mechanisms and other LTA provisions. In some instances, informal enforcement will occur without the formal LTA information transfer mechanisms.<sup>105</sup> The question is why and when will the formal information protocols in an LTA solve the parties problems more effectively than if the protocols were not present.

In this broader comparative view, governance arrangements exist to solve parties' problems and must be evaluated for their effectiveness and cost under Oliver Williamson's discriminating alignment thesis.<sup>106</sup> This broader view of governance is consistent with Jennejohn's insight that some contract provisions, such as veto rights, exist and can be rationalized as devices that respond to "overlooked forms of transaction costs" that Jennejohn labels "exchange hazards"<sup>107</sup> such as entropy and spillover, that only "multivalent" contract provisions can address.<sup>108</sup>

However, if entropy and spillover are problems that parties have, the fundamental question is what mechanism or arrangements would resolve those problems at the lowest cost. That is the central insight of the "discriminating alignment" thesis.<sup>109</sup> Accordingly, when opportunism and spillover costs are involved in evaluating any arrangement the parties enter to solve any problem, such as a formal veto right, one should ask: Is that arrangement the most cost effective way to establish foreground intellectual property rights in a way that is

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105. That is the key insight of Macaulay and Williamson. The court ordering ordinarily will not be efficacious to parties who will always use informal enforcement due to the prohibitive cost of judicial action. *See* Macaulay, *supra* note 38, at 55, 62.

106. WILLIAMSON, MECHANISMS, *supra* note 34, at 12 ("Transactions, which differ in their attributes, are aligned with governance structures, which differ in their cost and competence, so as to effect a discriminating—mainly a transaction cost-economizing—result.")

107. Jennejohn, *supra* note 10, at 282.

108. *Id.* at 314.

109. The discriminating alignment thesis allows companies to "minimize transaction costs and maximize surplus" by choosing the governance structure that will control contractual hazards in the most efficacious and least costly way. *See* Kostritsky, *supra* note 26, at 481 (citing WILLIAMSON, CAPITALISM, *supra* note 28, at 72–79, 90–95).

equivalent to the right to exclude?<sup>110</sup> Having property rights depend on informal enforcement would lead to higher costs for the parties and might diminish incentives to invest, thereby making veto rights the most effective tool for achieving the parties' goals. With shirking and shading and other forms of opportunism, perhaps information transfer mechanisms can curb such behavior at a low cost and therefore might be the preferred means of curbing proclivities to produce substandard goods. The discriminating alignment theory helps rationalize why parties might rely on protocols to promote informal enforcement and, in other cases, adopt veto rights.

The real question for any analysis of the supply chain is how the particular arrangements, adopted by the parties, function to solve the problems of uncertainty and opportunism endemic in all exchange relations, and most particularly, when large sunk costs are involved. Thus, in evaluating these LTA frameworks, and looking at alternatives to LTAs, one must examine how effective they are in solving opportunism, promoting innovation, and resolving any other problems that the parties face. How do these arrangements achieve parties' goals of getting high-quality goods to the buyer while generating fewer benefits from cheating/shading in a cost-effective manner?

Solving problems like opportunism is complicated due to three major contracting constraints that parties may face. First, bounded rationality characterizes the human condition,<sup>111</sup> and it limits the ability to foresee future events and to predict future human behavior, making it difficult to solve problems by a completely contingent contract.<sup>112</sup> Second, if there are large sunk costs or asset-specific investments,<sup>113</sup> the parties may not simply exit the market since they

110. See Jennejohn, *supra* note 10, at 324 (noting that certain contract provisions can help a party avoid the risk that the counterparty will exploit jointly-owned IP).

111. See WILLIAMSON, CAPITALISM, *supra* note 28, at 45 (quoting HERBERT A. SIMON, ADMINISTRATIVE BEHAVIOR: A STUDY OF DECISION-MAKING PROCESSES IN ADMINISTRATIVE ORGANIZATION xxviii (3d ed. 1976)) (noting that economic actors are assumed to be "intendedly rational, but only limitedly so").

112. See *id.* at 67 (discussing "difficult contracting issues" where there is a confluence of bounded rationality and sunk costs).

113. Sunk costs refer to "investments in durable, transaction-specific assets." *Id.* at 53. Williamson points out that "such investments are also risky, in that specialized assets cannot be redeployed without sacrifice of productive value if contracts should be interrupted or prematurely terminated." *Id.* at 54. When asset specificity combines with uncertainty and opportunism, contracting difficulties arise, making governance structures important to control "the strategic hazards that arise as a consequence of their nonsalvageable character." *Id.*

will lose their investment.<sup>114</sup> Finally, parties have propensities to act opportunistically,<sup>115</sup> and if they are unable to control that risk directly by contract, parties will likely turn to other private strategies to accomplish their goals.

In analyzing the role of framework contracts and why they take the particular form that they do today, one must first address the contracting obstacles that parties face in any exchange relation, including the supply chain framework.

First, suppliers and buyers face many types of uncertainty. In some cases, there will be uncertainty about the actual product that will be produced or purchased,<sup>116</sup> or there will be uncertainty about the quantity that will be demanded or purchased.<sup>117</sup> Gilson, Sabel, and Scott see the problem that arises with contractual innovation as presenting unique challenges due to uncertainty known as “continuous uncertain change.”<sup>118</sup> When presented in a heterogeneous market, informal relational contracting may be difficult to achieve.<sup>119</sup> Complete contingent contracting will be impossible due to uncertainty about the end product.<sup>120</sup> That uncertainty may even interfere with an alternative way of organizing production—modularity<sup>121</sup>—due to the inability to specify “the relevant interfaces.”<sup>122</sup> Those impediments can be solved by contractual provisions that promote information sharing, which reduces uncertainty about the other party and its product. Uncertainty would also be present where the buyer anticipates that the supplier will make incremental improvements to the product. Under these circumstances, the uncertainties may make it difficult to describe the product with sufficient certainty for contractual enforcement.

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114. *See id.* (discussing risk of contracts with sunk costs being “prematurely terminated”).

115. *See id.* at 47 (explaining that parties act opportunistically both overtly and subtly).

116. *See* Gilson et al., *Contracting for Innovation*, *supra* note 35, at 435 (highlighting the inherent uncertainty of developing a new product).

117. Uncertainty about the quantity needed may cause parties to leave the quantity open in an LTA.

118. *Id.*; Gilson et al., *Contracting for Innovation*, *supra* note 35, at 449.

119. This is because relational contracts ground by “tit-for-tat” enforcement may not work when there are no continuing relations. *See* Gilson et al., *Braiding*, *supra* note 4, at 1395, 1395 n.47.

120. *See id.* at 1382 n.9 (explaining why there is a great amount of uncertainty about end products in innovative industries).

121. Modularization is “a process driven by rapid product change and characterized by the deconstruction of product design into discrete subsystems or functional modules.” Herrigel, *supra* note 103, at 47.

122. Gilson et al., *Contracting for Innovation*, *supra* note 35, at 448.

A. *Other Uncertainties: Asymmetric Information and  
Opportunism by Suppliers*

Even if there is great uncertainty about the product being developed that can be ameliorated by iterative cooperative investments that may be achieved by formal sharing protocols, any analyst of organizational or contractual choices must address certain overall risks of opportunism that can mar the success of iterative cooperative exchanges.

There are two kinds of opportunism that a buyer may encounter. One is that the supplier will not be forthcoming about what type of a supplier it is, in which case the supplier has superior information and has a disincentive to share that information with the buyer. This is the problem of asymmetric information or adverse selection, which are terms also used to describe insureds who know more about their riskiness than the insurer does.<sup>123</sup>

Buyers also face uncertainty about how a supplier will act over the course of the relationship. Economists call this “behavioral uncertainty.”<sup>124</sup> Will the supplier produce high quality goods with a low defect rate that meets the customer’s (buyer’s) standards, or will the supplier shirk and produce poor quality goods?<sup>125</sup> Will the supplier produce goods meeting the buyer’s excellence standards as they are set forth in a quality manual? Will a biotech company invest sufficient resources and effort to maximize the chances of success? Some of the information sharing protocols shift some aspects of judging goods into standards set by the buyer. This risk of shading and shirking is the same risk of moral hazard<sup>126</sup> that a principal experiences when hiring an agent: Will the

123. WILLIAMSON, *CAPITALISM*, *supra* note 28, at 47 (discussing adverse selection as a particular species of opportunism characterized by “the unwillingness of poor risks candidly to disclose their true risk condition”).

124. *Id.* at 58–59.

125. Buyers also face uncertainty about the nature of the demand for their product, which can fluctuate over a long period of time. *See* Gilson et al., *Contracting for Innovation*, *supra* note 35, at 464 (explaining that the importance of the ability to respond to shifts in demand and how Apple addresses demand fluctuations in its contract). Solutions to that uncertainty problem may take the form of open-ended quantity terms.

126. Moral hazard is a type of opportunistic behavior. In the context of insurance, it refers to the failure of insured persons “to behave in a fully responsible way and take appropriate risk-mitigating actions” once covered under an insurance policy. *See* WILLIAMSON, *CAPITALISM*, *supra* note 28, at 47. Moral hazard problems also arise in the principal-agent context; the principal cannot directly observe the agent’s actions, and the agent cannot discern whether the poor outcomes are due to lack of effort or to exogenous events. *See* David E.M. Sappington, *Incentives in Principal-Agent Relationships*, 5 J. ECON. PERSP. 45, 46, 49–50 (1991) (“[T]he principal can’t observe . . . the level of

agent shirk and not exert the effort that the principal would like? It is a type of cost that inheres in all exchanges. Controlling that risk creates value, and the devices for achieving good quality will be adopted if the costs of adopting them are less than the costs from non-adoption.

The risk of the buyer receiving poor quality goods is also a longstanding problem,<sup>127</sup> but it may be particularly troublesome for the modern buyer. A buyer or assembler today is under great pressure to meet just-in-time production<sup>128</sup> and to achieve “continuous improvement”<sup>129</sup> during its own production. As such, legal remedies such as rejecting goods manufactured by a supplier, asking for a cure, and suing the supplier/manufacturer in court if the cure is not effectuated may be too costly and therefore unsatisfactory as a remedy. However, all buyers—even buyers who predate the modern deverticalized production economy—face the same problem of unsatisfactory legal remedies for shading or other forms of opportunism by suppliers. Buyers are incentivized to take various actions before and during contracting with a supplier to reduce uncertainty about competence and reliability including investigating suppliers before contracting, requiring suppliers to prequalify, continuously interacting with suppliers, requiring suppliers to meet ongoing quality metrics through warranties in the purchase order.<sup>130</sup> The goal of quality goods can be achieved without the benefit of formal information sharing protocols or other provisions in an LTA requiring monitoring of the supplier’s processes.

### B. Opportunism by Buyers

Suppliers face parallel problems of uncertainty and opportunism by the buyer. Suppliers risk investing significant sunk costs in tooling or

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effort exerted by the agent.”); see also Kenneth J. Arrow, *The Economics of Agency*, in PRINCIPALS AND AGENTS: THE STRUCTURE OF BUSINESS 37, 37 (John W. Pratt & Richard J. Zeckhauser eds., 1985) (noting that “principal[s] cannot observe the actions themselves but may make some observations, for example, of the output”).

127. See Bernstein, *Beyond Relational Contracts*, *supra* note 7, at 572 (highlighting that OEMS go to great lengths to ensure suppliers meet quality standards); see also Tang & Zimmerman, *supra* note 88, at 79, 81 (examining the risks to Boeing in relying on outside suppliers to produce the 787 airplane that is comprised of “unproven technologies”).

128. WHITFORD, *supra* note 2, at 17–18 (discussing changes from just-in-time production).

129. Helper et al., *Pragmatic Collaborations*, *supra* note 22, at 469 n.39 (discussing the questioning of routine as a source of continuous improvement).

130. See, e.g., DEERE & CO., PURCHASE ORDER, *supra* note 53, at 2.

capital equipment for the buyer, the cost of which can only be recouped by amortizing the cost over a long-term supply arrangement and then being terminated. They also face the risk that the buyer will falsely claim that the products are defective. The supplier also faces other types of opportunism if the sharing of information results in the buyer sharing it with the supplier's competitors or using the information to manufacture the item in-house. A buyer may also opportunistically expropriate information intended for joint benefits to both parties for its private benefit.<sup>131</sup>

### C. Entropy: Coordination

Parties face other problems in collaborative innovation networks, such as the risk of entropy that Jennejohn has identified. He defines entropy to "mean that resources must be spent to synchronize efforts and learning processes among team members."<sup>132</sup> The problems of communication can become particularly difficult when expertise necessitates developing "a shared language . . . among team members."<sup>133</sup>

When team members are separate, they face challenges of learning from the other party and "concurrency," a situation in which there may be a failure to align with the counterparty.<sup>134</sup> Concurrency can occur when the parties are "out of step" with one another because they lack sufficient communication or coordination.<sup>135</sup>

Because entropy is a risk that can be distinguished from the opportunism described earlier, it makes sense to focus on different responses such as methodologies to routinize coordination<sup>136</sup> or through regular conversations<sup>137</sup> to discuss problems. Parties might adopt modularity as a different strategy to the entropy risk. The latter technique avoids problems of coordination by actually lessening the need for interacting with the other party.<sup>138</sup> With modular design, the

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131. Helper et al., *Pragmatic Collaborations*, *supra* note 22, at 444.

132. Jennejohn, *supra* note 10, at 314.

133. *Id.* at 315.

134. *Id.* at 320.

135. *Id.*

136. Helper et al., *Pragmatic Collaborations*, *supra* note 22, at 462–63 (discussing benefits of routinization).

137. *Id.* at 474 (discussing the tendency of "super suppliers" to be "engaged in discussion with their customers, with whom they speak by phone on average daily, three times as often as the other suppliers in the sample").

138. See WHITFORD, *supra* note 2, at 37.

idea is that each partner is a distinct module that requires only a “standardize[d]” connection.<sup>139</sup>

Jennejohn classifies entropy as a distinct problem, but entropy is like any other friction in a relationship. If entropy is uncontrolled, it will lead to a loss in surplus.<sup>140</sup> Parties have to expend some resources to coordinate production and may adopt preplanned routines to reduce entropy. However, if the routines do not work, there will be a breakdown, which could lead to significant costs that reduce surplus. As Williamson explains: “[e]ffective adaptation was what distinguished successful cooperative systems from failures.”<sup>141</sup> The fundamental question remains why and when parties will opt for certain mechanisms in certain types of documents, and why they will opt for different mechanisms in different settings. The bargaining lens and cost minimization clarify these choices.

Promoting cooperation, facilitating the transfer of tacit knowledge,<sup>142</sup> and designing a structure for smoothly coordinating interactions between parties will lower the transaction costs between the parties. This Article discusses techniques which are designed to anticipate and respond to problems that arise in the course of coordination during contractual exchange.<sup>143</sup>

However, in many instances when the coordination breaks down, it is a manifestation of the opportunism or shirking the problem. In some ways, the breakdown is likely to occur when one party is not investing enough in the relationship. An analogy can be made to the employment situation by “distinguishing between consummate and perfunctory cooperation.”<sup>144</sup> If an employee underinvests in effort, perhaps because the employee has been “‘forced’ to accept inferior terms, [he] can adjust quality to the disadvantage of a predatory

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139. Gilson et al., *Contracting for Innovation*, *supra* note 35, at 444 (discussing how standardization contributes to a streamlined production by isolating distinct modules from one another).

140. See WILLIAMSON, *MECHANISMS*, *supra* note 34, at 18.

141. WILLIAMSON, *CAPITALISM*, *supra* note 28, at 5.

142. Helper et al., *Pragmatic Collaborations*, *supra* note 22, at 464 n.35 (“Yet arm’s length market relationships rarely provide fertile ground for the pooling of perspectives (or, put differently, for the process of making tacit knowledge explicit and shareable) that we identify as critical to pragmatic collaborations.”).

143. See *infra* note 213 and accompanying text.

144. WILLIAMSON, *CAPITALISM*, *supra* note 28, at 262.

employer.”<sup>145</sup> The employee is performing under an incomplete contract and has the discretion to withhold high quality performance.

A similar type of withholding of high quality investment, and the close relationship between entropy and opportunism, can arise in cases where a buyer faced with managing a complex project, such as the Boeing 787 “Dreamliner,” significantly underinvests in the mechanisms that will facilitate coordination. Failure of the buyer to invest in the relationship is an example of a buyer’s “perfunctory” commitment to cooperation and ex-ante poses a significant problem for any putative supplier entering the relationship. This type of opportunism will be difficult to control by contract.

The interaction between coordination or entropy and opportunism can be seen in other ways. For example, buyers may institute mechanisms to smooth coordination by requiring the transfer of information. However, the mechanism designed to transfer knowledge or deal with a “learning curve” differential<sup>146</sup> between the parties may also present a potential for opportunism by the buyer. A buyer may decide to appropriate the supplier’s knowledge shared by the supplier to bring the production in-house, leaving the supplier out in the cold.<sup>147</sup> So, a device that is intended to smooth coordination also has the potential to pose an opportunism risk for a supplier.

Since entropy is a type of friction which, if uncontrolled, has the potential to reduce the gains for trade, this Article will treat it like opportunism or any transaction cost or hazard of contracting. In all instances, the parties will seek to design contractual or other organizational devices to reduce the friction. If not sufficiently controlled, the party facing the risk will react by withdrawing or hedging, or failing to cooperate.<sup>148</sup>

#### IV. LEGAL ENFORCEABILITY: ARE LTAs ENFORCEABLE, AND IF NOT, WHY WOULD PARTIES EVER ENTER INTO THEM?

Before addressing how the LTAs respond to the uncertainties and opportunism outlined above in Part III, this Article must first confront the question of whether LTAs are legally enforceable agreements. A

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145. *Id.*

146. Jennejohn, *supra* note 10, at 319.

147. WHITFORD, *supra* note 2, at 105 (noting tendencies “to see new managers pull the most profitable back jobs in-house”).

148. *See id.* at 99 (describing how “steadily improving collaboration” is negatively impacted by hedging).

second question is whether the LTAs need to be legally enforceable to address the asymmetric information and varieties of opportunism and other contractual risks, or if there are provisions that can ameliorate those problems without the need for enforceable legal LTA obligations. The third question is why parties would ever enter these agreements if they were legally unenforceable.

Generally, there is no one answer on the legal enforceability of LTAs, as the particular document will determine its enforceability. If the LTA does not contain a quantity term, and it is not a requirements contract, the general view is that the agreement is unenforceable.<sup>149</sup> Specifically, the LTA would lack the critical quantity requirement necessary for a sale of goods transaction to be enforceable under the UCC.<sup>150</sup> Until the first purchase order is made, there is a risk that the buyer could refuse to make any purchases under the agreement, and the supplier would remain vulnerable to that risk. However, once the first purchase order is made, there is a quantity and the purchase orders may incorporate the LTA by reference.<sup>151</sup>

So, parties may first enter an LTA and subsequently exchange a quote, a purchase order, and an acknowledgement. There is an interweaving of provisions that will apply to a particular sale executed under a purchase order, which is legally enforceable since it will contain a quantity term. These provisions in the LTA may be incorporated by reference into the purchase order, for example, and may include information sharing protocols important for informal enforcement, limited buyer purchase obligations going forward, and

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149. See Sarah Rathke, *Supply Chain Legal Reality: Why the UCC Is Sometimes the Worst, Part I (Or, Who Wrote This Thing Anyway) (Or, Traps for the Unwary)*, SQUIRE PATTON BOGGS: GLOBAL SUPPLY CHAIN L. BLOG (Jan. 26, 2015), <https://www.globalsupplychainlawblog.com/legal-analysis/supply-chain-legal-reality-why-the-ucc-is-sometimes-the-worst-part-i-or-who-wrote-this-thing-anyway-or-traps-for-the-unwary> (discussing how “idiosyncratic” UCC provisions, such as the requirement of a “quantity term” in writing, conflict with supply chain parties’ contracting needs).

150. The UCC has liberalized the requirements for definiteness in contract formation. U.C.C. § 2-204(3) (AM. LAW INST. & UNIF. LAW COMM’N 2017) (“Even though one or more terms are left open a contract for sale does not fail for indefiniteness if the parties have intended to make a contract and there is a reasonably certain basis for giving an appropriate remedy.”) (emphasis added). However, the absence of a quantity term makes many LTAs unenforceable.

151. See, e.g., Kraft Foods Group, Inc., Mondelēz Global LLC, Master Supply Agreement § 11.5 (Sept. 27, 2012), <https://www.sec.gov/Archives/edgar/data/1545158/000119312512412668/d418360dex109.htm> [hereinafter Kraft Foods MSA].

terms such as a damage cap, indemnity provisions, and warranty limitations or disclaimers.

Yet, even when the buyer has issued purchase orders, the buyer's obligation going forward in an LTA may be unenforceable. In some LTAs, the buyer may only commit to provide forecasts to the supplier<sup>152</sup> and may specifically disclaim any obligation to purchase goods made by the supplier.<sup>153</sup> There may be provisions that make the future purchase obligations illusory or qualified, at least until a release or purchase order is issued. In other instances, the buyer's obligation will not be illusory but, rather, it will be conditioned on the supplier's meeting certain standards of quality and price competitiveness<sup>154</sup> and continuing to agree to annual price reductions. Since those decisions must be made in good faith, the buyer's obligation could be a real commitment to buy, albeit one conditioned on meeting certain standards imposed by the buyer.

Certain contract innovation scholarship focuses on how formal information sharing mechanisms facilitate informal enforcement. It ties the increased importance of informal enforcement to the legal unenforceability of LTAs because these agreements might not obligate the buyer to buy anything.<sup>155</sup> However, master agreements in the past often operated without a quantity requirement.<sup>156</sup> Without a quantity term, the agreements were initially unenforceable, at least until the first purchase order made the agreement legally enforceable at least initially.<sup>157</sup> In today's LTAs, the new element is the formal information

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152. See Manufacturer Interview, *supra* note 94; see also Bernstein, *Beyond Relational Contracts*, *supra* note 7, at 593 (noting buyer's "duty to provide *non-binding* rolling forecasts on a monthly or quarterly basis") (emphasis added).

153. See, e.g., Section 2.1(c) of Pfizer, Inc., Zoetis, Inc., Master Manufacturing and Supply Agreement § 2.1(c) (Oct. 1, 2012), <https://www.sec.gov/Archives/edgar/data/1555280/000119312512420207/d381653dex1014.htm>.

154. Bernstein, *Beyond Relational Contracts*, *supra* note 7, at 567 (quoting an unidentified MSA) (discussing competition clauses that "provide [] if 'a particular part . . . is not a competitive value'" the supplier must take action).

155. See *id.* at 562.

156. IAN AYRES & GREGORY KLASS, *STUDIES IN CONTRACT LAW* 150 (9th ed. 2017) ("Frequently, parties do business for an extended period of time under an arrangement where . . . neither party makes a promise to the other. Here there is no contract until one party offers to sell or to buy and the other accepts the proposal.").

157. See U.C.C. § 2-201 cmt. 1 (AM. LAW INST. & UNIF. LAW COMM'N 2017); see also *Crown Battery Mfg. Co. v. Club Car, Inc.*, No. 3:12CV2158, 2014 U.S. Dist. LEXIS 18907, at \*12-13 (N.D. Ohio Feb. 14, 2014) (explaining that MSAs are not necessarily requirements contracts

sharing protocols. These formal provisions may or may not be legally enforceable. If the supplier promises information, but the buyer does not provide a return promise to do anything, the promise to provide the information may not be enforceable. In this case, enforcement would therefore rely primarily on informal enforcement. However, even if the agreement had a quantity or the purchase order incorporated in the terms of the LTA—and they were therefore legally enforceable—the main enforcement mechanism would remain informal because legal remedies are so costly.

Resorting to informal enforcement as the primary device for securing quality in the sale of goods has not changed radically over time. In the past, information sharing or acquisition might have occurred informally rather than being the subject of a formal contractual agreement. Typically, buyers would enter agreements and rely on a supplier's reputation or have the supplier pre-qualify before bidding. Yet, there were not as many formal provisions for suppliers sharing that information on a continuing basis.

Today, although many provisions for information sharing, audits, or inspections at supplier's plants are now orchestrated in a formal document, the provisions remain largely self-enforcing. If the buyer is dissatisfied with quality, it may refuse to buy; however, because the provision on quality is tied to the buyer's own metrics of excellence, a supplier would have difficulty suing a buyer for refusing to take its products. Instead, the supplier would resort to self-help rather than the judicial system. The supplier would be incentivized to correct any quality issues that would risk a loss of future business. In older agreements, even without as many formal sharing information protocols, the consequences of displeasing the buyer were the same—the loss of business or a reputational sanction.

There are two answers to the question of why parties might enter unenforceable agreements. These answers tie back to the bargaining lens in which parties understand the function the contract must perform to achieve their individual interests, and then weigh whether the benefits of achieving their goals through a particular form of contract outweigh the costs.

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when they do not establish a specified sale; rather, MSAs establish terms for future purchase orders and “each purchase order forms a separate and distinct sales contract”).

First, when the future purchase order is made, the LTA becomes enforceable at least with respect to the actual product purchased.<sup>158</sup> What may be most important to the supplier is not the continuing obligation to buy or provisions regarding quality because these are likely to be enforced informally. Rather, the supplier may prioritize provisions in the LTA that will become enforceable as soon as a product is purchased pursuant to the LTA. These could include provisions that limit damages with a capped amount, eliminate consequential damages, or limit warranties or indemnify the supplier against improper use of the product by the buyer that could result in large damages.<sup>159</sup>

Second, these arrangements offer suppliers with large sunk costs the security of a long-term formal arrangement. Suppliers with large asset specific investments need to recoup or amortize their investment costs over several years. These arrangements are standard between OEMs and automotive suppliers. Sometimes these contracts incorporate an “out” that allows the buyer to terminate for convenience or when the products do not meet the buyer’s standards for excellence.

The bargaining lens applies here; even with those limitations on the buyer’s purchase obligations, LTAs offer important security to suppliers.<sup>160</sup> When the purchase obligation is qualified, the supplier can plan ahead, knowing that if it keeps its products to a level of excellence or remains price competitive, the buyer will likely buy its products, meaning that the LTA yields benefits that more than offset the costs. The LTA, even if it is unenforceable, will offer security by cementing a relationship with a customer.<sup>161</sup> Further, the buyer will have a hard time arguing that it is not obligated to buy if the outlined conditions for purchasing are met. The supplier can control that hazard by monitoring the behavior of its agents and employees and by maintaining a competitive price. Implicit trust may build up and may constrain the buyer from terminating.

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158. The purchase order may incorporate the LTA provisions and those provisions would then apply to the product purchased pursuant to a purchase order.

159. Examples include products like an airplane or medical device, as the damages in such cases can be extraordinary.

160. See Interview with Susan Helper, Frank Tracy Carlson Professor of Econ., Case. W. Res. U. Weatherhead School of Mgmt. (Feb. 21, 2017) [hereinafter Helper Interview]; see also Helper et al., *Pragmatic Collaborations*, *supra* note 22, at 476 (discussing the example of Honda and Donnelly, Donnelly’s subsequent expansion into side mirrors and mutual benefit for both firms after rear view mirror contract terminated).

161. \$2 Billion Manufacturer Interview, *supra* note 51.

Alternatively, the implicit trust may mean that if the buyer does terminate for reasons beyond its control, it may offer the supplier another job even though it is not mandated by the contract.<sup>162</sup> Additionally, even if an OEM with an LTA is not legally obligated to do so, it may decide to finance some improvement.<sup>163</sup> Suppliers may be encouraged to invest given the implicit contracting relationship created by the LTA. All of these benefits suggest that the cost of negotiating an LTA might be outweighed by the benefits of a secure commitment (although legally unenforceable) and other benefits such as cementing a relationship.

Third, the supplier may have no choice but to agree since many large OEMs or other large global buyers dictate that suppliers submit to LTAs. Finally, since the parties rarely expect to resort to legal enforcement regardless of whether an LTA or a less detailed purchase order is entered into, the question will resolve into whether the higher transaction costs, including lawyer time, are justified by the benefits that can be achieved by laying out the obligations of the supplier in a systematic fashion in an LTA. What are the offsetting benefits to suppliers? They include increased security of the commitment and increased probability of recouping large sunk costs.

## V. ADVANTAGES OFFERED BY LTAs: FOUNDATIONAL MECHANISMS FOR INFORMAL ENFORCEMENT AND SOLVING UNCERTAINTIES

### A. *Controlling Contractual Hazards Under Conditions of Uncertainty*

#### 1. *Reducing uncertainties given limits on contracting and promoting low cost informal enforcement*

The design of the LTAs responds to the durable problems in all exchanges—uncertainty, bounded rationality, sunk costs and opportunism. LTAs help solve these problems of exchange but only “indirectly.”<sup>164</sup> The provisions on information sharing do not function to set up a possible breach of a performance obligation for purpose of

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162. See Helper Interview, *supra* note 160.

163. See *id.* (discussing Honda and Donnelly).

164. Jennejohn, *supra* note 10, at 293 (explaining the view of Gilson that the “formal contracts only indirectly govern collaborations by fostering informal constraints on opportunism”).

initiating a lawsuit,<sup>165</sup> but rather to facilitate informal enforcement.<sup>166</sup> The information sharing mechanisms in LTAs constitute the formal provisions in the agreement, and they provide the information that is useful in administering informal sanctions against the other party. Gilson, Sabel, and Scott label this as “braiding”<sup>167</sup> to describe the combination of formal terms and informal enforcement.

In evaluating LTAs, scholars of contracts for innovation have demonstrated the ways that new information sharing devices can achieve advantages for the parties that cannot be achieved by a formal contract with a rigid performance obligation. For example, a complete contract would not be feasible in innovation contexts because the contours of the performance obligation are undetermined at the start of the contract. Where heightened uncertainty about the project’s contours makes it difficult “to observe whether particular actions are cooperative or not, *and* also hard for courts to determine *ex post* what counts as a good outcome,”<sup>168</sup> information protocols committing both parties to invest encourages continued cooperation and results in a “braiding” of formal and informal enforcement.<sup>169</sup>

There is a spectrum of differences in the level of uncertainty affecting the sale of goods. In some cases, there is extreme uncertainty about the final product with collaborative innovation. Sometimes, there is less, but still very real, uncertainty when the supplier is incrementally improving the products it sells.<sup>170</sup> Other times, there is no uncertainty about the product, but still uncertainty about the quality of the good that will be delivered.

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165. See Bernstein, *Beyond Relational Contracts*, *supra* note 7, at 562 (describing the agreement’s structure as merely a tool to detail how business will be conducted and not to set up breach parameters).

166. See Jennejohn, *supra* note 10, at 282 (noting that the information protocols do not “determin[e] performance obligations”); see also Hadfield & Bozovic, *supra* note 2, at 988 (suggesting that formal provisions in contracts help to determine if there is a performance breach, which is then informally sanctioned). Even when the product was known and agreement drafted, parties rarely sued over an alleged breach of a performance obligation so the uncertainty over the final product may not have changed the likelihood or ability to invoke a legal remedy.

167. See Gilson et al., *Braiding*, *supra* note 4, at 1383.

168. *Id.* at 1386 (discussing uncertainty over “good outcome” when the product or project is a work in progress as the standards are evolving with the product).

169. *Id.* at 1383.

170. Gilson et al., *Braiding*, *supra* note 4, at 1385 (discussing incremental product improvement).

Do the heightened uncertainties in collaborative innovation ventures mean that the information sharing protocols will solve those problems more efficiently than other mechanisms and maximize surplus? Are there other factors in the innovation context that make adoption of such protocols important for achieving the parties' joint interests, such as a need for a planning document to govern a highly complex project? Are the uncertainties regarding the nature of the product any different from other uncertainties that generally afflict the supply chain such as behavioral uncertainty about the potential for shirking?<sup>171</sup> In both cases, uncertainty about a product being developed or uncertainty about future quality of the product will result in an incomplete contract. Whether the parties use an LTA or some other agreement, such as a purchase order, and what type they adopt is a deliberate choice. That choice will likely depend on the bargaining in which parties consider their individual interests and determine whether the benefits of achieving those goals through an LTA or another form will minimize transaction costs (frictions), while serving other needs such as centralization and planning.

Is the choice related to concerns that LTAs with information sharing protocols themselves pose risks or costs? What are those risks or costs? Scholars argue that the iterative sharing of information through information sharing protocols offers parties a way to determine what the ultimate product will be and thus overcomes one type of uncertainty: uncertainty about the ultimate product. In deciding why a particular arrangement is used, it is useful to consider other situations in the supply chain where the parties know what product they are supplying but face other key uncertainties of opportunism and shirking.

When those uncertainties exist, the parties can achieve reductions in uncertainty from iterative steps without an LTA with formal information sharing protocols? There other ways to reduce uncertainties about reliability and competence that do not involve being in a close-knit relational contract with preexisting trust. Trust can be endogenized by these iterative steps between parties, even if parties forego using an LTA with a formal information mechanism, perhaps by being part of a network. Certainly, interim steps can be taken and the way the other party reacts can help to reduce uncertainty about the other party. Further, if the parties have access to a network,

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171. *E.g.*, WILLIAMSON, CAPITALISM, *supra* note 28, at 57 (stating that “[b]ehavioral uncertainty is of special importance to an understanding of transaction cost economics”).

they could engage in tit-for-tat responses to another party's action, even when there is no long-term relationship.

The information sharing devices in LTAs are particularly useful in heterogeneous supply chains where parties may lack a close relationship that would provide a source of information, facilitate informal enforcement, and overcome uncertainties.<sup>172</sup> Instead of trust already existing and forming the basis of a relationship (exogenously), the parties do not need to have “preexisting” trust with LTAs.<sup>173</sup> The collaborative information sharing mechanisms allow them to “establish a deeply collaborative relation[] where little or none existed before.”<sup>174</sup> It would be difficult to overcome the uncertainties by contract since provisions promising to be a reliable supplier or to not shirk or one to promise to be excellent would be too vague to enforce.<sup>175</sup>

In the collaboration on a new product context, there is uncertainty about the ultimate product. Thus, contracting on the end product is impossible. However, to ensure that parties invest in a reciprocal way, they formally agree to make investments in either research or funding,<sup>176</sup> and they may also agree to abide by rules requiring unanimity in committees.<sup>177</sup> These mechanisms encourage cooperation, discourage misunderstandings,<sup>178</sup> and protect incentives to invest since “blatant” refusals to invest will be punished.<sup>179</sup>

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172. Jennejohn, *supra* note 10, at 296 (“Those formal mechanisms combine to foster informal constraints that otherwise may not occur in the dynamic heterogeneous markets in which much collaboration occurs in the modern economy.”).

173. Gilson et al., *Braiding*, *supra* note 4, at 1403–05.

174. *Id.* at 1404.

175. See WILLIAMSON, *CAPITALISM*, *supra* note 28, at 67 (suggesting such “general clause contracting” is problematic where opportunism is present).

176. Gilson et al., *Braiding*, *supra* note 4, at 1422.

177. *Id.* at 1403 (identifying the main advantages of these unanimity rules as they will ensure parties get needed information and a skeptic will be able to force disclosure because without it the other party will not get the consent it needs to proceed. It also “discourages obstinacy” because high level personnel to whom the dispute will be referred will not want their time wasted).

178. Gilson et al., *Contracting for Innovation*, *supra* note 35, at 480–81 (“A referee can clarify misunderstandings early, avoiding false negatives—i.e., the interpretation of the other’s behavior as a defection. When she finds that a defection has indeed occurred, a referee can, by ‘blowing the whistle’ while providing for a fast and low-cost resolution to the dispute, forestall disproportionate responses by the aggrieved party . . . . The referee also serves as an informal disciplining mechanism . . . . The subordinates’ job is to resolve problems, not escalate them.”).

179. Gilson et al., *Braiding*, *supra* note 4, at 1409.

By increasing transparency, the LTAs can help to deter cheating and other forms of opportunism such as shirking, a different kind of uncertainty known as behavioral uncertainty.<sup>180</sup> LTAs help to overcome the problem of asymmetric information between the buyer and supplier by offering the supplier a way to signal its value to the buyer in the form of a credible commitment. LTAs build up social capital<sup>181</sup> and personal ties<sup>182</sup> that offer means of informal sanctioning for misbehaviors detected through the information sharing. Of course, as Williamson points out, “[g]iven the very real limitations, however, with which court ordering is beset,”<sup>183</sup> “contractual disputes and ambiguities are more often settled by private ordering.”<sup>184</sup>

LTAs also create a cost to both parties for exiting, called a “switching cost,”<sup>185</sup> thereby allowing parties to reap the advantages of mutual investment. When both parties engage in reciprocal investments, the risk of opportunism decreases.

The condition of mutual investment, rather than any legal obligation, constrains opportunistic behavior by both parties because they are locked into continuing their relationship since the switching costs of arranging for an alternative supplier are too great to justify an exit for a trivial deviation. Switching costs can occur even when the parties are not parties to LTAs with information sharing protocols. When a supplier furnishes goods to a buyer, switching costs can occur when the supplier has to find another buyer, or the buyer has to find another supplier. As such, switching costs in which a buyer has to research alternate suppliers can occur even without a formal LTA.

Because many LTAs are legally unenforceable when they are signed (due to the absence of a quantity term),<sup>186</sup> the agreements may be more important for the ways they facilitate interactions between the parties and reduce uncertainties about how good the products produced by the supplier will be or how competent one’s counterparty is.<sup>187</sup> However, even if the agreements were legally enforceable, damage

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180. WILLIAMSON, CAPITALISM, *supra* note 28, at 57 (discussing behavioral uncertainty).

181. See Bernstein, *Beyond Relational Contracts*, *supra* note 7, at 563.

182. See *id.*

183. WILLIAMSON, CAPITALISM, *supra* note 28, at 21.

184. *Id.* at 10.

185. Gilson et al., *Braiding*, *supra* note 4, at 1383 n.10. (defining “switching costs—the costs one party to a contract must incur in order to replace the other party to the contract”).

186. See generally JAMES J. WHITE & ROBERT S. SUMMERS, UNIFORM COMMERCIAL CODE §§ 4–9 (6th ed. 2010) (detailing need for quantity or in the absence of a specific quantity, a requirements contract).

187. WHITFORD, *supra* note 2, at 98–99.

claims for breaches of the protocols would be difficult due to the contract doctrine requiring certainty in proving damages. Accordingly, reliance on informal enforcement would likely be predominant.

Of course, the same uncertainties plague any supply chain for the sale of goods and not all parties exchanging goods resort to LTAs with information sharing protocols or unanimity rules. Why would that be the case? In cases where there is no guarantee of repeat business, the supplier has to work hard to earn the trust of the buyer who may not know him initially. The supplier needs to demonstrate his competence and commitment to quality and reliability where those matters are unknown to the counterparty. Uncertainties about those matters can be lowered by iterative steps taken by the supplier.

Even when there is certainty about the final product, the parties may still encounter uncertainty. Specifically, there may be uncertainty regarding whether the goods will be quality goods and timely delivered, and whether the supplier is reliable. Iterative responses during the supply contract can lower these uncertainties, even without any formal requirement in an LTA to share information.

To assess why parties forego using LTAs with formal informational sharing protocols and opt to use another arrangement to govern supply chains instead, one must first assess the rationales offered for the formal informational protocols. Later, it might be useful to assess whether those rationales would also apply to non-LTAs.

The formal information sharing and iterative collaboration result in reduced uncertainty about a party's competence and reliability and in parties mutually investing.<sup>188</sup> For example, in the pharmaceutical industry, a party—usually the funding party—has a unilateral right to withdraw.<sup>189</sup> So, while the parties do not yet know what will be produced, they are required to share information. That requirement incentivizes the research biotech industry to invest adequately in research since without adequate investment the funding party will withdraw. The information sharing mechanisms lend transparency to

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188. *Id.*

189. Gilson et al., *Contracting for Innovation*, *supra* note 35, at 470.

the investments, providing confidence that the process is “fair,”<sup>190</sup> and also leads to “iterat[ive], cooperative adjustments.”<sup>191</sup>

The iterative steps are taken in the context of a contract that has nested options as well as provisions for how to handle disagreements. Due to “nested options regulating the sequence and conditions under which the parties can . . . commercialize the product”<sup>192</sup> contractual options within an arrangement—the party that functions as the research entity will not take costly precautions to protect themselves. For example, the research entity will not withhold information as their research yields more results, because they will be protected once they are able to produce a successful product from expropriation by the other party.<sup>193</sup> Constraining opportunism can be done in a number of ways. The right to withdraw and nested options encourage the researching party to invest sufficiently in research, transparency gives security to both parties, as well as dispute resolution mechanisms which increase accuracy in determining whether the parties have invested appropriately.<sup>194</sup> These sharing protocols also deter “blatant” abuses of shared information.<sup>195</sup>

In a supply chain where there is no major design collaboration and the product is a standard good, other party’s reliability, shirking potential, and competence are the major uncertainties. To reduce the uncertainties about the counterparty, the parties could, but do not always, require a transfer of information in a formal LTA. Instead, they may rely on other means of constraining opportunism.

For example, the lock-in effect,<sup>196</sup> which serves to deter parties from switching to another supplier or buyer when the party has performed, can occur even without the formally orchestrated exchange of information in an LTA. As parties deliver goods, make adjustments, and demonstrate their competence and reliability, they reduce uncertainty about the competence and reliability of the counterparty leading to a lock-in effect generated by the actions taken. In these

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190. See Gilson et al., *Braiding*, *supra* note 4, at 1409 (explaining that the information transmission is combined with governance mechanisms that may implement a contract referee for disputes); see also *id.* at 1403 (explaining that because unanimity may be required for actions, parties can easily request information from the other party to secure their consent and “makes it easy for reasonable skeptics to require more information”).

191. *Id.* at 1408.

192. *Id.*

193. *Id.*

194. Gilson et al., *Contracting for Innovation*, *supra* note 35, at 491.

195. Gilson et al., *Braiding*, *supra* note 4, at 1384.

196. Gilson et al., *Contracting for Innovation*, *supra* note 35, at 480.

settings—and even when they are not in a situation where repeated dealings are contemplated—parties may still be constrained if the information about their behavior will reach others in a network to which both firms belong. The very process of dealing with each other and gaining confidence in the other party about their ability to produce quality goods has similar benefits of constraining opportunism and locking in the parties without the need for formally shared information protocols.<sup>197</sup> Thus, adoption of such protocols cannot be explained solely by the benefits of the lock-in effect. Moreover, the lock-in effect can also be achieved by a different contractual arrangement that locks both parties in with an upfront continuing commitment to purchase, as was the case with the German and Japanese economies.<sup>198</sup>

Bernstein suggests another answer as to why information sharing protocols exist. She explains that such arrangements “broaden[] the self-enforcing range of contractual obligations” and “expand[] the types of behavior that can be sanctioned.”<sup>199</sup>

Finally, Bernstein suggests that they “clear a space for other, extralegal modes of contract governance.”<sup>200</sup> These information sharing protocols

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197. If a supplier terminated its relationship with a buyer, it would have to explain to future buyers why it did so. Since future buyers would be wary of suppliers who terminate relationships, suppliers would be hesitant to exit, leading to a lock-in effect. A similar, parallel effect could constrain buyers.

198. Gilson et al., *Braiding*, *supra* note 4, at 1410–11 (discussing different governance mechanisms that produce a lock-in effect in a different way than the information sharing protocols do). Instead of gradually raising switching costs through increased trust and confidence, the Japanese and German companies “first raise switching costs—in effect prohibiting exit from the relationship—and then devising ways of sharing information to work productively within the constraints they have imposed.” *Id.* at 1411.

199. Bernstein, *Beyond Relational Contracts*, *supra* note 7, at 563. Bernstein explains as follows: “For example, suppose that a supplier refused to permit a buyer’s representative to conduct an unannounced factory inspection or audit that was authorized by the MSA.” *Id.* at 603. The “buyer would not have a credible threat to sue for damages,” *id.*; however, the protocols offer the supplier a way of credibly committing to the buyer knowing that breaches of the audit protocol will lead to informal sanctions.

For a discussion of credible commitments as a private device to lower uncertainties about the other party, see WILLIAMSON, *CAPITALISM*, *supra* note 28, at 167 (defining credible commitments as “tactics by which one party can realize an advantage in relation to a rival by credibly ‘tying one’s hands’”). In the context of the supply chain, suppliers subscribing to abide by information sharing mechanisms are in effect offering a type of hostage or bond that distinguishes those willing to share such information from suppliers who refuse to do so.

200. Bernstein, *Beyond Relational Contracts*, *supra* note 7, at 562.

also secure a higher price for the supplier than could otherwise be obtained or secure a contract that it could not otherwise obtain.<sup>201</sup>

If iterative steps can be taken to lower uncertainties about shirking and reliability, or if a supplier can resolve those uncertainties simply by agreeing to a buyer's terms and conditions not to sell any product that does not conform to a buyer's quality manual,<sup>202</sup> informal governance can proceed without LTAs, then why would some relationships benefit from the additional formal provisions mandating information sharing? Why and when would those additional formal provisions be worth the cost or would there be offsetting benefits that would outweigh the costs of negotiation?<sup>203</sup> There will always be space for informal governance even without the formal information sharing protocols. Therefore, the real question is whether the benefits in lowering uncertainties and building trust where there is no preexisting trust outweigh the other costs of negotiating an LTA and the potential costs of opportunistic exploitation of the information? The answer to that question will vary with different contexts.

To understand why some parties use LTAs while others do not, consider several cases. Consider also the bargaining lens with its focus on the parties' individual interests and their desire to minimize transaction costs to maximize surplus. One case involves the supply chain in the automotive context, another setting involves a manufacturer of a standard product that is fungible, and another involves the highly collaborative project on research.

In the automotive context, there are likely to be large asset specific sunk costs. Such large sunk costs are also likely to be present in the collaborative research context. However, these sunk costs would be less likely where there are fungible goods. Differences in the degree of sunk costs and asset-specific investments may explain the differential use of LTAs.<sup>204</sup> The need to protect those sunk costs may explain the

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201. See WILLIAMSON, *CAPITALISM*, *supra* note 28, at 20 (stating that credible commitments act as a kind of safeguard to "restore integrity to transactions"); see also *id.* at 24 (depicting that transactions with safeguards are acting to minimize hazards and will be priced accordingly).

202. See, e.g., DEERE & CO., *PURCHASE ORDER*, *supra* note 53, at 2.

203. See Gilson et al., *Braiding*, *supra* note 4, at 1414 (noting several disadvantages of an approach to lock in a buyer by contract which obligates a buyer to continue purchasing products or services). Among other things, the disadvantages included increased shirking and a lessened ability to deal with disruptions and challenges, which suggest reasons for why the incremental building of a lock in effect over time has advantages over the lock in effect achieved by long-term commitments.

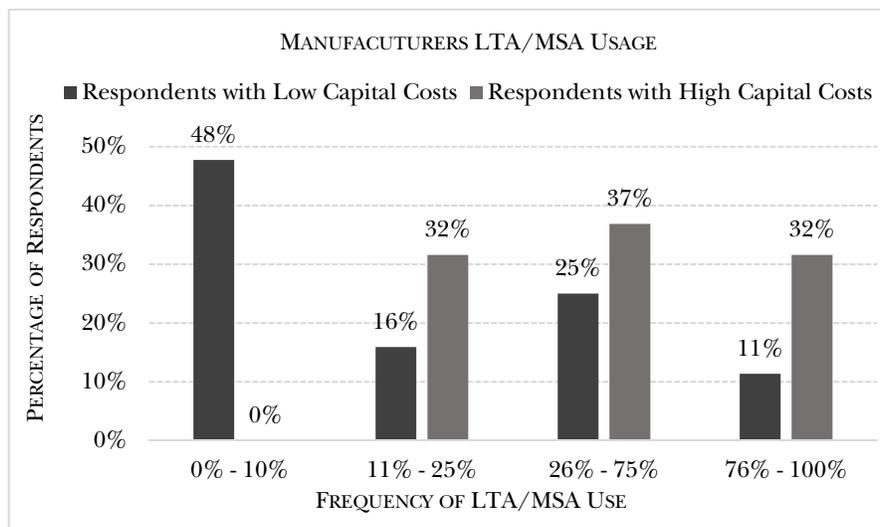
204. General Counsel Interview, *supra* note 20. Nineteen of the sixty-eight companies surveyed indicated that they acquired capital equipment for a specific buyer in at least 67%

willingness to take on the additional costs of an LTA, even with the onerous terms that are often contained in such agreements. Where large sunk costs are not present, and the goods can be resold to others, the need for an LTA may be reduced—especially if other means of assuring reliability exist.

of their dealings. Of these companies, thirty-two percent indicated that they use LTAs and MSAs at least seventy-six percent of the time. All of the companies indicated that they use LTAs or MSAs at least eleven percent of the time. Although the sample size is small, survey results tend to indicate that manufacturers who incur significant costs to purchase capital equipment are more likely than the average manufacturer to use an LTA.

MANUFACTURERS WITH LTA/MSA USAGE			
PERCENTAGE OF LTA USAGE BY MANUFACTURERS	RESPONDENTS WITH HIGH CAPITAL COSTS	RESPONDENTS WITH LOW CAPITAL COSTS	ALL RESPONDENTS
0% - 10%	0	21	21
11% - 25%	6	7	13
26% - 75%	7	11	18
76% - 100%	6	4	11
TOTALS	19	43	63*

\* One manufacturer did not indicate their capital costs in the survey.



204. See Helper Interview, *supra* note 160 (discussing the Donnelly/Honda example).

Additionally, where one party's production is dependent on the other party's production, information sharing protocols may be important in preventing problems early before they adversely impact the buyer's production. The information sharing protocols would then provide added benefits that would outweigh the costs. Further, when there are large, asymmetric sunk-cost investments, the presence of information sharing protocols may lessen uncertainties and encourage investment which might not otherwise occur if there were no formal sharing of information to demonstrate the other party's willingness to collaborate.

*B. Lowering Costs: Lowering the Cost from Shirking by Permitting Self-Help*

The information provisions lower the costs from supplier shirking. Because LTAs are structured to permit buyers to exercise a great deal of self-help, they promote self-enforcement of matters involving the quality of goods.<sup>205</sup> First, if the goods do not meet the buyer's standards, the buyer can insist that the supplier send new goods meeting those standards, and the supplier may need to assume expedited shipping costs.<sup>206</sup> Instead of rejecting goods that are substandard<sup>207</sup> and then suing the supplier, buyers are often not obligated to buy goods that do not meet their standards.<sup>208</sup> That helps lower the costs that the buyer must shoulder for substandard goods. Suppliers agreeing to such clauses may signal their commitment to sending high quality products.

Of course, even in the absence of an LTA providing that the buyer can reject a supplier's substandard goods, parties often exercise self-help. If a buyer complains about a product, the supplier might simply take the product back<sup>209</sup> and rarely would anyone sue over a performance obligation. So, self-help can occur without information sharing protocols or LTA provisions on self-help being present.

The bargaining lens may help explain why a buyer and a seller's joint interest in minimizing transaction costs and maximizing value might be served by an LTA self-help provision. The provision helps the buyer avoid the cost of legal enforcement over substandard goods and

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205. See Bernstein, *Beyond Relational Contracts*, *supra* note 7, at 607 (discussing the connection between self-enforcement and network governance).

206. See, e.g., Sun Microsystems MSA, *supra* note 21, § 8.2.

207. U.C.C. § 2-601 (AM. LAW INST. & UNIF. LAW COMM'N 2017).

208. See, e.g., Whirlpool Strategic Alliance Agreement § 6.3 (Mar. 15, 2002).

209. See General Counsel Interview, *supra* note 20.

insures that it is only obligated to pay for conforming goods. The supplier's self-interest is in signaling that it is a high-quality supplier. Whether the buyer agrees to that kind of term in an LTA will depend on whether there are other benefits from agreeing to the LTA, such as cementing a relationship with a buyer or securing a long-term commitment that is either legally enforceable or comes with an implicit expectation of other benefits from the buyer, should the buyer terminate its purchases early.<sup>210</sup>

*C. Overcoming Asymmetric Information: Credible Commitment*

LTAs also act as a way for suppliers to offer a credible commitment to their potential buyers.<sup>211</sup> Buyers who might be reluctant to do business with a supplier—because of uncertainties about their competence or reliability—will agree to do business with suppliers who sign LTAs. When searching for a long-term supplier, buyers often require candidate suppliers to prequalify. In this situation, the buyer will have more information about the supplier before the contract is signed, which helps solve the problem of asymmetric information.

Some suppliers may also agree to participate in webinar training or achieving excellence programs.<sup>212</sup> Additionally, suppliers may opt to disclose more information on a continuing basis.<sup>213</sup> The supplier may agree to give the buyer access to the supplier's plant, perhaps with the provision of a quality engineer on the premises. Suppliers could also agree to give buyers access to cost information and audits. Because suppliers have to furnish quality control reports, participate in quality training programs,<sup>214</sup> provide cost information, and agree to

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210. See Helper Interview, *supra* note 160.

211. See *supra* note 199 (discussing credible commitments).

212. See Bernstein, *Beyond Relational Contracts*, *supra* note 7, at 581–83; Gilson et al., *Contracting for Innovation*, *supra* note 35, at 459–63 (discussing the John Deere “Achieving Excellence” program); see also Deere & Co. & Stanadyne Corp., Long Term Agreement § V (Nov. 1, 2001), <https://www.sec.gov/Archives/edgar/data/1053439/000119312507182449/dex1011.htm> (providing that Stanadyne Corp. will strive to meet or exceed the John Deere “Achieving Excellence” requirements).

213. Bernstein, *Beyond Relational Contracts*, *supra* note 7, at 583 (discussing continuing obligations to supply information through plant inspections and financial audits).

214. *Id.* at 579 n.62 (noting that John Deere LTAs require supplier participation in training). Suppliers may also agree that if their products are below specified metrics, the buyer is not obligated to buy.

participate in mandates for root cause analysis<sup>215</sup> for problem detection,<sup>216</sup> the buyer learns about the supplier's competence and reliability. This lowers the uncertainty about the counterparty as the parties exchange goods with each other.

Suppliers agree to participate in part because by lowering uncertainty for the buyer and signaling its willingness to share information, the supplier earns a higher price for its goods. In a sense, the supplier's agreement to engage in information sharing constitutes a credible commitment,<sup>217</sup> which increases the price the buyers will pay. Presumably, without such information agreements, the buyer might pay less because more uncertainties about the supplier would remain unresolved.<sup>218</sup>

Even without an LTA with a formal information sharing device, the supplier might undertake to signal its reliability and competence in other ways. It could pre-qualify as a supplier<sup>219</sup> and meet the specifications of the buyer before bidding or warrant its compliance with a quality manual in the purchase order. Suppliers could also agree to terms and conditions which give the buyer a termination for convenience clause, agreement to which would signal the supplier's confidence in the quality of its goods.<sup>220</sup> Under the bargaining lens modeled here, suppliers will weigh the increased prices paid for credible commitments in the form of information sharing against possible costs such as buyer expropriation of shared information.

#### D. Other Benefits of LTAs: Improved Methods of Production

In this process of continuous improvement, the LTA may provide for the pooling of information. This shared information leads to parties becoming increasingly nimble at adopting new methods.<sup>221</sup>

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215. *Id.* at 584 (citing James J. Rooney & Lee N. Vanden Heuvel *Root Cause Analysis for Beginners*, 37 *QUALITY PROGRESS* 45, 45 (2004)) ("A rootcause analysis is 'a tool designed to help identify not only *what* and *how* an event occurred, but also *why* it happened.'").

216. Helper et al., *Pragmatic Collaborations*, *supra* note 22, at 443, 466.

217. Gilson et al., *Braiding*, *supra* note 4, at 1438 ("It is this information sharing regime that 'braids' the formal and informal elements of the contract and endogenizes trust.").

218. See WILLIAMSON, *CAPITALISM*, *supra* note 28, at 174 (discussing the value of credible commitments in reducing a hazard of an exchange and thereby increasing the efficiency of the exchange).

219. Bernstein, *Beyond Relational Contracts*, *supra* note 7, at 596–97.

220. *Termination for Convenience Under the Uniform Commercial Code*, ABA COM. L. NEWSL. (Matthew C. Brown et al., Chicago, Ill.), Mar. 10, 2014, at 3, 4 (explaining that termination for convenience clauses are "becoming increasingly popular in supply agreements").

221. Bernstein, *Beyond Relational Contracts*, *supra* note 7, at 597 ("Relational capital increases flexibility, enables the parties to rely on reciprocal informal adjustments being made over time, and leads to the sharing of information that can greatly reduce production costs.").

The sharing of information reduces concerns about remaining ignorant of the other and the greater transparency may lessen what one author terms “incitements to trickery.”<sup>222</sup> It may also be useful in benchmarking and error detection techniques that permit the parties to collaborate on improvements in efficiencies.<sup>223</sup> Finally information sharing also exposes the supplier to the culture of the buyer, and that understanding gives the supplier an edge in becoming a better supplier.

*E. Personal Ties Enhanced; Cost Reductions Originated*

The LTA may also provide for personnel meetings, visits to the supplier’s plant, or visits by supplier engineers to the buyer.<sup>224</sup> The buyer could mandate a quality engineer to inspect the supplier’s plant. All of these formalized interactions facilitate trust and information sharing, in part through the development of personal ties.<sup>225</sup> The supplier may also agree to, or be pressured to, accept targeted price reductions of a certain percentage each year. One author suggests that “[s]imple sharing rules may result”<sup>226</sup> and under such rules the parties could agree on how to share the “gains from innovations.”<sup>227</sup>

As with other benefits generated by LTA provisions that require or encourage visits to the supplier or buyer plants, the question is whether such ties could occur without being formally orchestrated. Presumably, some could occur without being formally required. These personal connections could occur because the parties are embedded

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222. See Helper et al., *Pragmatic Collaborations*, *supra* note 22, at 471.

223. *Id.* at 466 (explaining that “the exchanges of information required to engage in benchmarking, simultaneous engineering and error detection and correction also allow the collaborators to monitor one another’s activities, closely enough to detect performance failures and deception before they lead to disastrous consequences”); see also Tang & Zimmerman, *supra* note 88, at 78 (discussing the case study of the diffuse network that built the Boeing 787 “Dreamliner”).

As Boeing outsourced more, communication and coordination between Boeing and its suppliers became critical for managing the progress of the 787 development program. To facilitate the coordination and collaboration among suppliers and Boeing, Boeing implemented a web-based tool called Exostar that is intended to gain supply chain visibility, improve control and integration of critical business processes, and reduce development time and cost . . . .

*Id.*

224. Bernstein, *Beyond Relational Contracts*, *supra* note 7, at 593.

225. *Id.* at 592–94.

226. Helper et al., *Pragmatic Collaborations*, *supra* note 22, at 472.

227. *Id.* at 473.

in a network.<sup>228</sup> Parties constantly communicate information that results in numerous benefits, including greater trust in veracity of the information shared.<sup>229</sup> In other cases, the parties can be autonomous firms without formal information sharing protocols, but personal ties can develop as the relationship continues. Alternatively, the parties may not share close personal ties but may share ties to a network of buyers and suppliers that share information, making personal ties unimportant. The incentive to formally require inspections on an ongoing basis with the resulting closer personal ties might be more likely when the buyer's investment is dependent on the success of the supplier. As the buyer invests more in the joint project, it has more to lose if the supplier cannot produce quality parts or fuselages in a timely fashion. Thus, as the parties are locked into a bilateral relationship of mutual dependency, the willingness and need to adopt provisions to control hazards is greater.

*F. Preventing Problems from Arising;  
Switching Costs Deterring Opportunism*

These information mechanisms achieve major benefits one of which is helping prevent problems from arising.<sup>230</sup> Although the provisions may be largely unenforceable, since it is hard to envision how the buyer could sue for damages for failure to share information, they will help the buyer identify problems early on and ensure that the buyer has a continuous flow of information that will help it improve its products and remain competitive.<sup>231</sup> The protocols alert the supplier to the kinds of information it needs to make available to its buyers and sets up expectations for the personnel at the supplier. The "braiding" that results from the multiple interactions may help to deter opportunism by both buyer and supplier. The supplier would be deterred from shirking because if it did, and it lost the supply contract, it would have to explain to a new buyer why it exited a prior LTA. Similarly, if the buyer needed to find a new supplier, it would have to explain to the new supplier why it had terminated a prior supplier. It would have to assure

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228. Brian Uzzi, *Social Structure and Competition in Interfirm Networks: The Paradox of Embeddedness*, 42 ADMIN. SCI. Q. 35, 36 (1997). Embeddedness can take "four forms: structural, cognitive, political, and cultural." *Id.*

229. *Id.* at 46.

230. Bernstein, *Beyond Relational Contracts*, *supra* note 7, at 564 (noting "contract administration mechanisms . . . create the conditions for producing goods to a buyer's specifications").

231. *Id.*

the new supplier that it had not acted opportunistically, or it might have difficulty getting the new supplier to collaborate on a project.

Although few formal provisions burden buyers,<sup>232</sup> once the parties have solidified a relationship with each other that may include information sharing, visits to the supplier's plant, and even training seminars to be held at the buyer's facilities, there are informal forces that will keep buyers from going to another supplier. Thus, the benefits of this arrangement arise from a constraint of switching cost, rather than a legal cost of breaching a term of the LTA.

Can these switching costs occur without formal information transfer mechanisms? There are many ways to create switching costs without an LTA. For example, a supplier could raise switching costs for a buyer by making a unique part for a buyer. Similarly, if a supplier develops a fuel pump for an airplane engine and the Federal Aviation Administration (FAA) for the life of the airplane approves the fuel pump,<sup>233</sup> then that buyer will have infinite switching costs as the FAA would have to approve a new fuel pump. Changing to a new fuel pump would not be possible without violating the airplane manufacturer's agreement with the FAA to install only pre-approved parts. Switching costs can occur in any relationship as a party provides the other party information about its reliability and competence through its performance.

Gilson, Sabel, and Scott explain this phenomenon as one that occurs "in markets where learning about the quality of potential substitute suppliers and their products is time consuming and expensive, there can be significant barriers—switching costs—to exiting a relationship."<sup>234</sup> Presumably, even without entering into an LTA with formal information protocols, the knowledge gained about the counterparty's abilities and reliability will act as a deterrent to exit. If a buyer complains about a product, and the supplier offers a concession in price without even requiring that the defective products be returned,<sup>235</sup> both parties are learning about the other, even if there is no required disclosure of information. When a supplier offers a concession on the invoice for defective products the customer complained about without even looking at the parts, it demonstrates that it is trustworthy and standing behind the quality of its products. At the same time, the reasonableness of the buyer's

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232. *Id.* at 593 ("Buyers have few information disclosure obligations apart from a duty to provide non-binding rolling forecasts on a monthly or quarterly basis.").

233. See General Counsel Interview, *supra* note 20.

234. Gilson et al., *Contracting for Innovation*, *supra* note 35, at 482.

235. General Counsel Interview, *supra* note 20.

complaint will signal to the supplier how trustworthy the buyer is. Is the buyer trumping up complaints or registering reasonable objections? Or is there a miscommunication of expectation between the parties that can be corrected? This “joint effort” that occurs as parties interact with one another can occur even without the formal information provisions in an LTA. The degree of investment and performance might be greater when parties are involved in a collaboration, but the same learning through observing a party’s iterative, incremental performance can occur even when parties operate purchase order by purchase order.

*G. New Forms of Misbehavior Identified*

LTAs, with their frameworks for information sharing, personnel exchanges, and mechanisms for detecting and correcting error and encouraging training to meet buyer standards, may foster the building of social capital and trust and encourage collaboration to develop innovative products.<sup>236</sup> LTAs may facilitate informal enforcement in another way. By detailing lots of ways in which suppliers are expected to cooperate, buyers have new categories of misbehavior which broadens “the types of behavior that can be sanctioned through reputational harm or rewarded.”<sup>237</sup> And these categories of cooperation or misbehavior do not require judicial verification.<sup>238</sup>

Of course, if the LTA laid out an information sharing mechanism that specified “the types of behavior that can be sanctioned through reputational harm,”<sup>239</sup> then the LTA would be broadening the basis for imposing sanctions. But an LTA with a provision outlawing certain behaviors would not need to exist in order for a buyer to sanction a counterparty informally. For example, a buyer may be dissatisfied with the performance of the supplier because the supplier was not particularly cooperative or willing to make adjustments, even though the supplier may have technically met the requirements of the contract. In this case, the buyer could, and would, downgrade the supplier in future dealings, even without any LTA provision that required or ranked the supplier on cooperativeness. So, the question remains whether the LTA provisions actually “broaden the self-

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236. Bernstein, *Beyond Relational Contracts*, *supra* note 7, at 602–04.

237. *Id.* at 563.

238. *Id.* at 584.

239. *Id.* at 563.

enforcing range of contractual obligations<sup>240</sup> or whether they are the exclusive means of broadening the basis of sanctions.

*1. Positive Benefits of LTAs: Planning Benefits and Centralization*

In some cases, there are reasons to enter into LTAs that originate not from an attempt to control contractual hazards but to achieve two other benefits.

One benefit from having a formal LTA is a planning benefit, which lays out the obligations of the parties in a systematic way. There is a benefit to parties in doing that “as a way of minimizing misunderstandings about what current thinking is about the future.”<sup>241</sup> Writing allows parties to “identify incompletenesses in our thought processes, and even analytical errors.”<sup>242</sup> Written agreements governing long-term relationships are not new, but outlining the planning benefits is important in terms of the bargaining lens. How much weight do the parties place on a written agreement that takes the form of an LTA? Does an LTA as a written document for planning have a larger role in the innovation context where parties must engage in a complex process of research and funding?<sup>243</sup> Parties routinely resort to consulting the LTA when questions arise during the course of the relationship and thereby depart from the usual practice of rarely consulting contracts in a sale of goods context.

A second positive benefit of an LTA that takes the form of an SFK is to “centralize decision-making.”<sup>244</sup> Rather than allowing individual managers to negotiate individual contracts, the implementation of the LTA is centralized with unified control of what the terms look like. In the context of OEMs and suppliers, where OEMs depend on many suppliers for inventory items, the LTA SFK offers another advantage. Buyers have to be able to assure suppliers that they are offering standard terms to all suppliers and thus offering parity and that the LTA offers that benefit.

## VI. DIVERSIFIED STRATEGIES

Despite all the advantages that formal information sharing protocols achieve that have been outlined earlier in this Article, some initial

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240. *Id.*

241. Whitford E-mail, *supra* note 13.

242. *Id.*

243. Hadfield & Bozovic, *supra* note 2, at 996. Hadfield and Bozovic suggest that the planning aspect in innovation contexts is a very important function.

244. Whitford E-mail, *supra* note 13.

empirical research<sup>245</sup> indicates that, parties do not adopt one uniform approach to solving problems in supply chains and in collaborating; the LTA is one mechanism, but parties may deliberately opt for other ways of exchanging goods. Their choices may depend on a number of factors including the transaction costs of negotiating an LTA, and whether the LTA is needed to protect large sunk costs or capital equipment specially manufactured for a buyer. Other arrangements into which parties enter to protect their capital investments include: (1) LTAs with a quantity term; (2) operating purchase order by purchase order; (3) acting as a contract manufacturer and limiting liability by executing a blueprint without any deviation; and (4) entering into joint development projects that protect capital investments exclusively by intellectual property (IP) and licensing mechanisms.

In thinking about why parties might adopt LTAs to govern their relationship, it is important to note that parties exchanging goods, and even developing new products, have a variety of ways to structure their arrangements. Key benefits of some LTAs derive from the transfer of information, which, in turn, facilitates informal governance and constrains opportunism in the face of uncertainty about competence, shirking and reliability. However, parties may devise other ways of operating beyond the LTA without the information sharing protocols (braiding mechanisms) discussed earlier. They will find ways, even without an LTA, to engage in informal governance to achieve the quality goals without resorting to a lawsuit. As Jennejohn explains, there is a “rich diversity of governance strategies observed in the design of many alliance contracts.”<sup>246</sup> This Part explores these diversified strategies below.

#### A. *LTA with a Quantity Term*

Some parties may insist on an LTA that contains a quantity that would make it legally enforceable *ex ante*.<sup>247</sup> This is different than the prototypical LTA studied by scholars because it contains a quantity requirement and is immediately enforceable. A supplier may insist that their LTA contain a provision that prevents the buyer from cancelling without paying for work in the pipeline. If the supplier has invested in large capital equipment or tooling costs, the supplier may insist that

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245. Kostritsky & Ice Survey Results, *supra* note 18.

246. Jennejohn, *supra* note 10, at 290.

247. Interview with Supplier (June 16, 2017) [hereinafter Supplier Interview] (on file with the American University Law Review).

the LTA contain provisions providing for an exit termination fee or minimum quantity requirement.

In some settings, the parties may find that informal enforcement measures or reciprocal investments are not enough to deter potential opportunism and that an LTA with firm purchase and monitoring obligations is necessary. This is especially likely when there is no a long-term arrangement between the parties and there are large capital equipment costs that must be incurred by the supplier. When these informal forces are unlikely to work because of the lack of ongoing relations, or when a market dominant player is involved, the supplier's threat to impose reputational sanctions on a buyer (an original equipment manufacturer) such as Boeing may not work. Then, a term in a legally enforceable LTA that prevents the buyer from cancelling without paying an exit termination fee or a minimum quantity term may be important to a supplier. Some smaller manufacturers may insist on such a provision before entering into an LTA with a buyer, and they will not sign an LTA without a quantity term, thereby ensuring its enforceability. Such suppliers are likely less concerned about LTA provisions pertaining to information sharing, monitoring, and trust building. As the party responsible for producing the fungible commodity, these suppliers do not find learning by monitoring provisions as important as some buyers do.

But it may be critical to have an enforceable contract that can offer protection against opportunism if things go awry due to the large investment in capital equipment.

If the volume is in the thousands or millions, supplier firms may be unwilling to do business without an LTA, but there are other instances in which parties forego an LTA. For suppliers manufacturing a unique piece of equipment when there are no continuing purchases, having an LTA or some other contract such as a purchase order that is legally enforceable and that covers the capital equipment will be the key issue.<sup>248</sup> For a one-time 3D printing order, a firm may forego an LTA.<sup>249</sup> The only risk is that the supplier will not get paid for that item. In that instance, the transaction costs of negotiating an LTA are not warranted.

The decision about whether to enter an LTA with a quantity term may depend on the potential for a lost sunk cost if the contract is not enforceable. However, if the LTA is crafted by a large OEM, it may be

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248. *Id.*

249. *Id.*

drafted in a very pro-buyer fashion, with mandated cost reductions imposed on the supplier. In order to decide whether the LTA offers enough value in terms of constraining opportunism, the supplier will need to analyze the switching cost. Suppliers must determine if these switching costs will offset some of the disadvantages of a continuing cost reduction percentage imposed on an annual basis by a buyer and the transaction costs of negotiating one.

*B. Purchase Order by Purchase Order*

Of course, there are alternative ways of doing business contractually outside an LTA. A supplier can deliberately choose to operate purchase order by purchase order, even with large OEMs.<sup>250</sup> With the purchase order by purchase order (“PO by PO”) means of doing business, the supplier can attempt to introduce terms that are favorable to it and may insist on terms that deal with warranty, damages (particularly damages caps), insurance and indemnity, and disclaimers of liability. Those provisions may be critical for suppliers whose products are going to be used by buyers who will suffer large consequential damages if a part malfunctions and a factory is shut down or a catastrophic liability if a malfunctioning part causes an airplane to crash and parties to be injured. Suppliers who operate PO by PO may use informal mechanisms of adjustment that are extra-contractual, but in some instances the contractual provisions will be very important. Regardless of whether the supplier is signing an LTA or operating on a PO by PO basis, the supplier may insist on getting limits on damages and eliminating consequential damages.

The willingness to enter LTAs without a firm quantity requirement but with elaborate information sharing requirements, or to enter an LTA with a firm quantity requirement, may shift when asymmetric investments or large sunk costs are absent. In such cases, suppliers may be less willing to undertake the negotiation costs of entering into an LTA or MSA. Instead, the supplier may opt to operate with a quote, that is, a purchase order and acknowledgement. This is particularly likely to be true when the supplier produces most of its products from a catalog and the buyers buy from the catalog.<sup>251</sup> The supplier could sell its catalog products to others. In such cases, the supplier may insert terms that favor itself in its acknowledgement order that it hopes will

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250. General Counsel Interview, *supra* note 20.

251. *Id.*

govern the transaction should there be a dispute. It can control the content of the contract by rejecting terms that are in the buyer's purchase order and are harmful.

In cases where the sunk costs are low because the supplier is making a fungible item or where the co-design is very limited, the costs of the LTA may outweigh the benefits particularly when the LTA may contain negative provisions like mandatory cost reductions on an annual basis. The big threat that the supplier faces is that of the buyer reneging after the supplier invests in large and expensive capital equipment. When that is not present, the risks for the supplier are lower.

In addition, there is always the risk that a buyer will falsely claim that the goods produced by the supplier are substandard or defective. But those risks can be managed by adjustments between the parties. The supplier can offer to replace defective products and pay for the cost of shipping in order to keep the buyer happy. Then, as the relationship goes on, the switching costs become real and acts as a deterrent to the buyer falsely claiming defective products.

However, even if the parties often rely on informal adjustments, there will be provisions that a supplier operating on a PO by PO basis may insist on in the event that there is a lawsuit. One supplier has indicated that the most important provisions concern warranty, liability, damage caps, IP, insurance, and indemnity.<sup>252</sup> These provisions are likely to be important when informal ways of solving problems have broken down and a lawsuit has been initiated. The lawsuit may be initiated by a third party who is suing the buyer for an airplane that blew up, or a medical device that malfunctioned that contained a part manufactured by a supplier. In these kinds of circumstances, the liability caps and consequential damages provisions may be key.

### *C. Contract Manufacturer*

Another alternative means of managing the exchange of goods occurs when the supplier chooses to protect itself by limiting its role to that of a contract manufacturer. It may take the blueprints of a medical supply company but refuse to put its insignia on the print or to deviate from the buyer's print in order to limit its own liability. The liability exposure with medical devices is substantial, and the supplier who coordinates on production of such a device may obtain protection by becoming the implementer of a drawing made by someone else. In

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252. Supplier Interview, *supra* note 247.

such cases, they may operate without an LTA. The absence of a stream of future orders would mean that the transaction costs of an LTA might not be worth it. Finally, the supplier may coordinate with another party on the joint development of a product. But, instead of using an LTA, the supplier may instead protect itself and its investment through an intellectual property and licensing agreement with the other party. In other cases, where the goods are not customizable and are out of a catalog, the parties may not use or need a network that results in an LTA, and the absence of such a network may be optimal and efficient.<sup>253</sup>

#### *D. Customizable Goods IP and Licensing Contracts*

Even when the supplier does have large sunk costs and undertakes to create a customizable product with another partner, it may decide that it will protect itself against opportunism only with IP protections in a contract and may forego using an LTA. In the case of a jointly developed product, it may be impossible to describe the product for purposes of a purchase order and the time horizon may be limited; the joint product development will end with the product being successfully created. By negotiating IP ownership rights, the supplier can protect its sunk costs and therefore does not need to enter into an LTA. It may not be able to describe the item with sufficient definiteness for either a purchase order or an LTA, but it can negotiate the ownership of the IP from the product that is jointly created. The question for further research is what are the characteristics of a transaction that will incline a supplier to use IP for joint product development rather than an LTA. What can we learn from that choice?

#### *E. Deliberately Choosing Diversified Strategies: The Tailoring of Contract Form to Minimize Costs, Control Hazards, and Maximize Welfare*

This Article suggests that because not all parties adopt the formal information sharing arrangements in an LTA, opting to operate purchase order by purchase order instead, the choice must be

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253. “Ideal-typical networks presuppose: (1) an organizational field characterized by a combination of unstable demand and either rapidly changing knowledge or complex interdependencies and (2) the embedding of economic activity in social institutions that simultaneously engender a continuous search for new information and safeguards against opportunism . . . .” Schrank & Whitford, *supra* note 97, at 157. When there are not “complex interdependencies,” the investment in the sharing protocols of information may not be worth the transaction costs of negotiating the agreement. *Id.*

explained by some additional costs posed by these formal information sharing arrangements and the overall costs of an LTA. This Article suggests that the costs of such formal information sharing protocols and of entering an LTA might outweigh the benefits particularly where a long-term relationship reduces uncertainty about competence and trustworthiness, leads to a lock in effect and constrains opportunism, making the information sharing protocols unnecessary.

Moreover, if the parties are part of a network of suppliers and buyers, they may be able to acquire information about the behavior of parties even without formal information sharing protocols. Where the supplier can easily resell to others, because the part is a catalog part not requiring large sunk costs, the need to secure a long-term commitment to recoup those sunk costs would be absent, making the benefit of an LTA including one with information sharing protocols less beneficial, particularly when such agreements often contain terms onerous to the supplier. In such cases, an LTA with sharing protocols may not be needed.

Finally, parties may avoid such agreements because the very sharing protocols that facilitate informal enforcement by the buyer also can be subject to abuse by the buyer who appropriates shared information and gives it to a competitor of the supplier.

If the buyer today is dissatisfied with quality, it may refuse to buy, but since the provision on quality is tied to the buyer's own metrics of excellence, a supplier would have difficulty suing a buyer for refusing to take its products.<sup>254</sup> This would lead the supplier to resort to self-help rather than relying on a judicial remedy and the supplier would be incentivized to meet quality or risk a loss of the future business.

The decision to operate PO by PO, or by an LTA or as a contract manufacturer or as the potential owner of the intellectual property from a jointly created product seems to be deliberate. In some cases, a supplier will have to sign an LTA or risk losing the business of an OEM. In these cases, a supplier may not choose to enter an LTA voluntarily and may be unhappy with the terms of the LTA. In other cases, the supplier will resist signing an LTA, calculating that another method of exchanging goods may be optimal.

Choosing a purchase order as the means of doing business may make sense where the product is fungible. There, the costs of an LTA do not

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254. This definitely gives buyers the upper hand. They do not necessarily have to invest in the resources (research and development) to make the part that they need, instead the supplier bears that burden. Then the buyer does not even need to buy.

seem worth it. The supplier may be less worried about having the security of an LTA where it can sell its catalog product to others. In addition, the long history with a buyer may obviate the need for an LTA since the trust generated from prior dealings may give both parties confidence that any matters requiring adjustment can be worked out informally.

Moreover, even without the benefit of an LTA, the supplier can exercise the kinds of informal reputational sanctions against a buyer who reneges, and a buyer similarly can threaten to cut off future dealings with suppliers who furnish substandard goods, even without resorting to legal remedies against the supplier. The ability to exercise such informal sanctioning is enhanced by being part of a network of suppliers and buyers.

The advantage of the LTA is that it has established mechanisms for sharing information. These mostly obligate the supplier to furnish information to the buyer including financial statements, to allow access to the supplier's plant, to participate in supplier training programs, and to furnish information about the supplier's costs. The constant exchange of this information gives the buyer confidence about the supplier's competence and reliability. When the goods are non-fungible, and the buyer depends on the products being up to buyer standards, these devices sharing information give the buyer a way to detect problems before they arise. They also eliminate errors due to supplier's misunderstandings about the buyer's requirements.<sup>255</sup> Where the contracts are long-term and the buyer is depending on just-in-time production and low inventories,<sup>256</sup> the buyer cannot afford to sue suppliers who renege so these sharing protocols have value. Suppliers may choose to participate because they have no choice or because in doing so, they furnish a credible commitment to the buyer of their worth and quality.

Jennejohn has recently suggested that the presence of a veto power—another type of governance sometimes present in an LTA—is inconsistent with the braiding theorists since “the allocation of a veto would allow a party to unilaterally undercut the mutual investment in relationship-specific information that plays an important part in the braiding model.”<sup>257</sup> However, these veto provisions often concern ownership rights. In assessing governance mechanisms, regardless of type, the question is what provision will best achieve the parties' goals at the lowest cost. By giving a party a veto right, that is equivalent to a

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255. See Bernstein, *Beyond Relational Contracts*, *supra* note 7, at 578.

256. See WHITFORD, *supra* note 2, at 17–18 (discussing trend away from customers holding large inventory).

257. Jennejohn, *supra* note 10, at 290.

“right to exclude,”<sup>258</sup> the party with a property interest can ensure that that interest is protected.

The presence of a veto right or unanimity ensures that there is a clear rule as to who owned the foreground IP so that the matter of the new property that was the product of the collaboration could be properly recognized and the proceeds shared. Where a property right is at stake, the problem is one that may not be solved by information sharing or informal enforcement that are effective tools in insuring the quality of goods. The matter of foreground IP rights should be established by a clear rule. It is hard to see how informal enforcement would be a means of enforcing a foreground IP right.<sup>259</sup> Without the protection of a right to exclude, the incentive to collaborate on an innovative product would diminish.

Jennejohn sees the veto right as one that responds to a contractual hazard not previously addressed by the contract innovation theories.<sup>260</sup> He identifies a spillover as a risk not previously recognized. He would therefore portray contracts as subject to multiple exchange hazards that may require different types of responses, necessitating mechanisms that can mitigate those hazards.<sup>261</sup>

In making all of these choices, parties will organize their exchanges to minimize transaction costs and frictions to increase the surplus generated. In evaluating whether the parties will adopt an LTA that is legally unenforceable, an LTA that is enforceable *ex ante*, or another strategy will depend on the fundamental question of whether the benefits of adopting the mechanism exceed the costs, given certain assumptions about human behavior. Williamson argues that parties will choose their governance mechanisms in a way that will “attenuate opportunism,” and thus create value for the exchange and increase surplus.<sup>262</sup> A failure to remedy such opportunism will cost parties contractual surplus and thus they will use strategies to reduce that cost.

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258. *Id.* at 324.

259. *Id.* at 309–10 (discussing the importance of establishing IP rights in innovation contracts and criticizing Gilson et al.’s oversight of the importance of IP rights in the contracts that form the basis of braiding theory).

260. *Id.* at 351–52.

261. *Id.* at 323.

262. WILLIAMSON, MECHANISMS, *supra* note 34, at 82.

## VII. INFORMAL REPUTATIONAL SANCTIONS WITHOUT AN LTA

The success of these alternatives to LTAs may depend on understanding that many of the parties will have a variety of strategies for dealing with uncertainties about the competence and reliability (another term for opportunism) of their counterparty.<sup>263</sup> Some of these strategies are contractual, and some are informal mechanisms, and they can operate in tandem and be complements. The LTA may be one means of solving problems when there are significant problems of uncertainty and opportunism. It may be a contract, but it is also a form of economic governance that goes beyond the parties' formal obligations. Some LTAs facilitate a private extra-legal governance structure—which promotes information transfer, collaboration, transparency, and trust—that is as important as the legal enforcement of the parties. Of course, informal enforcement can occur even without an LTA.

Even if there is no LTA, of course, the opportunism that operates as an omnipresent threat to exchange relations could be managed informally by threats to no longer do business or damage the other party's reputation in the industry. Thus, even without an LTA, informal sanctioning of one's counterparty is possible. These are the informal relational sanctions that have been studied by scholars like Macaulay and Ian Macneil.<sup>264</sup>

In the past, buyers would enter agreements and informally request information about supplier quality from other buyers or the suppliers or have the supplier pre-qualify before bidding or rely on the supplier's reputation. However, there were not as many formal provisions for suppliers sharing that information on a continuing basis. The information sharing or acquisition might have occurred informally rather than being the subject of a formal contractual agreement. Even though many provisions for information sharing are now orchestrated in a formal document, the provisions are largely self-enforcing. In older agreements—even without as many formal sharing information protocols—the consequences of displeasing the buyer were the same: the loss of business or a reputational sanction.

For decades, scholars have recognized that when suppliers and buyers had multiple informal ways of dealing with problems in the

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263. See *supra* Section III.A.

264. See generally Macaulay, *supra* note 38, at 64; see also Ian R. Macneil, *Relational Contract Theory as Sociology: A Reply to Professors Lindenberg and de Vos*, 143 J. INSTITUTIONAL & THEORETICAL ECON. 272, 276 (1987) (explaining that “friendship, reputation, interdependence, morality, and altruistic desires are integral parts” of relational contracts).

supply chain. As Macaulay recognized, the parties regarded suing their counterparty as a last resort.<sup>265</sup> If there were problems with a defective product, a kind of opportunism through shirking, they would raise the issue on a businessman-to-businessman level, or they would agree to just give the buyer a credit for substandard goods.<sup>266</sup> They might be part of a network of businesses that would furnish information about potential suppliers, which would solve the problem of asymmetric information. Parties could achieve the same confidence about their counterparty through repeated interactions with them. That would lower the uncertainties about their counterparty's competence, provide reassurance on their reliability, and decrease their uncertainty about the proclivities of the supplier to act opportunistically. They could, without the benefit of an LTA, identify forms of misbehavior or shirking that would cause them to lower their estimation of a supplier.

So, in many cases, even without an LTA spelling out the information sharing protocols, buyers could secure this information in a variety of ways. They could investigate suppliers with other buyers in a network of buyers or ask suppliers to pre-qualify without putting these elaborate mechanisms in an LTA. If parties were operating PO by PO, there would be really no need to make the obligation to buy going forward conditional on meeting the quality standards. Instead, the purchase obligation evidenced by the purchase order itself would be made contingent on the supplier meeting the standards in the quality manual.

In many cases, those threats may be more than adequate to do the job, especially if parties are in a close-knit relational group such as buyers and sellers in the diamond industry. However, if there is a dominant market player, like Boeing in the aircraft industry, those threats may not be as powerful, and the presence of a dominant player may make informal sanctioning less likely.

Additionally, the threat to not do business with another party as kind of reputational sanction will be more attenuated or less believable if the party lacks information. Additionally, in more heterogeneous markets, the relational informal sanctions may be less effective because gaining information or sanctioning more remote players may be more difficult. The LTA levels the playing field by requiring parties to share information that could be used as the basis for either a reputational sanction or some other self-help remedy afforded within the LTA. As such,

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265. See Macaulay, *supra* note 38, at 61.

266. *Id.*

while informal sanctions can operate as a governance mechanism without an LTA, LTAs can enhance the effectiveness of such informal devices.

It is important to note that parties entering arrangements of whatever type often resort to legal remedies only as a last resort.<sup>267</sup> That was true fifty years ago, and it is true today. Therefore, it is not surprising to find informal governance as much a part of LTAs as they are also part of supply chains that are not governed by LTAs.

### VIII. NETWORK GOVERNANCE

Regardless of whether parties contract using an LTA with information protocols or operate PO by PO, suppliers and buyers may have other mechanisms for informal enforcement. One device comes from being part of a network that creates “structural social capital.”<sup>268</sup> The LTA levels the playing field by requiring parties to share information that could be used as the basis for either a reputational sanction or some other self-help remedy afforded within the LTA itself.<sup>269</sup> This may be the case if they are part of a network which has been defined as “a set of connections between individuals or between organizations (here, firms).”<sup>270</sup> Of course, if LTAs exist with information sharing mechanisms, the adversely affected party could share information about a supplier’s (or a buyer’s) misbehavior with the network and thereby impose reputational sanctions broadly—even beyond any relational contract that may exist.<sup>271</sup>

The presence of a network could affect whether a firm decides to enter into the formal information sharing protocols in a modern LTA. If a supplier or buyer is part of a network, it might be able to obtain information without the formal information sharing contract provision in an LTA. Presumably, there is nothing that would constrain a member of a network from complaining about opportunistic behavior or misbehaviors even without an LTA with

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267. *Id.*

268. Bernstein, *Beyond Relational Contracts*, *supra* note 7, at 565.

269. *Id.* at 601 (noting that “network governance can and does work, even in contexts where detailed information about transactors’ underlying behavior is *not* widely available”).

270. *Id.* at 599.

271. *Id.* at 599–601 (explaining that when firms are of closer proximity the equity stake decreases, because the firms have more information about the others reputation and abilities and because a larger firm would be able to more easily sanction a smaller firm). “When these connections exist ‘they establish[] a link that lowers the costs (or raises the accuracy) of subsequent communication.’” *Id.* at 599.

information sharing protocols. Thus, being part of a network could possibly lessen the need for an information sharing protocol in an LTA. Presumably, firms would weigh the benefit of having the information generated by the LTA and the information that could be accessed through a network and then decide whether the costs of negotiating an LTA are outweighed by additional informational benefits not available by merely being part of a network.

Firms can be ranked on how close they are in terms of proximity and centrality. “Two firms are said to be more proximate ‘when fewer intermediaries separate two counterparties.’”<sup>272</sup> These connections to other firms can provide an alternative form of private governance. The connections in a network allow the firms to circulate information about others in the network. These networks can be so effective as a source of information, which can sanction others in the network for misbehaving, that they can substitute for other protective devices that parties might use. In the biotech sphere, parties are likely to use equity to control behavior by agents such as founders of a firm. However, such equity participation declines when the biotech firm’s position in a network is central.<sup>273</sup> Thus, the party can control opportunism through equity participation or through having a network position. The network position provides a way of sanctioning anyone who behaves opportunistically and that deters wrongdoing so there is less of a need to assume an equity position to control such wrongdoing through an ownership stake. The decline in equity participation in biotech firms that are “deeply embedded”<sup>274</sup> in networks demonstrates that the networks provide a means of controlling opportunistic behavior that may be less costly and more effective for the firm.

A network has significant advantages because it works in situations in which securing a legal remedy might be difficult either because the information or not public or not verifiable to a court. Sometimes information about a strategic partner is not in the public domain, and other times, the problem is the opposite one of having “noisy” information.<sup>275</sup> Studies suggest that networks can overcome these obstacles and transmit information within and impose sanctions on the

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272. *Id.* at 600.

273. *Id.*

274. *Id.*

275. *See id.* at 601–02 (noting that the “information that is available publicly—namely outcomes—is too noisy to convey useful information to putative contracting partners given the low probability of success in such ventures and the wide variety of reasons they fail”).

basis of information that a court could not rely on to act.<sup>276</sup> This would be true if the information were not observable or verifiable.<sup>277</sup>

These networks can function to sanction both misbehaving suppliers and misbehaving OEMs or buyers. OEMs who are part of a network may find information about their bad behavior travels easily within the network and costs them reputational damage. Suppliers can also be constrained by the fact that buyers who are in a network can access information about suppliers from others in the network.

The presence of a network is not a product of an LTA with an information sharing protocol. An LTA may operate in conjunction with a network and facilitate sanctioning by transmitting information about failures of a party to an LTA to cooperate with some of the provisions. A buyer could tell others in the network of a supplier's failure to permit a plant inspection required by an LTA. The LTA could mandate such access, but the likelihood that the buyer could rely on such failure to successfully sue the supplier would be slim due to an inability to show damages.<sup>278</sup> However, the buyer could cite such non-cooperation as behavior deserving to be worthy of comment and that could help the buyer to deter misbehavior that did not amount to an infraction that warranted a legal sanction.

The presence of these networks could presumably operate even without an LTA. Suppliers and buyers who decide not to sign an LTA and are operating PO by PO could still rely on a network as a means of transmitting information about the other party to those in the network. However, the LTA, by providing a series of steps suppliers might take, may provide more sources of information about misbehaviors that could be transmitted through the network, even if the misbehavior did not warrant a lawsuit. But the network could also be used by suppliers and buyers to transmit information about behaviors that one party found objectionable, regardless of veracity. The advantage of a network is that the information need not be verifiable to a court. It is possible that even parties adopting another means of exchanging goods could use a position in the network to transmit information with a resulting

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276. *Id.* at 599 (explaining that network governance “can reduce the need for firms to employ costly governance mechanisms and can make it possible for transactors to use (and reliably bond) contract provisions that condition on information that would not be either observable or verifiable to a court or other adjudicatory forum”).

277. *Id.*

278. *Id.* at 603.

adverse reputational cost to the other party. Alternatively, being part of these networks could result in positive reputational gains.<sup>279</sup>

#### IX. NETWORK FAILURES: WHY SHOULD WE CARE?

Regardless of whether the supplier and buyer enter into an LTA or some other means of exchanging goods, such as PO by PO, all of these exchange relations will be subject to stresses, possible opportunistic behavior. A pattern of what one scholar calls “hedging”<sup>280</sup> may emerge.

This Part will look at why the networks set up by LTAs with information sharing sometimes fail or suffer from “partial”<sup>281</sup> use, and why those failures might cause parties to seek other arrangements or might prompt them to refuse to enter into the LTAs initially. Such failures are “undertheorized.”<sup>282</sup>

While those studying framework contracts should be aware of the role of informal enforcement, one should not overlook the granular analysis of why LTAs with information sharing protocols fail or underperform. When are the framework agreements likely to be unstable? These arrangements are not static, and they may solve some specific problems, respond to problems of unstable demand, and to disperse knowledge and cost pressures.

However, LTAs with information sharing may underperform because they are subject to the same frictions as all exchange transactions like opportunism and partner unreliability. The “virtuosity circle”<sup>283</sup> of the informal mechanisms constraining opportunism by increasing switching costs by the buyer and seller may not work.

Studying failure gives us a window into how parties may react to some of the threats in a framework contract, which is valuable to a lawyer advising a client about participating in a network contract. Understanding how LTAs can unravel and how parties react to possible frictions in the relationships can be useful to advising clients because it can measure the risk of entering into such arrangements.

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279. *Id.* at 604–05 (demonstrating a network of firms through a diagram and explaining that when there are more connections between firms, reputational information about the firms will “flow easily through the market”).

280. See WHITFORD, *supra* note 2, at 100 (discussing hedging).

281. *See id.*

282. Schrank & Whitford, *supra* note 97, at 152.

283. See WHITFORD, *supra* note 2, at 99.

Why is there only partial adoption of framework contracts?<sup>284</sup> Why is there hedging by both parties even when they are in an LTA? Part of the reason for partial adoption comes with the misuse of information by the buyer.<sup>285</sup> In an ideal world the supplier shares information on cost reductions through innovation at the supplier level, which helps the buyer gain better pricing. However, if the buyer misuses the supplier's information by sharing the supplier's innovations with competitors, the supplier will hesitate to share information.

A supplier may cut back on sharing information on technology or cost and it will "muddy the waters."<sup>286</sup> It will not share cost reduction information in a timely fashion, fearing that it will just be subject to additional demands for cost reductions. So, a provision that was designed to achieve cost reductions and promote "sharing rules"<sup>287</sup> may be subject to hedging by a supplier who cannot continually meet cost pressures imposed by a buyer.

Thus, there is a spectrum of success in how the cooperative mechanisms flowing from information sharing protocols are implemented. The framework contracts are not a perfect system, and they are not static. Inter-firm agreements are subject to the same pressures and contractual hazards as all exchange transactions. Whether they survive depends on whether the benefits from joint collaboration outweigh the costs.

Survival will also depend on whether the parties invest in coordination in the joint effort, as in the Boeing Dreamliner case where Boeing tried to cut costs by outsourcing more of the work to external players. Boeing relied on fifty tier-1 suppliers to play major roles in assembling different parts of the airplane.<sup>288</sup> Numerous coordination problems with the suppliers developed and led to delays and significant problems. Boeing eventually took over one of the tier-1 suppliers and vertically integrated with it.<sup>289</sup> Similarly, lawyers representing buyers who want to outsource may want to build in as many points of contact as possible to ensure that there is likely adequate coordination between the two firms.

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284. *See id.* at 100 (discussing partial use of networks in response to opportunism).

285. *See id.* at 103.

286. *Id.* at 103-04.

287. Helper, *Pragmatic Collaborations*, *supra* note 22, at 472 (discussing "sharing rules").

288. *See* Tang & Zimmerman, *supra* note 88, at 77-78.

289. *See id.* at 75.

Interdepartmental strife can foster “[s]upplier confusion”<sup>290</sup> and contribute to network failure. There are cross pressures built into firms between the purchasing department, which wants to cut costs, and the engineering department, which wants the next new innovation and the alliance to succeed.<sup>291</sup> These cross pressures are difficult to eliminate, and suppliers should be aware of their existence and explain the risk.

#### X. THE IMPORTANCE OF CONTRACT AND LEGAL ENFORCEMENT REMEDIES: WHAT ROLE SHOULD COURTS PLAY?

The informal extralegal governance of parties’ exchanges in the supply chain context and the breakdown or partial adoption of such informal governance force us to consider both the limits of legal controls and the limits of informal governance. In considering the prevalence of informal enforcement, Macaulay asked, “Why does business ever use contract in light of its success without it?”<sup>292</sup> Macaulay’s insights on the limits of legal enforcement derived from his seminal studies of Wisconsin manufacturing businessmen where he found they rarely invoked the law.<sup>293</sup> When is it dysfunctional to invoke the law and when is it functional to resort to contract law enforcement? How, if at all, does the diversity of arrangements, the parties’ goals, and the uncertainties they face affect that question?

This Article demonstrates that parties utilize a variety of arrangements. Some are legally enforceable, while others, like LTAs without a quantity term, are not enforceable until the first purchase order is made. Of course, the cost of lawsuits is prohibitive, and informal enforcement by the parties exists even if the supplier and buyer operate PO by PO with legally enforceable terms, since the parties rarely resort to invoking these terms by suing a counterparty. Often, parties will rely on informal practices to sort out problems that arise during the supply contract—for example, entering into informal arrangements for defective products. A supplier may allow the buyer to return products worth \$20,000 per each delivery period even without the buyer’s actually returning the goods for inspection by the supplier.<sup>294</sup> The cost of the supplier’s examining the goods for defects does not warrant the return

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290. WHITFORD, *supra* note 2, at 115.

291. *See id.*

292. Macaulay, *supra* note 38, at 62.

293. *Id.*

294. General Counsel Interview, *supra* note 20.

shipping costs buyer would need to incur. Thus, an informal arrangement may occur where the buyer can get a prearranged reduction from its invoiced amount.<sup>295</sup> This informal practice might be similar to a more formal provision in an LTA that relieves the buyer of an obligation to buy if the goods do not meet a particular quality metric.<sup>296</sup>

Whenever there is a pattern of informal enforcement, the question that arises is what role should the courts play? Should it lend legal enforcement and, if so, to which parts of the parties' arrangements when there is a breakdown?<sup>297</sup> Should the existence of formal agreements that help promote informal enforcement affect the assessment of whether legal enforcement should be available? And, if so, to what extent? Should the court limit itself to imposing low powered sanctions, as the contract innovation scholars suggest,<sup>298</sup> or should it impose high powered sanctions and, if so, of what type and why? Answering these questions should depend on a bargaining lens cost minimization approach requires analyzing whether the court can intervene at a low cost and on whether intervention will crowd out informal sanctions and raise the cost of enforcement.

The general expectation in most contracts is parties will rely heavily on informal enforcement to ensure parties adhere to their contractual obligations. If parties adopt informational protocols that make informal enforcement easier and less costly, and the transaction costs of adoption are justified by offsetting benefits, have the parties fundamentally changed expectations about when and to what extent legal enforcement will be available? Even with LTAs that may facilitate informal enforcement, there will be contractual provisions that deal with issues such as indemnity, damage limitations, warranty limitations, and indemnity for loss to third parties. And, if such provisions are not covered in the LTA, they may still be contained in a purchase order. These provisions will be important if the relationship breaks down

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295. *Id.*

296. See Kraft Foods MSA, *supra* note 151, § 8.3.

297. Professor Lisa Bernstein has raised an analogous question in the context of relational contracts. If the informal norms break down, should a court continue to enforce these relational norms? She suggests no, since the relational norms have broken down and been replaced by "end game" norms. See Lisa Bernstein, *Merchant Law in a Merchant Court: Rethinking the Code's Search for Immanent Business Norms*, 144 U. PA. L. REV. 1765, 1796 (1996) [hereinafter Bernstein, *Merchant Law*] (discussing end game norms as precluding incorporation of preexisting relational norms that preceded the breakdown of the relationship).

298. See Gilson et al., *Braiding*, *supra* note 4, at 1424; Jennejohn, *supra* note 10, at 357.

because of the misuse of information by the buyer, failure of the braiding mechanisms, or if the supplier or buyer is sued by a third party regarding a product that the supplier has sold to a buyer. So, parties entering into contracts, even when they fully expect that most disputes will be resolved by informal means, certainly do not forego the right to legal enforcement. One interviewee stated that the most important provisions in any purchase order are warranty, indemnity, liability caps, and IP provisions.<sup>299</sup>

The fundamental question facing courts is what kind of enforcement is appropriate if some provisions are, at least partially, enforced by informal means. Answering that question requires an understanding of the effects of legal enforcement when parties have informal mechanisms for enforcing their obligations. Some scholars postulate that legal enforcement would “crowd[] out” informal enforcement.<sup>300</sup> Other scholars have argued that legal enforcement can complement informal mechanisms and thus add value to the exchange.<sup>301</sup>

The choice of enforcement mechanism should be analyzed using the bargaining lens, taking into account the parties’ individual interests and the parties’ joint interest in an agreement that will maximize value while minimizing transaction costs. That bargaining lens suggests that the choice of an enforcement mechanism should depend on whether legal enforcement would serve the parties’ joint interests of minimizing transaction costs, constraining opportunism, and maximizing value. Where a party’s opportunistic conduct is brazen and easily detectable, a court’s failure to constrain the party’s opportunistic conduct would be destructive because the anticipated failure of courts to intervene when appropriate would deter parties from entering agreements or investing.<sup>302</sup>

Despite the theoretical availability of informal enforcement through reputational sanctions or through a network, networks or inter-firm arrangements can fail for a variety of reasons—raising the question of what legal enforcement scheme would be optimal in such contexts. High powered enforcement can be justified using a transaction cost minimization approach. A close analysis of crowding out phenomenon in the literature also affects enforcement of obligations in the supply chain. That analysis suggests that concerns about crowding out are exaggerated.

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299. General Counsel Interview, *supra* note 20.

300. Jennejohn, *supra* note 10, at 295.

301. See, e.g., Gilson et al., *Braiding*, *supra* note 4 (examining the entwining of formal and informal mechanisms).

302. See *infra* notes 300–09 and accompanying text.

The braiding contract theorists who emphasize informal enforcement, information sharing protocols, and the potential for crowding out argue that courts should and do play a limited role in legal enforcement.<sup>303</sup> They argue courts should enforce only the part of the LTA contract that leads to braiding, such as the information disclosure protocols, and should restrict themselves to enforcing such protocols, perhaps by issuing an injunction.<sup>304</sup> Under this theory, courts should not enforce high-powered sanctions, at least in settings involving collaboration on an innovation, since awarding expectation damages would necessarily sanction a party for the failure to reach the ultimate agreement. The argument is that there is no crowding out if the court declines to issue high-powered sanctions, but there would be crowding out if the court interfered with the “maintenance of the collaborat[ive] protocols.”<sup>305</sup> The courts should leave the “collaboration protocols established by the parties . . . entirely within the province of the internally generated, informal enforcement mechanism.”<sup>306</sup> Thus, if a party fails to share information, there would be a low-powered sanction. Even under this approach, when the parties have deliberately breached the collaborative agreement to share information and engaged in “a (secret) alternative process that undermined the trust . . . generated through braiding,”<sup>307</sup> the court should police breaches of those obligations but limit recovery to reliance damages; expectation damages should not apply.<sup>308</sup>

The argument for low-powered sanctions is premised on the idea that there are two parts to these contracts: (1) the information braiding, and (2) the production of an actual product. For example, when big pharma companies collaborate with small biotech firms, contract innovation scholars argue that courts should be reluctant to grant a high-powered sanction, which would sanction a party for the failure to produce the ultimate product envisioned by collaboration, because it would be an “attempt to regulate the nature or course of the collaborative interactions.”<sup>309</sup>

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303. *See id.*

304. *See Jennejohn, supra* note 10, at 358.

305. Gilson et al., *Braiding, supra* note 4, at 1418.

306. *Id.*

307. *Id.*

308. *Id.* at 1416 (limiting damages to reliance costs incurred).

309. *Id.* at 1417–18. For a similar reason, courts would decline to enforce a purchase obligation when the supplier did not meet the excellence standards set by

These contracts combine “information exchange and dispute resolution mechanisms that support the informal contract—governing the search for a product—and the high-powered formal contractual regime—governing a product’s commercialization—[which] prevent[] the formal incentives of the latter from crowding out the informal behavior induced by the former.”<sup>310</sup> The sanctions for the breach of the formal nested options for commercialization will not crowd out the informal sanctions since they cover separate matters. The danger of crowding out occurs when a court administers a legal sanction for breach of what had been governed by an informal norm,<sup>311</sup> thereby potentially undermining it.

Thus, in any case, where there is informal enforcement as in the supply chain, the question is what legal sanctions could or should be imposed without increasing the danger of crowding out informal norms? The resolution requires that the crowding out evidence be assessed. Only then can we decide if the crowding out thesis should be applied to the supply chain for goods more generally and, if so, what implications would crowding out have for questions of legal intervention.

In some ways, examining the collaboration for innovation—with its neat separation of the iterative sharing of information from the contract provisions for the final product—makes this analysis too easy to conclude that high powered sanctions would be inappropriate since that means awarding expectation damages that should only be obtained for the final product. The question is whether there is any basis for awarding high-powered damages for conduct during the iterative exchanges. That inquiry has the most relevance for supply chain governance, as there are no nested options that neatly separate production of a final product from the iterative process that is governed mostly by informal sanctions.

The first question is whether the evidence for crowding out is persuasive and relevant to non-experimental, real life settings. Because arguments against enforcement of informal norms depend on experiments, they may have limited applicability to actual, non-experimental settings. These experiments study the effect of imposing a legal sanction to govern conduct breaches previously regulated by an informal norm.

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the buyer. In each case the initial contract would not predict, in the case of a supply chain, if the supplier would meet the final target of quality and in the case of an innovated product, whether it would ever be produced.

310. *Id.* at 1409.

311. *See id.* at 1400; *see also* Bohnet et al., *supra* note 25, at 132.

One study evaluated the effect of imposing a fine on parents who pick up their children late from daycare when picking up their children in a timely fashion was previously governed by an informal norm.<sup>312</sup> The study showed that the fine decreased compliance with the agreed upon pick up time, which was a “performance obligation.”<sup>313</sup> Higher compliance resulted when parents regarded compliance as a norm to be adhered to, rather than a sanction to be avoided.<sup>314</sup> This reduction in compliance may exist because, in settings where community norms are powerful, norms may be a low-cost way of achieving the parties’ goals. Because norms are a low-cost and efficient way to achieve a desired outcome, switching to a less efficient, in this setting, method of policy enforcement through sanction may have necessarily reduced compliance.

The arguments for crowding out based on this daycare study have several limitations. First, the fine was misinterpreted by the parents as a license to be late and gave the wrong incentive toward creating or reinforcing a norm of being on time. A fee that is viewed as a cost does not crowd out a norm; rather, it moves the norm in the wrong direction. Had the authors of the study picked a different penalty, such as barring a child whose parent was late, then the penalty would have fostered a norm of being on time. The fine imposed simply fed into the parents’ self-interest in being late.

Second, the arguments of crowding out are built on an assumption of a zero-sum game in which we have either informal and unenforceable norms or we have litigation. Gilson, Sabel, and Scott separate norm enforcement from exchange: “the parties’ behavior will change depending on whether they understand their interaction as norm-based or as exchange-based.”<sup>315</sup> Yet, every contract is exchange based and the parties will make adjustments within that exchange to new realities. Doing so is a positive-sum game, as long as the parties share a perception of what their interests are and how to balance their interests against another’s to keep the relationship going. They negotiate in the shadow of legal intervention, and if both parties share predictions about what judges would do, then the possibility of legal intervention will increase cooperation. If one party steals another’s valuable research, then the idea is that a lawsuit would be available.

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312. Gilson et al., *Braiding*, *supra* note 4, at 1400.

313. *Id.*

314. *See id.*

315. *Id.*

One party would be taking action that makes another party worse off. In such cases, it is the right to sue that keeps the partners within reasonable bounds. The potential for lawsuits encourages partners to be reasonable—assuming that judges can identify which party is being unreasonable<sup>316</sup>—and their rules will induce, or crowd in, reasonable accommodations and crowd out opportunism.

So, while crowding out of informal norms may occur and result in less intrinsic compliance with norms, the effect of sanctions does not necessarily result in the reduced compliance seen in the daycare setting. Moreover, these experimental studies are based on gift exchanges involving only one exchange with no possibility of repeat play.

Questions still remain about how the threat of formal sanctions that are strong will operate in an actual non-gift setting, where repeat play or access to a network might be possible. One should not necessarily conclude that sanctions in the supply chain context will result in reduced compliance, as even these studies show the amount of compliance depends on the severity of the threatened sanction. Furthermore, the “cognitive shift” moving parties away from interior norms to income maximization may still result in greater net benefits to the parties. Should we necessarily be worried if sanctions move parties away from interior compliance? Norms and interior remedies are a response parties use to minimize costs and increase surplus from an exchange. The tradeoff between interior enforcement and external enforcement may change depending on the cost calculus.

Scholars debating whether formal sanctions will “crowd out” informal sanctions or will act as a complement to informal sanctions reach different conclusions.<sup>317</sup> This debate rests on a static theory of norms or informal sanctions in which the norms or informal sanctions are continuously working effectively.

However, when relationships and norms deteriorate, the argument against crowding out has less force. Crowding out is not inevitable;

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316. See Peter M. Gerhart & Juliet P. Kostritsky, *Efficient Contextualism*, 76 U. PITT. L. REV. 509, 518 (2015) (arguing that courts should hold parties accountable based on their obligations rather than by trying to determine intent). But see Jody S. Kraus & Robert E. Scott, *Contract Design and the Structure of Contractual Intent*, 84 N.Y.U. L. REV. 1023, 1023 1029–30 (2009) (arguing that court determination of the intent of the parties is costly but essential and questioning equitable doctrines that override intent).

317. See generally Sergio Lazzarini et al., *Order with Some Law: Complementarity versus Substitution of Formal and Informal Arrangements*, 20 J.L., ECON., & ORG. 261 (2004); Gilson et al., *Braiding*, *supra* note 4, at 1400.

whether crowding out is likely to occur or will reduce welfare depends on the circumstances.

A more dynamic view of norms—one that is consistent with the evolution of norms—shows that norms sometimes start out as self-enforcing norms and then are adopted by governments when government adoption can promote efficiencies not available with localized self-enforcement of the norms. For example, customs of weights and measures began as institutions designed to lower measurement costs and promote trade.<sup>318</sup> This might occur when local customs as to weights and measures, technology improved and trade expanded, making it possible to achieve uniformity and promote trade at greater distances.<sup>319</sup> Driving on the right could also start out as a self-enforcing coordination norm but shift to a government adoption in order to provide advantages not available under a self-enforcement system such as the education of newcomers.<sup>320</sup>

Recognizing the dynamic that norms can originate as self-enforcing norms but then migrate to government adoption when efficiencies can be achieved suggests that the question of formal sanctions of informal norms should not depend on a stylized debate based on conflicting empirical data about the effect of formal enforcement on informal norms but on a dynamic view that parties will adopt whatever system will achieve the most gain from trade. In some instances, parties can effectively self-enforce but if private strategies, such as hedging cannot work to control opportunistic behavior, then the parties would want a formal sanction; formal sanctions will not inevitably undermine informal sanctions. The goal should not be to preserve informal enforcement but to adopt the best method to serve the parties' joint interests. In the innovation context, the development of norms that keep parties moving toward producing a final product provides the basis for positive sum cooperation and zero sum opportunism. The legitimate role of courts is to oversee the terms of the cooperation to minimize zero-sum opportunism. This role follows from the bargaining lens theory with its emphasis on which strategy or strategies will produce the greatest net benefits for the parties.

Concerns about crowding out of informal enforcement norms might also be misplaced for another reason. Informal enforcement of a pre-

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318. DOUGLASS C. NORTH, INSTITUTIONS, INSTITUTIONAL CHANGE AND ECONOMIC PERFORMANCE 41 (1990).

319. *Id.*

320. Kostritsky, *supra* note 26, at 500.

existing norm depends on the parties' creation of a norm, such as truth telling, which can "constitute a bedrock of virtues that facilitate all exchanges."<sup>321</sup> Norms are powerful practices, such as "a set of cultural rules of behavior."<sup>322</sup>

The informal enforcement that results from the information protocols may not actually amount to a norm constituting an institution or a way of solving problems, such as honesty. Informal enforcement based on shared information might cause a buyer to refrain from buying goods under an agreement that permitted buyers to decline to buy goods that did not meet its quality standards. It might permit a buyer receiving the information to benchmark problems in production so as to make better products. But these informal ways of enforcing standards and solving problems, while withholding any resort to legal enforcement, seem to fall short of a norm that would result in collective punishment enforced by all who subscribed to the norm. Instead, the informal enforcement amounts to a kind of self-help for a single party. If looked at in this way, research suggesting that norms would be displaced by formal enforcement, and therefore the experimental studies on crowding out norms, may not be relevant in deciding if formal enforcement is justified.

Even if one accepts (1) that crowding out can occur when the law sanctions conduct that is subject to a pre-existing norm, (2) that those results could carry over to exchanges in the supply chain, and (3) then agrees with the contract innovation scholars that a high-powered sanction that tries to regulate the final product is inappropriate since it is not clear what the ultimate product will be, that does not resolve whether, why, and when a court should intervene beyond enforcing information protocols or go beyond such low powered sanctions.

In deciding on legal enforcement, this Article suggests reframing the argument about whether to impose high-powered or low-powered sanctions slightly differently. When parties draft any provision in a contract, the provisions are often designed to control certain risks or hazards that are inherent in any exchange. Some information sharing protocols are there to deal with the problems of uncertainty about the future behavior of the supplier: Will it be compliant and meet standards of excellence or will it instead engage in shirking?<sup>323</sup>

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321. *Id.* at 486.

322. Greif, *supra* note 27, at 543.

323. E-mail from Ronald J. Coffey, Professor Emeritus of Law, Case Wes. Res. U. Sch. of Law, to Professor Kenneth B. Davis, Fred W. & Vi Miller Dean Emeritus, U. Wis.

Other uncertainties involve whether the supplier will be able to meet cost reduction goals and lower prices over time? In the big pharma context or another collaborative joint venture, the information protocols help reduce uncertainty about the other party and offer assurance that each party will invest in developing or funding a project. Without the informational protocols to reassure parties of such reciprocal investments, a party might be reluctant to make the initial investment. The provisions that have suppliers participating in excellence contests and gaining training on the buyer's needs are all devices that the buyer implements to deal with the uncertainty about the supplier's future behavior. These provisions may also have the effect of raising switching costs and making informal enforcement possible as the parties learn more about each other and learn to trust one another. There may be a build-up of social capital and informal enforcement.

But courts should recognize that these framework contracts governing inter-firm exchanges are subject to the same frictions and stresses that afflict every exchange, such as opportunistic behavior, that are difficult to control by contract. And when the relationship breaks down, informal enforcement may no longer work since it is an end-game situation.<sup>324</sup> When parties adopt provisions for indemnity, or third-party dues, or a damage cap, they are specifically contemplating a situation where a lawsuit has occurred. All are end-game situations. In such cases, the expectation would be that all legal sanctions would be available. If the parties have not ruled out resorting to the judiciary,<sup>325</sup> it would seem that courts should be willing to intervene when the informal norms are not working to constrain a breach of a

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Law Sch. (May 2, 1996, 2:42 PM) (on file with the American University Law Review) (discussing "propensity to diverge" as a form of shirking).

324. See Bernstein, *Merchant Law*, *supra* note 297, at 1796. Professor Lisa Bernstein argues against the incorporation of "relationship-preserving norms" in an end game situation. Relationship-preserving norms "are clear and well-developed, they may be quite different from the terms of transactors' written contracts, which contain the norms that transactors would want a third-party neutral to apply in a situation where they were unable to cooperatively resolve a dispute and viewed their relationship as being at an end-game stage ('end-game norms,' or 'EGNs')." *Id.*

325. See Lisa Bernstein, *Opting out of the Legal System: Extralegal Contractual Relations in the Diamond Industry*, 21 J. LEGAL STUD. 115, 115 (1992) (explaining that in some cases, parties do rule out a resort to the judiciary, for example "[t]he diamond industry has systemically rejected state-created law").

contractual obligation that does not relate solely to the informational protocols, or is a blatant abuse that will deter investment.<sup>326</sup>

The issue should be whether the law should supplement the informal enforcement. To answer that, analysts should consider that both norms and laws develop to solve problems and permit society and the parties to thrive while minimizing costs. Laws and norms are both “different ways of achieving those ends.”<sup>327</sup> Intervention with law might be appropriate where some parties adhere to inefficient norms<sup>328</sup> or norms that are ineffective or degrading.<sup>329</sup> To achieve those goals, would the law be able to intervene without causing costs that outweigh the benefits of intervention?

Thus, the question for courts is “whether the non-governmental means . . . are effective and self-enforcing.”<sup>330</sup> The government should analyze the effectiveness by looking at which law, or combination of laws, would best minimize cost and achieve the parties’ goals.<sup>331</sup>

Sometimes legal intervention will result in achieving goals and solving externalities with cost minimization. If a law is passed that regulates dog litter, passing that law will empower informal enforcement.<sup>332</sup> Without a law regulating the conduct, it will be difficult to control the externality because of collective action problems<sup>333</sup> and the cost and difficulty of identifying peripatetic violators. The law’s adoption will encourage informal norms, and the

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326. Of course, in devising a sanction, courts might consider research that shows that higher sanctions might result in higher compliance in some settings. See Peter Verboon & Marius van Dijke, *When do Severe Sanctions Enhance Compliance? The Role of Procedural Fairness*, 32 J. ECON. PSYCHOL. 120, 121 (2011) (emphasis omitted) (“[S]evere sanctions may be effective in stimulating compliance because they tend to increase moral disapproval . . .”).

327. Kostritsky, *supra* note 26, at 481.

328. *Id.* at 503 (discussing dueling norms).

329. See Eric A. Posner, *Law and Social Norms: The Case of Tax Compliance*, 86 VA. L. REV. 1781, 1787 (2000).

330. Kostritsky, *supra* note 26, at 494.

331. *Id.*

332. See *id.* at 502–03.

333. The New Palgrave Dictionary of Economics considers a collective action as when “individuals in some group really do share a common interest, the furtherance of that common interest will automatically benefit each individual in the group, whether or not he has borne any of the costs of collective action. Thus the existence of a common interest need not provide any incentive for individual action in the group interest.” Mancur Olson, *Collective Action*, in 1 NEW PALGRAVE DICTIONARY OF ECONOMICS 876 (Steven N. Durlauf & Lawrence E. Blume, eds., 2d ed. 2008).

law and norms operating together can lower the cost of achieving certain goals—like less dog litter at the lowest cost.

If the conduct is blatant, opportunistic action, as in *Eli Lilly & Co. v. Emisphere Technologies, Inc. (Emisphere I)*,<sup>334</sup> then the answer as to whether the law should intervene is yes.<sup>335</sup> The question is what we can learn from *Emisphere's* outcome?<sup>336</sup> One lesson from the *Emisphere* decisions is that when informal mechanisms are not enough to constrain opportunistic behavior, there is a breakdown and informal norms are no longer functioning, and that the court can easily intervene at a low cost to sanction opportunistic behavior because the behavior is *such* a blatant breach of trust, the court will do so.

But this would not be the case if the intervention would be costly. If one party, such as a buyer, uses cost information to pressure the other, the supplier, to reduce its prices, it would be hard for a court to determine if that use of information was opportunistic. Thus, the most appropriate method for controlling the misuse of such information is hedging by the other party, who withholds information in response to what it perceives as a misuse of information.

But if the buyer expropriates the supplier's property, a court should enforce full expectation damages. That is essentially what the court granted in *Emisphere II*, when it issued an injunction against Eli Lilly and granted Emisphere a patent<sup>337</sup> where it was clear that Eli Lilly had appropriated the research work of Emisphere to gain its own patent.<sup>338</sup> The court's willingness to assign Emisphere the patent does not, as Jennejohn suggests, appear to constitute a low-powered sanction.<sup>339</sup>

Gilson, Sabel, and Scott argue that the court still imposed a low-powered sanction because it did not interfere with the braided mechanism where informal sanctions were working, but rather sanctioned conduct that "undermined the trust that was in fact generated through braiding."<sup>340</sup> Gilson, Sabel, and Scott seem to want to leave the informal

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334. 408 F. Supp. 2d 668 (S.D. Ind. 2006).

335. See Jennejohn, *supra* note 10, at 357 (summarizing the *Emisphere II* decision where Emisphere's request for specific performance was granted and Lilly assigned patent rights to Emisphere).

336. See generally *Eli Lilly & Co. v. Emisphere Techs., Inc. (Emisphere II)*, No. 103CV1504DFHTAB, 2006 WL 1131786, at \*4 (S.D. Ind. Apr. 25, 2006) (entering a decision on the relief requested).

337. *Id.* at \*3–4.

338. See *Emisphere I*, 408 F. Supp. 2d at 673, 685, 697.

339. Jennejohn, *supra* note 10, at 357.

340. Gilson et al., *Braiding*, *supra* note 4, at 1418.

enforcement protocols intact and allow intervention only when the action fell outside braiding because it “undermined the trust.”<sup>341</sup>

Jennejohn described the court’s willingness to award the patent to Emisphere as a high-powered sanction, not a low powered sanction, and a response to the separate problem of spillover, not covered by informal enforcement, thus making the need to protect any braiding irrelevant.<sup>342</sup> Jennejohn’s argument for broad enforcement of LTAs states that, in considering a legal response, one must consider that these LTAs are comprised of many provisions.<sup>343</sup> There are formal contract provisions in these agreements to control certain distinct risks like spillover, which is a kind of expropriation of property. Since provisions designed to prevent a particular problem are not intended to promote informal enforcement, then there is no reason for a court to withhold legal enforcement of the provisions, and the court should grant full recovery of expectancy damages.

There is another way to look at the issue of the appropriate level of sanctions. Courts should not be limited to enforcement of the information braiding protocols. They are there to deal with uncertainties and control certain problems for parties—like uncertainties about shading and quality of product—but sometimes whatever the protocols and the arrangement, one party will act opportunistically at the expense of the other, even when they have agreed to information sharing protocols that would ideally promote trust and social capital. Enforcing a contract that has provisions that may promote informal enforcement does not mean the parties intend to take legal enforcement off the table. In many LTAs, or in the purchase order that references or incorporates the LTA, there are important provisions intended to deal with contingencies when there is a lawsuit. Those should be enforced, as should the provisions related to distinct risks. For example, a court should enforce provisions about the expropriation of property that’s boundaries may be uncertain or provisions to constrain opportunistic behavior that amounts to “‘red-faced’ cheating,”<sup>344</sup> which cannot be controlled by the express information sharing mechanisms. Even though Jennejohn and Gilson, Sabel, and Scott agree with some level of intervention—Jennejohn

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341. *Id.*

342. Jennejohn, *supra* note 10, at 357–59.

343. *See id.* at 291.

344. *See* Gilson et al., *Braiding*, *supra* note 4, at 1384, 1417–18, 1430.

because of the distinct risk posed by spillover,<sup>345</sup> and Gilson, Sabel, and Scott because intervention would still leave the informal enforcement structure intact and separate from a cheating situation<sup>346</sup>—there may be another way to justify intervention that uses a different approach, one that is consistent with achieving the parties' goals of controlling opportunistic behavior while minimizing costs.

The approach suggested here based on transaction cost minimization for achieving parties' goals is broad enough that it could be used in a variety of settings. It should not matter whether we allow court enforcement that extends beyond informal enforcement because we decide that the conduct is outside of the properly functioning informal sanctions or because we call it a distinct risk, such as expropriation. What matters is that there is some conduct that cannot be controlled by contract or by informal sanctions when the gains from opportunistic conduct are large. In such cases, the parties would want to control that conduct if doing so can be done in a cost-effective way. When the breach of trust is blatant, as in the *Emisphere* cases, the court should intervene because it can control opportunism without creating costs that outweigh the benefits.

The idea that, to control opportunism, the law should (1) control opportunistic behavior through intervention when the costs of doing so do not outweigh the benefits, and (2) control distinct risks—such as spillover or blatant breaches of trust, all of which are difficult to control by contract—finds support by analogy in the recent scholarship of Professors Ariel Porat and Scott. They suggest that in “spiderless” networks the control of moral hazard may be difficult to control by “legal mechanisms.”<sup>347</sup> In such cases, they suggest a law granting a limited restitutionary recovery to limit free riding caused by externalities.<sup>348</sup> Of course, if such opportunistic behavior occurs in an ongoing relationship, one party can hedge or withhold information as a private response to the opportunistic use of information for one party's private benefit.<sup>349</sup>

But where the parties are at an end point, and a party plans to end the relationship by appropriating intellectual property of the other

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345. Jennejohn, *supra* note 10, at 293.

346. Gilson et al., *Braiding*, *supra* note 4, at 1387.

347. Ariel Porat & Robert E. Scott, *Can Restitution save Fragile Spiderless Networks?*, 8 HARV. BUS. L. REV. 1, 1 (2018).

348. *Id.* at 7.

349. WHITFORD, *supra* note 2, at 104 (discussing withholding of information as a counterstrategy to opportunistic use of information).

party, a low-powered sanction to enforce the informational sharing protocols or a remedy limited to reliance would seem insufficient to deter opportunistic conduct. Where the gains from appropriation are large enough, the ability to self-enforce through reputational sanctions may be insufficient. So, while the formal provisions may facilitate informal enforcement, in some instances the informal enforcement mechanisms will fail. If the court can intervene to control blatant opportunistic behavior and can do so at a low cost, because the conduct is blatant, it should do so because the parties would want intervention to achieve their goals. Without the possibility of court intervention, parties would be reluctant to invest and that would act as a drag on gains from trade. The parties negotiate and will make adjustments in the shadow of the law and if the parties both make predictions about what a reasonable judge would do, then the possibility of legal intervention can increase cooperation. So rather than being a zero-sum game—where you gain from informal negotiations or you gain from litigation but not from both—in fact, you do not need to give up the advantages of litigation to have successful informal adjustments in a contractual relationship.

Finally, one reason to allow contract enforcement beyond the low-powered sanctions derives from the reasons for the existence of informal enforcement. For example, parties informally enforce provisions about the quality of a product because the cost of suing is too high. The parties are making a tradeoff. Informal enforcement may be the least costly way to achieve the parties' objectives. However, when the harm is sufficiently great, the injured party may want to sue and seek high-powered sanctions because the tradeoff is now different. In some instances, the harm will be grave enough to justify the legal costs, so enforcement should not be withheld. The experiments do not answer this, because they studied the effects of choosing to impose fines across the board on all parties who violate a rule—such as picking up children in a timely fashion from daycare.

#### XI. ADVICE TO CLIENT

The spectrum of success in supply networks and the range of mechanisms that parties have for transferring goods have important implications for how lawyers advise clients who are concerned about opportunistic behavior of their counterparties and how to structure the transactions involving the sale of goods.

The diversity of supply chain arrangements should play a critical role in informing how lawyers advise clients in the supply chain. Lawyers can add value for their clients by considering this Article's insights on LTAs, both SKFs and bespoke agreements, governance dispute mechanisms, and alternative agreements. In selecting a form of agreement, lawyers should advise clients to consider the functions and individual interests of the parties. Clients should strive for an agreement that minimizes transaction costs while constraining opportunism. The agreement should also be able to guide and shape planning an enterprise, constrain managers, and offer parity of contract to suppliers and the elements of failed agreements.

Where the goods are not customizable but are catalog items, it may make sense for a supplier to forego signing an LTA, particularly if the terms require annual percentage-based cost reductions. The benefits of an LTA offering the security of purchase obligations by the buyer may not matter where there are not large transaction specific investments that can only be recouped by a long-term purchase arrangement.

The lawyer may advise the client to operate instead purchase order by purchase order. The parties can and probably will operate informally without resort to the law for many problems that arise. However, when the problems cannot be solved informally, the parties can rely on the key provisions in the purchase order or acknowledgment to protect their rights. The warranty, liability, damages, insurance and indemnity may be the key provisions according to one interviewee.

Some parties such as OEMs may insist on LTAs. The lawyer should advise the client of how the LTAs may control opportunistic behavior by both parties and result in significant sharing of information that may curtail shirking by suppliers and also advance innovation in product development. The lawyer may also advise the client that the greater the degree of investment by both the supplier and the buyer, the more likely the relationship is to continue to be a productive one with switching costs. However, lawyers should advise clients that even LTAs may be subject to partial adoption or hedging by suppliers if they feel that the buyer is acting opportunistically. If the buyer uses proprietary information supplied by a supplier, it may chill other suppliers from sharing such information in the future.

The lawyer might want to advise the client that some framework contracts fail. Lawyers might want to encourage a buyer to make reciprocal investments in training the supplier if the buyer wants the relationship to be successful and to avoid what happened with Boeing

and some of its suppliers.<sup>350</sup> Alternatively, when representing a supplier, a lawyer might advise its client that these networks can fail when the buyer does not invest enough in coordination. In the case of Boeing, an automated communication system failed to produce the coordination that was needed to bring the Dreamliner to completion on time.<sup>351</sup> There are always alternative arrangements even for a customizable good such as negotiating intellectual property rights to protect sunk costs or acting as a contract manufacturer.

Lawyers can also offer one non-legal piece of advice that might be quite important: develop a unique product.<sup>352</sup> It is advantageous for a supplier because, with a unique part, the supplier is not subject to price pressures or to buyer “shopp[ing]” design improvements to competitors.<sup>353</sup> That means in principle the buyer could go elsewhere, but it will not and the supplier’s investment will be protected.

#### CONCLUSION

Supply chains are subject to the same risks of opportunism as all exchanges. The LTA provisions for information sharing protocols may alleviate the problem of asymmetric information, reduce some of the risks of the unreliability of the supplier and reduce uncertainty about competence. They may also promote innovation and promote informal enforcement of contracts.

However, there are other ways parties may wish to organize their contracts other than through an LTA with formal information sharing protocols but without a quantity term. Parties using alternative arrangements can still resort to informal enforcement mechanisms, even without an LTA. Their ability to sanction using informal reputational controls will work best if there are ongoing relations or if the buyer and seller are part of an extensive network. A network may be effective even if a close relationship between the parties does not exist.

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350. Bernstein, *Beyond Relational Contracts*, *supra* note 7, at 579. Navistar and Harley are examples of OEMs that take a unique approach to improving their operations. Navistar mandates that suppliers participate in web-based training. Harley’s supplier training is highly formalized and can last up to three months.

351. Tang & Zimmerman, *supra* note 88, at 79–80.

352. It would prevent supplier shopping, as the manufacturer would likely commit to only one seller.

353. WHITFORD, *supra* note 2, at 117. If a drawing is unique, it is hard to put it up for bid at an auction or to shop it.

If parties can achieve informal enforcement without an LTA, the question of why parties enter such arrangements persists. One answer is that parties who invest large sunk costs may be unwilling to invest without the security of an LTA. Buyers may be unwilling to select a supplier without the assurance of a guaranteed price over a long period of time, at least where other suppliers are not readily available.

But regardless of the formal arrangements, the relationship may break down and the question will arise, what role legal enforcement should have in these supply chains? This Article's initial empirical research indicates that at least suppliers care most about the provisions that will limit damages, provide indemnities, and constrain warranties. The existence of informal arrangements will be effectively enforced through self-enforcement on matters related to quality and the networks can result in a virtuous circle of information sharing and learning by monitoring and self-enforcement. However, networks are subject to the same frictions as any exchange relationship and can fail. One party may appropriate shared information for one party's sole benefit. In such cases, parties may privately protect themselves by hedging or engaging in only partial adoption. In cases where there is a breakdown when a matter is being litigated, the court should enforce those provisions that specifically cover litigated matters, because they are important to parties and parties never envisaged self-enforcement of certain matters. Courts should also impose high-powered sanctions if doing so will control opportunism that cannot be controlled by contract and the law's intervention will achieve the parties' goals while still minimizing costs. When the parties are at the end of their relationship, low-powered sanctions may not be effective. Where the gains from acting opportunistically are high enough, high-powered sanctions may be needed for deterrence. This approach is consistent with the parties' own tradeoffs. They reserve informal enforcement to cases where the costs of legal enforcement are not justified and seek legal remedies when the informal sanctions break down and the harm is great. Clients should be made aware of all of these issues so that they can provide effective counsel on the uncertainties parties face in controlling certain hazards, the private informal mechanisms that are available, the danger of failure in networks, and the type of responses, both private and legal, that may be available to parties.