The Contract Frontier: A Study of the Modern Joint Venture

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Abstract

How can corporations be competitors and partners at the same time? This is the dilemma of the modern joint venture. Joint ventures create an intrinsic fiduciary conflict because agents of each corporation owe a duty of *undivided* loyalty both to their own entities and—via the venture—to each other's.

This paper presents a theory of how the modern joint venture resolves this conflict through contract. I argue that the key solution lies in organizing the joint venture's business opportunities by: (1) creating a separate joint venture entity and (2) establishing a covenant not to compete. The covenant not to compete *delineates* the jointly-owned business opportunities from the opportunities that either co-venturer may independently pursue. It does this by replacing the default fiduciary standard of loyalty with a more precise fiduciary rule. The covenant not to compete also prohibits both partners from individually participating in the joint venture market. Instead, the joint venture market and all its opportunities are assigned to a separate joint venture entity. The joint venture entity *quarantines* the opportunities by taking ownership over the opportunities away from the co-venturers; it also solves the problem of "divided" loyalties because the entity has its own agents that are loyal to the entity and not to either co-venturer. The entity and the covenant not to compete together form a single organizational device: the modern joint venture.

I analyze this device in the context of a joint venture between The Boeing Company and Lockheed Martin, and show how the aerospace industry as a whole leverages it to support an immense network of joint ventures.

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Introduction

A little loyalty is a dangerous thing.[1] Whether in learning, love, or war, loyalty, if not unconditional and undivided, is really no loyalty at all.

The same applies to the law. Law requires loyalty whenever it finds a relationship exhibiting two elements: agency and trust. Both are essential. Agency is the legal authority of one person (the agent) to make decisions on behalf of another (the principal).[2] Trust is the principal's belief that the agent will act in its interest. More agency requires more trust; greater trust supports greater agency. When these two elements extend together, the law recognizes the relationship as fiduciary.

Fiduciary law takes as its point of departure the idea that the agent must act in the best interest of the principal. Departures from this ideal inspire vast literatures that study "agency costs," the catchall to describe any deviation from the first-best, efficient outcome that is the result of a delegation of decision-making authority.

Agency costs abound in corporations because shareholders and managers' incentives are misaligned. We also find them in partnership because partners, who exercise mutual agency vis-a-vis each other, disagree over what constitutes the partnership's "best interest." The law thus demands loyalty from agents of both. Corporate agents owe a duty of loyalty to the corporation; partners owe a duty of loyalty to each other.[3]

What about the case in which two corporations form a partnership? This is the case of joint venture. Corporations might form a joint venture because they desire something more collaborative than arms-length dealing but less permanent than merger. Though joint ventures can arise among both natural and legal persons, my focus here is on joint ventures between two large corporations.

Corporate joint ventures (or corporate partnerships) stack the agency costs of corporation and partnership on top of each other. The result is a seemingly contradictory relation, a fiduciary conflict that is intrinsic to the joint venture. The intrinsic fiduciary conflict is that agents of each corporation owe a duty of *undivided* loyalty both to their own corporations and—via the venture—to each other's.

[1] Alexander Pope, *An Essay on Criticism* (1709) ("A little Learning is a dang'rous Thing / Drink deep, or taste not the Pierian Spring").

[2] The Restatement (Third) of Agency §1.01 provides:

> "Agency" is the fiduciary relationship that arises when one person, a "principal," manifests assent to another person, an "agent," that the agent shall act on the principal's behalf and subject to the principal's control, and the agent manifests assent or otherwise consents so to act.

[3] Revised Uniform Partnership Act (RUPA) §404(b); Uniform Partnership Act (UPA) §21.

The question is: How can corporations be competitors and partners at the same time? At first blush, they cannot. "Competing with your partner" is anathema to partnership law. The duty of loyalty requires each partner "to refrain from competing with the partnership in the conduct of the partnership business."[4] This applies with full force to joint ventures: between co-venturers, "the rule of undivided loyalty is relentless and supreme."[5]

Yet we regularly observe joint ventures in which the co-venturer corporations continue to compete in seemingly identical markets. Though this paper focuses on the aerospace industry, we observe the intrinsic fiduciary conflict across all industries: telecom, integrated circuits, food and beverage, retail investment, heavy industry, pharmaceuticals, just to name a few.[6] The modern joint venture thus begins with precisely the opposite presumption: between "competing partners," the duty of loyalty *can* and *must* be divided. The division will produce its own unique kind of agency cost. This is the intrinsic fiduciary conflict of joint venture and it presents a challenge for the law.

This paper presents a theory of how the law has responded to this challenge. I argue that the key solution is found in contract. Specifically, co-venturers respond to the intrinsic fiduciary conflict with a two-part organizational device. First, they carefully define a market in which the co-venturers are prohibited from competing independently. I call this first step "delineating opportunities" because it separates business opportunities into two groups: (1) opportunities that either co-venturer may pursue and (2) jointly-owned opportunities that neither co-venturer may independently pursue. The co-venturers then assign the second group of opportunities to a separate joint venture entity. I call this second step "quarantining opportunities" because the jointly-owned opportunities are isolated from the regular business of the co-venturers. In legal terms, the first step is a covenant not

[4] RUPA §404(b).

[5] Meinhard v. Salmon, 164 N.E. 545 (N.Y. 1928). All jurisdictions have held that the default duties in partnership (undivided loyalty) also apply to joint venture. See part I.B.

[6] There are large joint ventures among such companies as AMD and Fujitsu (integrated circuits), MolsonCoors and SABMiller (beer), Forest and Merck (pharmaceuticals), General Mills and Nestle (food and beverage), Goodyear and Sumitomo (tires), Hasbro and Lucasfilm (toys), Fossil and Seiko (watches), Deere and Hitachi (heavy industry, farm equipment), E-Trade and Softbank (retail investment, telecom).

A large literature examines the structure and formation of corporate joint ventures. See, e.g., Ronald J. Gilson, Charles F Sabel, and Robert E. Scott. "Contracting for innovation: Vertical disintegration and interfirm collaboration." 109 Columbia Law Review 431 (2009); Gary Pisano "The R&D boundaries of the firm: An empirical analysis." Administrative Science Quarterly, pp.153-176 (1990); Gary Pisano "The governance of innovation: vertical integration and collaborative arrangements in the biotechnology industry." Research Policy 20 (3), pp.237-249 (1991). On the tension between competition versus cooperation among corporate actors, see, generally, Adam M. Brandenburger and Barry J. Nalebuff, *Co-opetition*. Random House (2011).

to compete; it establishes the wall between competition and partnership. The second step is a joint venture entity; it independently pursues the partnership side of this wall on behalf of both co-venturers. Together these two steps resolve the intrinsic fiduciary conflict because no individual agent owes a duty of loyalty to more than one entity: agents of each co-venturer are loyal to their own corporations, while agents of the joint venture entity are loyal only to the joint venture entity. Each step is absolutely essential for the other. The entity and the covenant not to compete together form a single organizational device: the modern joint venture.

The rest of this paper is organized as follows.

Part I examines the law and origins of joint venture and the intrinsic fiduciary conflict. Until the mid-20th century, corporations were prohibited from forming partnerships. Part of the rationale for this rule was that partnerships entailed too much delegation of corporate authority. Thus, the original response to the intrinsic fiduciary conflict was outright prohibition. Since corporations nevertheless desired partnership-like relations, courts formulated an exception—the joint venture—which was both defined and justified by emphasizing its *limited business purpose*. The second legal solution was thus to permit corporate partnerships only if their scope was sufficiently limited. However, states quickly adopted general incorporation statues that specifically and unconditionally enabled corporate partnerships, and so the common law only briefly grappled with the intrinsic fiduciary conflict. The problem was quickly passed on to private parties to sort out in contract.

Parts II through V analyze the modern contractual solution to the intrinsic fiduciary conflict.[7] It proceeds as a case study of the aerospace industry, exploring in detail a joint venture between The Boeing Company and Lockheed Martin.

Part II describes the venture between Boeing and Lockheed. The venture created a joint venture company, United Launch Alliance, LLC, which launches satellites into orbit for NASA and the U.S. Air Force.

Part III examines the contractual solution to the intrinsic fiduciary conflict. I argue that the key challenge lies in organizing the joint venture's opportunities.[8] Specifically, I consider two questions that are motivated by

[7]On innovations in contract generally, see Kevin E. Davis "Contracts as Technology." 88 New York University Law Review 83 (2013).

[8]For an analysis of the corporate opportunities doctrine from the perspective of contract theory, see Eric Talley, "Turning Servile Opportunities to Gold: A Strategic Analysis of the Corporate Opportunities Doctrine." 108 Yale Law Journal 277 (1998).

On the law and economics of fiduciary duties generally, see Robert Cooter and Bradley J. Freedman. "The Fiduciary Relationship: Its Economic Character and Legal Consequences." 66 New York University Law Review 1045 (1991) (on burdens of proof and appropriation of opportunities); Jonathan R. Macey, "An Economic Analysis of the Various Rationales for Making Shareholders the Exclusive Beneficiaries of Corporate Fiduciary the intrinsic fiduciary conflict: (1) How can co-venturers protect jointly-owned opportunities from appropriation? and (2) How can co-venturers distinguish the jointly-owned opportunities from those that can be legally appropriated? In response, I identify two contractual strategies for organizing joint venture opportunities: (1) create a joint venture entity and (2) establish a covenant not to compete (CNC).[9]

Part III.A presents a theory of how these two strategies—entities and CNCs—distinguish the structure of joint venture from both merger and arms-length contract. The idea is that together they support the *triadic* structure of joint venture. Three parties—two co-venturers and one joint venture entity—engage in three exchanges: the co-venturers both exchange property for profit rights with the entity, while the co-venturers themselves exchange a covenant not to compete with each other. In contrast, traditional arms-length contract is *dyadic* in structure (two parties make a single exchange), while merger is *monadic* (the merged entity makes intra-firm allocations).

Part III.B uses this theory to analyze the Boeing-Lockheed joint venture contract. It demonstrates how the joint venture entity and covenant not to compete together form the core organizational device. First, co-venturers protect the jointly-owned opportunities by assigning them to a separate joint venture entity. Crucially, the partners do *not* grant each other mutual access. There is joint ownership over the entity, but not over the opportunities. The agents of the joint venture entity protect the opportunities from each co-venturer; they also respond directly to the problem of "divided" loyalties because their loyalties are not to either co-venturer in particular, but to the joint venture entity itself. This is a strategy of *quarantining* opportunities. Second, co-venturers distinguish jointly-owned opportuni-

Duties," 21 Stetson Law Review 23, 36-39 (1991).

[9]These are two strategies for *managing* the intrinsic fiduciary conflict. The alternative to managing the conflict is eliminating the conflict. Parties can eliminate fiduciary duties by opting out of partnership and instead electing a relation more akin to independent investors. This solution is found in joint ventures that either explicitly waive fiduciary claims or, equivalently, agreements that would otherwise look like a joint venture but include a "No Joint Venture" clause.

On the former, see, e.g., Dime Box Petroleum Corp. v. Louisiana Land & Exploration Co., 938 F.2d 1144, 1147 (10th Cir. 1991) (fiduciary standard in joint venture lowered to "gross negligence or willful misconduct").

On the latter, see, e.g., Agreement between Nordstrom Credit Card Master Note Trust and Nordstrom fsb (dated April 1, 2002), attached as Exhibit 10.40 to Nordstrom, Inc. 10-K for fiscal year ending January 31, 2003 (which, because of the way profits and losses are shared, would have been treated as partnership by default). Available at `https://www.sec.gov/Archives/edgar/data/72333/000089102003001270/0000891020-03-001270-index.htm`.

See also George S. Geis, "An Empirical Examination of Business Outsourcing Transactions," 96 Virginia Law Review 241 (2010) (studying the nuanced shades between contract-like versus partnership-like relations in outsourcing arrangements).

ties from appropriable opportunities through covenants not to compete. A CNC replaces the default fiduciary standard with a bright-line fiduciary rule, though the CNC itself can also incorporate standards.[10] This is a strategy of *delineating* opportunities.

Part IV situates the Boeing-Lockheed venture within the aerospace industry. It demonstrates that the industry is an immense network of joint ventures; firms routinely maintain 10 or more interconnected ventures with each other. The intrinsic fiduciary conflict is thus pervasive in the aerospace industry.

Finally, part V applies the theory and lessons of part III (on how entities and CNCs solve the intrinsic fiduciary conflict) to the aerospace network as a whole. The aerospace industry presents the intrinsic fiduciary conflict writ large. On joint venture networks, the costs of fiduciary standards rise significantly relative to their benefits because the uncertainty of fuzzy borders in one venture exerts a negative externality across the entire network. Fuzzy fiduciary boundaries in one venture make it more difficult to organize the opportunities of an adjacent joint venture, which in turn blurs the boundaries of a joint venture partner's other joint ventures, and so on. The network as a whole requires some device to organize venture opportunities. Entities and CNCs, working in concert, provide this device.

I. The intrinsic fiduciary conflict

Though largely forgotten, the law of joint venture actually originated as a direct judicial response to the intrinsic fiduciary conflict. There were three stages in the development of this law. The first was outright prohibition: corporations were not permitted to participate in any partnership. The second was a short-lived exception to this rule—the doctrine of "joint venture"—which permitted corporate partnerships so long as they were limited in scope. The exception was short-lived because states soon after overruled the prohibition by statute and enabled complete freedom of contract. Thus, the arc of joint venture law was not so much to solve the intrinsic fiduciary conflict, but instead to relinquish the problem-solving onus onto private parties.

A. *Legal origins*

1. *The rule against corporate partnerships*

As a general rule, corporations were prohibited from participating in any partnership, be it with another corporation, an individual, or any other

[10] See generally Louis Kaplow, "Rules versus standards: An economic analysis." 42 Duke Law Journal 557 (1992).

legal person. This rule was very well established.[11]

The few exceptions to it are so limited and distinguishable that they seem to prove the rule. Courts would occasionally grant exceptions based on theories of unjust enrichment. A typical case involved a corporation that benefited from an ultra vires partnership association.[12] In these cases, the partnership was recognized only as a means to calculate the appropriate disgorgement remedy; the partnership itself was not permitted to continue operations.[13] Even in such cases, exceptions were not always granted.[14]

There were two reasons why courts prohibited corporations from forming partnerships. The first comes from the historical state monopoly on incorporation. Before states adopted general incorporation laws, corporate charters were granted by acts of the legislature and were therefore public law.[15] Courts recognized only two types of limited powers that the legis-

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[11]See, e.g., Sabine Tram Co. v. Bancroft, 40 S.W. 837, 838-39 (Tex. Civ. App. 1897) ("The general rule is well established that a corporation cannot enter into partnership with other corporations or individuals."); Cent. R. & Banking Co. v. Smith, 76 Ala. 572 (1884); New York & S. Canal Co. v. Fulton Bank, 1831 WL 3125 (N.Y. Sup. Ct. 1831). The prohibition was based primarily on an ultra vires doctrine and therefore applied as a default. In theory, if not in practice, it could be altered in the corporate charter.

The prohibition seems nearly though not quite universal. Some states seem to have never directly addressed the question of whether a corporation can form a partnership. One example is New Jersey. See Van Kuren v. Trenton Locomotive & Mach. Mfg. Co., 13 N.J. Eq. 302 (Ch. 1861) (suggesting the question is novel but deciding the case on other grounds). The New Jersey legislature eventually provided the answer. See N.J. Stat. §14A:3-1(f) and (m) (permitting corporations to purchase interests in partnerships and participate in them).

[12]See, e.g., Boyd v. Am. Carbon-Black Co., 37 A. 937, 938 (Pa. 1897) ("A corporation may not avail itself of the defense, ultra vires, when the contract has been in good faith fully performed by the other party, and it has had the full benefit of the performance and of the contract.")

[13]For example, in Allen v. Woonsocket Co., 11 R.I. 288, 301 (1876), the Supreme Court of Rhode Island permitted a Rhode Island corporation to form a partnership, but only because the corporation was owned by a single individual and, more importantly, the partnership "was a mere partnership at will, terminable at any moment by either party." The court reasoned that

> If the partnership had been for a definite period, it might well be argued that the respondent had no right to make such a contract. But it was a mere partnership at will, terminable at any moment by either party. The respondent, therefore, did no more part with the control of the business than if it had employed Philip Allen & Sons simply as agents, and its right to do that cannot very well be denied.

Id. at 301.

[14]See, e.g., Aurora State Bank v. Oliver, 62 Mo. App. 390 (1895) (A corporation that purchased a share of a partnership could not be held liable even for the existing debts of the partnership; the contract was never valid and the corporation could not be estopped from claiming that it was never a partner.)

[15]See, generally, Larry Ribstein, *The Rise of the Uncorporation.* Oxford University Press, 2010, pp.65-6.

lature conferred through a charter: (1) express powers that were granted in the charter and (2) implied powers that were "necessary and proper" to exercise express powers.[16] Any corporate act that did not rely on one of these two powers was prohibited under the ultra vires doctrine.

Charters did not typically include an express power to form partnerships and courts would not infer an implied power. There were several threads of legal reasoning. The most important of these was that, by forming a partnership, two corporations could effectively merge, thereby forming a "new" corporation. Since only the legislature could grant incorporation status, this was ultra vires.[17]

Though the ultra vires doctrine was the main basis for prohibiting corporate partnerships, a few courts have referenced a second. The second reason, which was based in agency law, is an early example of how the law grappled with the intrinsic fiduciary conflict of joint venture.

The second reason was presented in the early and influential case of *Whittenton Mills v. Upton*.[18] The facts were clear and undisputed. The Whittenton Mills corporation, a Massachusetts cotton manufacturer, had entered into a partnership agreement with William Mason, a natural person. Mason was to provide manufacturing equipment and would share in Whittenton Mills' profits. All went well until Mason suddenly declared bankruptcy. In the insolvency proceedings, Mason's creditors brought an action to collect against Whittenton Mills as Mason's general partner. The collection procedure would have liquidated the corporation, but the court held that Whittenton Mills did not have the capacity to form a partnership. The insolvency proceedings against Whittenton Mills were vacated.[19]

The court reasoned that Whittenton Mills' charter could not have conferred an implied power to form partnerships because Massachusetts business law and policy relied on the corporation's capacity "to manage its

[16]See, e.g., Cent. R. & Banking Co. v. Smith, 76 Ala. 572, 579 (1884) ("The general rule [is] that corporations created by an act of the legislature, or organized under general laws, can exercise only the powers expressly granted, the implied powers necessary and proper to carry into effect the express powers, and such incidental powers as pertain to the purposes of their creation."). See also Gunn v. Cent. R.R., 74 Ga. 509, 514 (1885).

[17]See Allen v. Woonsocket Co., 11 R.I. 288, 301 (1876) ("agreements between companies which create a partnership between the parties thereto are void.. . . two corporations contract[ing] for a permanent amalgamation. . . would [be] equivalent to the creation of a new corporation without the consent of parliament."); Mallory v. Hananer Oil-Works, 8 S.W. 396, 399 (Tenn. 1888) (shareholders could not ratify partnership formation).

Similarly, partnerships could not obtain a back-door limited liability privilege by incorporating. Jackson v. Hooper, 75 A. 568, 571 (N.J. Ch. 1910) ("The law never contemplated that persons engaged in business as partners may incorporate, with intent to obtain the advantages and immunities of a corporate form, and then, Proteuslike, become at will a copartnership or a corporation.")

[18]76 Mass. 582, 595 (1858).

[19]Id. at 600.

affairs *separately and exclusively.*"[20] The power to form partnerships would contradict this policy because it would enable directors and officers to delegate decision-making authority.

Of course, much of a manager's job is in delegating both tasks and authority. But a partnership would contemplate a total delegation. As the corporation's general partner, Mason's authority would in theory have been equal to all of the corporation's directors, officers, and shareholders combined.[21] The effective authority was even greater since Mason could act as an individual, rather than having to work through the checks and balances of corporate command. Indeed, were the partnership recognized, Mason's unilateral decisions would have liquidated the corporation.[22]

2. *The exception for "joint venture"*

Like any bright-line rule, the problem with the prohibition of corporate partnerships was its over-inclusiveness. The rule was based on the worst-case scenario of general partnership, cases like *Whittenton Mills* in which one person could claim total authority over the corporation.

But not every corporation that sought a partnership-*like* relationship actually wanted to form a general partnership. The purpose of a corporate partnership was not to delegate authority per se and certainly not to authorize would-be partners to dispose of corporate property without limit. Instead, the purpose was to engage in a limited sphere of cooperation with

[20] Whittenton Mills v. Upton, 76 Mass. 582, 597 (1858) (emphasis added).

[21] The court highlighted "one obvious and important distinction" between a corporation before and after partnership formation:

> An act of the corporation, done either by direct vote or by agents authorized for the purpose, is the manifestation of the collected will of the society. No member of the corporation, as such, can bind the society. In a partnership each member binds the society as a principal. If then this corporation may enter into partnership with an individual, there would be two principals, the legal person and the natural person, each having, within the scope of the society's business, full authority to manage its concerns, including even the disposition of its property.

Whittenton Mills v. Upton, 76 Mass. 582, 595 (1858).

[22] *Whittenton Mills* demonstrates how prohibiting partnerships preserves the integrity of the corporate entity. Invalidating the partnership agreement had the effect of shielding the corporation from the personal creditors of one of its stakeholders, in this case from a would-be partner. Some scholars have argued that this entity shielding role (or, more generally, "asset partitioning") is in fact the principal contribution of organizational law. See Henry Hansmann and Reinier Kraakman, "Organizational law as asset partitioning." *European Economic Review*, 44(4), 807-817 (arguing that contract law alone could not achieve the same result); Henry Hansmann and Reinier Kraakman, "The essential role of organizational law." 110 Yale Law Journal 387 (2000); Kenneth Ayotte and Henry Hansmann, "Legal Entities as Transferable Bundles of Contracts," 111 Michigan Law Review 715 (2013).

an entity outside the corporation. The relation they sought was collaborative and thus fiduciary in nature: something more than arms-length contract but less than full-blown general partnership.

Joint venture was the judicial response to this demand. Joint venture law was created as an exception to the general rule against corporate partnerships. Courts justified the joint venture exception by limiting the scope of the relation, deemphasizing its partnership-like qualities while emphasizing its circumscribed, contractual nature.

The key move was to separate the two aspects of partnership: co-ownership and agency. Agency, the more problematic of the two, was tamed by emphasizing the joint venture's *limited business scope*.[23] So long as the corporation's co-venturer did not exert "too much" control, courts reasoned that the business deal simply did not implicate partnership law. It may have looked and quacked like a partnership, but its limited purpose implied that it was not. The association was therefore not ultra vires.[24]

After dispensing with the agency problem, all that remained was co-ownership. The case for corporate co-ownership was easy. The common law had long held that co-ownership, by itself, was not sufficient to form a partnership.[25] And since corporate charters already included an express power to own property, courts reasoned that co-ownership could be sustained as an implied power, "not inconsistent" with a charter that was silent on the issue.[26]

As a legal doctrine, however, joint venture did not last long. By the mid-20th century, courts openly acknowledged that the joint venture exception had effectively swallowed the rule.[27] Joint venture law was closer to a sub silentio overruling than a carefully crafted carve-out,[28] prompting

[23] See, e.g., Bates v. Coronado Beach Co., 41 Pac. 855 (Cal. 1895).

[24] Id.

[25] See Chapline v. Conant, 3 W.Va. 507, 508 (1869) ("The participation in profits, thus broadly and generally stated, never has been the test of liability as a partner."); Baxter v. Rodman, 20 Mass. 435, 438 (1826) (similar holding in an employer-employee setting); Atherton v. Tilton, 44 N.H. 452, 453 (1863) (same). In 1914, this rule was codified in UPA §7. See also RUPA §202(3).

[26] See, e.g., Hackett v. Multnomah Ry. Co., 6 P. 659 (Or. 1885) (in which a corporation was permitted to co-own a ferry service)

[27] See, e.g., Cent. Lumber Co. v. Schilleci, 148 So. 614, 615-16 (Ala. 1933), in which the court noted that

> It is well settled that, notwithstanding a corporation has no power to enter into a partnership it may under a joint venture with others transact any business which is within the scope of its legitimate powers and thereby become liable on account of the fiduciary relation assumed, and a corporation may in furtherance of the object of its creation contract with an individual, although the effect of the contract may be to impose upon it the liability of a partner.

[28] The most recent discussions of this in case law come from the 1980s. See, e.g., E.

one scholar of the time to write that it “indirectly gives the corporation the implied power to enter into a partnership agreement” and that a hypothetical law explicitly granting the same power “would do nothing more than recognize an accomplished fact.”[29]

Over the next few years, all state legislatures eventually passed such laws—general incorporation statutes—which overruled both the prohibition of corporate partnerships and the ultra vires doctrine. These laws flip the default authority: Corporations can generally engage in any business or business form even without an express charter provision.[30] A corporation can now form partnerships[31] (and vice versa),[32] convert into a partner-

Elec. Co. v. Taylor Woodrow Blitman Const. Corp., 414 N.E.2d 1023, 1026 (Mass. App. Ct. 1981) (“The Whittenton Mills decision [that corporations cannot form partnerships], and others like it elsewhere, have led to the use of joint ventures for quasi-partnership operations of two or more corporations.”); Boatman v. George Hyman Const. Co., 276 S.E.2d 272, 274-75 (Ga. App. 1981) (“This anomaly [that the common law distinguishes joint venture and partnership even though they appear to be equivalent] seems to arise out of the court’s desire to permit a corporation to participate in a joint venture where corporate authority to enter into a partnership was lacking.”) (discussing Clement A. Evans & Co. v. Waggoner, 30 S.E.2d 915 (Ga. 1944)).

[29]Leo I. Colowick, “The Corporation as a Partner.” 1955 Washington University Law Review 76 (1955) (alterations omitted). See also Phillip Mechem, “The Law of Joint Adventures,” 15 Minnesota Law Review 644 (1931).

[30]Modern charters, like modern corporate law, are general in that they enable any lawful business or business form. Rather than enumerating express provisions on what the corporation can do, charters simply declare that the corporation can do anything lawful under general corporate law. See, e.g., Amazon.com, Inc; Form 10-Q; EX-3.1; Restated Certificate of Incorporation; Filed: May 15, 2000. (“The purpose of this corporation is to engage in any lawful act or activity for which corporations may be organized under the General Corporation Law of Delaware.”); Exxon Mobile Corp.; Form 10-Q; EX-3.(I); Restated Certificate of Incorporation; Filed: Aug 04, 2011. (“The purposes for which the corporation is organized are to engage in any or all activities within the purposes for which corporations now or at any time hereafter may be organized under the New Jersey Business Corporation Act and under all amendments and supplements thereto, or any revision thereof or any statute enacted to take the place thereof, including but not limited to the following: [listing two pages of examples]).

See also Model Business Corporation Act (MBCA) §2.02(c) (granting a suite of corporate powers by default) and §3.04 (limiting the grounds under which a corporation’s power to act may be challenged) (2002). Approximately half of the states have adopted the MBCA. There are analogous provisions in non-MBCA states.

[31]See, e.g., DCGL §122(11) (Every corporation created under this chapter shall have power to . . . Participate with others in any corporation, partnership, limited partnership, joint venture or other association of any kind, or in any transaction, undertaking or arrangement which the participating corporation would have power to conduct by itself, whether or not such participation involves sharing or delegation of control with or to others”); Cal. Corp. Code §207; N.Y. Bus. Corp. Law §202(a)(15) and official commentary; Model Business Corporation Act §3.02(9).

[32]Incorporation statutes generally permit “any person” to create a corporation and then include partnership in the definition of a person. See, e.g., Ariz. Rev. Stat. §10-201, §10-140(22), §10-140(36). Six states explicitly state that “partnerships. . . may form [a corporation].” Cal. Corp. Code §200. See DGCL §101; KS St. 17-6001; OK St. Title 18

ship,[33] merge with a partnership[34] and even organize itself as if it were a partnership.[35]

B. *Contemporary legacy*

One might think that joint venture doctrine—though now essentially defunct—would have left a legacy of case law and analysis that grapples with the intrinsic fiduciary conflict. It has not.

Instead, the only legacy is a mild confusion over the difference between joint venture and partnership. In practice, the difference is essentially zero. Partnership law *generally* applies to joint ventures.[36] The occasional ex-

§1005; OR St. §60.044

[33] DGCL §266.

[34] DGCL §263, §267.

[35] DGCL §354.

[36] Stone v. First Wyo. Bank N.A., 625 F.2d 332, 340 (10th Cir.1980) ("As a general rule the substantive law of partnerships is applicable in determining the rights and liabilities of joint venturers and third parties,"); In re Groff, 898 F.2d 1475, 1476 (10th Cir. 1990) (citing Stone v. First Wyo. Bank); Zeibak v. Nasser, 82 P.2d 375, 380 (Cal. 1938) ("The rule is that the rights and liabilities of joint adventurers, as between themselves, are governed by the same principles which apply to a partnership"); Total Holdings USA, Inc. v. Curran Composites, Inc., 999 A.2d 873, 875-76 (Del. Ch. 2009). [Further gratuitous string citations omitted.]

The reasoning behind this typically revolves around a simple inference: Joint ventures are, by legal definition, similar to partnerships; therefore, partnership law should apply. See, e.g., Hansler v. Bass, 743 P.2d 1031, 1036 (N.M. 1987) ("Although that provision relates to partnership, we believe it equally applicable to a joint venture, since the latter is generally considered to be a partnership for a single transaction.")(citing Bard v. Hanson, 68 N.W.2d 134 (Neb. 1955)). A related line of reasoning is that partnership law applies to joint ventures, but only "by analogy." Partnership law "does not govern directly"; its application to joint venture is discretionary and courts are free to apply a different law or make exceptions if the circumstances warrant. Doiron v. Castonguay, 519 N.E.2d 260, 262 (Mass. 1988) (n.2). Notably, the court failed to mention which other law would be applicable. Cases citing *Doiron* generally apply UPA. See, e.g., BPR Grp. Ltd. P'ship v. Bendetson, N.E.2d 956 (Mass. 2009). New Hampshire follows a similar "by analogy" doctrine. Miami Subs Corp. v. Murray Family Trust, 703 A.2d 1366, 1370 (N.H. 1997).

The effect of this reasoning is that partnership law is usually applied to joint venture, but in a piecemeal fashion. When confronted with an issue that is settled in partnership law but has never been applied to a joint venture, a court will declare the question a matter of "first impression," acknowledge the joint venture relation, state the "general rule" that partnership law applies, and finally conclude that partnership law governs. See, e.g., Doe v. Yale Univ., 748 A.2d 834, 854 (Conn. 2000) (string citation explains precisely this piecemeal application of partnership law to joint venture). Bd. of Trustees of W. Conference of Teamsters Pension Trust Fund v. H.F. Johnson Inc., 830 F.2d 1009 (9th Cir. 1987).

This piecemeal adoption sometimes even plays out in statute. See, OK St. Title Examination Standards Standard 13.7 (Conveyances to and by Joint Ventures). Section (D) codifies the Oklahoma common law rule that, as in partnership, one co-venturer can bind the other by acts that are within the scope of the venture. However, it is not clear ceptions either have no real substantive effect on the outcome[37] or are idiosyncratic to particular states.[38] Though most jurisdictions seem to ad-

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if this rule is equivalent or merely analogous to the partnership scope of agency.

[37]One example comes from the default procedure for termination. Partnerships are by default "terminable at will" RUPA §101(8); RUPA §601. Illinois makes an explicit exception for joint ventures: by default, joint ventures are not terminable until the purpose of the venture is achieved. Meridian Homes Corp. v. Nicholas W. Prassas & Co., 687 F.2d 228, 231 (7th Cir. 1982) ("the Illinois Supreme Court created an exception to [the general rule that partnership law applies to joint venture] in the area of termination of joint venture agreements.") (citing Maimon v. Telman, 240 N.E.2d 652 (Ill. 1968)).

This is not a substantive exception and it is not clear why Illinois courts call it one. If a joint venture agreement is vague on the goal, then at will termination applies in all jurisdictions. Id., 231. But if a joint venture agreement says something like: "X and Y will build a house" or, even more obviously, "X will provide materials and Y will put it together," then contract law recognizes these statements as promises that the parties cannot simply "terminate at will." A duration of "time till performance" or, equivalently, "time till the purpose is accomplished" is *implied* through contract. This does not depend on whether the jurisdiction admits an "exception" because partners can also alter the default termination procedure through contract. RUPA §406; UPA §23. Further, Illinois courts specifically state that a parter incurs *contractual* liability for early termination when the partnership agreement is for a definite term. Browne v. Ritchey, 559 N.E.2d 808, 811 (Ill. App. 1990). So it is really contract law (which applies everywhere) that is doing all the work, rather than an exception to joint venture / partnership equivalency.

[38]One example comes from the default ownership rights in joint venture versus partnership. In partnership, the default for all jurisdictions is that real property is owned by the partnership entity or by the partners as tenants in partnership. UPA §§24, 25, and 27; RUPA §§501, 502, 503; RUPA §502 comment. However, Michigan makes an exception for joint ventures: the default is that co-venturers own real property as tenants in common. Kay Inv. Co. v. Brody Realty No. 1, L.L.C., N.W.2d 777 (Mich. App. 2006); C.J.S., Tenancy in Common §§1–11. The practical effect of this exception is that partnership defaults concerning transfer of property are flipped. Tenants in common *can* transfer their individual interest in property, but tenants in partnership *cannot.* Tenants in common *cannot* transfer the entire, co-owned estate without the unanimous consent of all tenants, even if the transfer is in the "ordinary course of business." Tenants in partnership, in contrast, *can* transfer the entire, co-owned estate without unanimity (the default is majority rule). RUPA §§301, 401(j).

This exception seems largely rooted in citations to earlier cases. Michigan and a few other jurisdictions can trace it to a U.S. Supreme Court case, *Clark v. Sidway*, 142 U.S. 682 (1892), in which the court refused to find a partnership where two persons had formed a land speculation business because the business owned only one parcel. The court instead found that there was no business and that the parties were merely co-owners, which by default left them tenants in common. A leading treatise and several state courts later cited *Clark* out of context as persuasive authority that *joint venturers always* hold real property as tenants in common, regardless of how large their business may be. See Swan v. Ispas, 37 N.W.2d 704, 706 (Mich. 1949) ("joint adventurers take title to real estate purchased by them as tenants in common") (quoting 48 C.J.S., Joint Adventures, §7, which in turn cites Clark v. Sidway). The citation is out of context because the Supreme Court had previously established that "a copartnership may exist in the purchase and sale of real property, equally as in any other lawful business" Thompson v. Bowman, 73 U.S. 316, 317 (1867) and because *Clark* is based on the "smallness" of the business. *Clark* did not apply to joint ventures in general or even use the phrase "joint venture" or "joint adventure" or "joint enterprise"; it did not even cite (let alone mit no difference, only Texas and Maryland have explicitly abolished the distinction by statute.[39] Thus, notwithstanding a few peculiarities, summarizing the law is actually fairly straightforward: In Texas and Maryland, joint venture and partnership are legally equivalent; in all other states, case law has *approximately* equated the two.

Since the law of corporate partnerships very quickly transitioned from prohibition to total contractual freedom, it is not surprising that there is no case law analyzing the intrinsic fiduciary conflict. The conflict simply did not spend enough time in the courts to evolve into a coherent doctrine.

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distinguish) the ruling in *Thompson*.

This could explain why Maryland federal courts apply the exception even though Maryland state courts do not. The federal court cites the old version of Corpus Juris Secondum (which used to cite *Clark*), perhaps under the presumption that Maryland courts follow it. Compare the federal case, Institutional Mgmt. Corp. v. Translation Sys., Inc., 456 F. Supp. 661, 665 (D. Md. 1978) ("Joint adventurers hold real estate as tenants in common") (citing 48 C.J.S. 834) with a corresponding state case, Madison Nat. Bank v. Newrath, 275 A.2d 495, 498 (Md. 1971) (holding that co-venturers held real property as tenants in partnership, rejecting evidence suggesting the parties held it as tenants in common).

Finally, Montana adopted the exception but later expressly overruled it. Ivins v. Hardy, P.2d 745, 749 (Mont. 1947) (creating the exception); Walsh v. Ellingson Agency, 613 P.2d 1381, 1384 (Mont. 1980) (expressly overruling Ivins v. Hardy). See also Robertson v. Robertson, 590 P.2d 113, 115 (Mont. 1978) (distinguishing Ivins v. Hardy).

[39] Texas was the first. When Texas adopted RUPA in 1994, it amended the definition of partnership. The original text of RUPA provides that

> the association of two or more persons to carry on as co-owners a business for profit forms a partnership, whether or not the persons intend to form a partnership.

RUPA §202. To this the Texas legislature added

> . . . and whether the association is called a "partnership," "joint venture," or other name.

1993 Tex. Sess. Law Serv. Ch. 917 (H.B. 273) (Vernon's). Codified in TX CIV ST Art. 6132b-2.02 (expired Jan 1, 2010); replaced with Tex. Bus. Orgs. Code §152.051 (same). This change was part of a much broader effort by the Texas legislature to streamline all of Texas state law. Texas passed a law in 1993 that required the comprehensive revision and reorganization of all Texas statutes. Tex. Gov't Code §323.007. Texas business law was consolidated in 2006. Tex. Bus. Orgs. Code §1.001 et seq. See generally Texas Bill Analysis, H.B. 1156, 4/14/2003.

Three years later, Maryland followed. The Maryland legislature adopted RUPA and amended RUPA's definition of partnership with language identical to the Texas statute. 1997 Maryland Laws Ch. 654 (H.B. 251). Codified in Md. Code Ann., Corps. & Ass'ns §9A-202(a).

Both Texas and Maryland case law have explicitly acknowledged that these actions abolished the joint venture / partnership distinction. Ingram v. Deere, 288 S.W.3d 886 (Tex. 2009) ("Prior case law discusses differences between joint ventures and partnerships. We see no legal or logical reason for distinguishing a joint venture from a partnership on the question of formation of the entity.") (citing the Texas statute that abolishes the distinction); Blondell v. Littlepage, 991 A.2d 80, 91 (Md. 2010).

This absence of doctrine stands in contrast with the existence and development of corporate doctrines generally. This is because existing doctrines, many of which also originated from a prohibited business activity, have only tended toward *partial* (rather than total) contractual freedom. When a once-prohibited activity becomes *conditionally* legal, a doctrine will emerge to deal with the borderline cases.[40] But since corporate partnerships were (nearly) instantly and unconditionally enabled, there were no borderline cases; no doctrine emerged to evaluate the reasonableness of how corporations respond to the intrinsic fiduciary conflict. The solution to this conflict is thus not found in statute or case law, but in contract.

In what follows, I lay out a case study of such contracts. The goal is to understand how corporate joint venture contracts resolve the intrinsic fiduciary conflict. I will argue that joint venture entities and covenants not to compete together form the key contractual solution.

[40] Consider, for example, the old common law rule against interested transactions. The rule was that any deal between the corporation and one of its agents was automatically voidable by the corporation. See Wardell v. UnionPacific R. R. Co., 103 U.S. 651 (1880), which is discussed at length in Harold Marsh, "Are Directors Trustees? Conflict of Interest and Corporate Morality," 22 The Business Lawyer 35, 35-39 (1966).

For example, suppose a corporate agent owned a building and wanted to move the corporate offices into this building. The agent could form a contract with the corporation to sell the building, but if the corporation backed out, the agent could not enforce the contract in court. The reasoning was similar to the reasoning behind the rule against corporate partnerships. Interested transactions strain the loyalty of a corporation's agents because it puts them on both sides of the deal: a dollar more paid for the building is a dollar more in the agent's pocket. The rule against them was similarly bright-line and brute-force: corporations were never required to honor interested transactions.

The rule against interested transactions has also been overruled by statute. See DGCL §144. See also Tex. Bus. Org. Code §21.418. But the law has not relinquished control over the standards and process by which interested transactions are judged. Delaware, for example, only overrules the *automatic* voidability of interested transactions; statute and case law replace this with specific procedures for evaluating their fairness. See DGCL §144; Benihana of Tokyo, Inc. v. Benihana, Inc., 906 A.2d 114 (Del. 2006) (on ex ante safe harbors for interested transactions); Fliegler v. Lawrence 361 A.2d 218 (Del. 1976) (on ex post ratification of interested transactions).

This control yields not only case law, but also scholarship. See, e.g., Bernard Black and Reinier Kraakman, "A Self-Enforcing Model of Corporate Law" 109 Harvard Law Review 1911, 1958-60 (1996); Melvin Eisenberg, "Self-Interested Transactions in Corporate Law," 13 Journal of Corporate Law 997 (1988); Zohar Goshen, "The Efficiency of Controlling Corporate Self-Dealing: Theory Meets Reality," 91 California Law Review 393 (2003).

II. Case study: Boeing & Lockheed's adventures in aerospace

In 2005, The Boeing Company and Lockheed Martin established a joint venture.[41] Their agreement formed a new, multi-billion dollar company, United Launch Alliance (ULA), a Delaware LLC owned in equal shares by its two members.[42] The business of ULA is to launch satellites into orbit for the U.S. government. Most of these services are provided to the U.S. Air Force and NASA.

The ULA venture was the result of an Air Force program that began in 1995.[43] This program lead to the development of two competing rocket systems, one by Boeing (the "Atlas" system) and the other by Lockheed (the "Delta" system).[44] For many years, Boeing and Lockheed separately designed and manufactured their two systems. In the course of their competition, the U.S. government awarded both with several contracts throughout the 1990s and early 2000s.

The competition between these two firms was not only fierce, but at times illegal. Early on in the Air Force procurement process, a Boeing executive solicited a Lockheed engineer to work at Boeing. The Lockheed engineer brought thousands of pages of confidential documents to Boeing. These documents exposed Lockheed's plans for contract bidding as well as Lockheed's new proposals to the Air Force.

In 2003, the Justice Department charged the executive and the engineer with conspiracy to steal Lockheed trade secrets.[45] The United States and Lockheed also filed separate civil actions against Boeing.[46] As a result, Boeing was fined, temporarily banned from providing launch services to the U.S. government, and stripped of several of its existing contracts.

This was a low point in trust between the two firms, yet out of this mess

[41] Boeing and Lockheed are two aerospace giants. By revenue, Boeing is the largest aerospace firm in the world and Lockheed is ranked third. See PricewaterhouseCoopers "Top 100 Special Report," Flight International, September 2014, pp.28–38.

[42] The Joint Venture Master Agreement between The Boeing Company and Lockheed Martin ("ULA-JVA") is available at `http://www.sec.gov/Archives/edgar/data/936468/000119312505150203/dex102.htm`.

[43] The official name was the Evolved Expendable Launch Vehicle (EELV) program.

[44] Both companies had acquired the basic technologies for these systems through mergers: Lockheed acquired its Atlas V system through a merger with Martin Marietta in 1995; Boeing acquired its Delta IV system through a merger with McDonnell Douglas in 1997.

[45] See DOJ press release, "Two Former Boeing Managers Charged in Plot to Steal Trade Secrets from Lockheed Martin" (June 25, 2003). Available at `http://www.justice.gov/criminal/cybercrime/press-releases/2003/branchCharge.htm`.

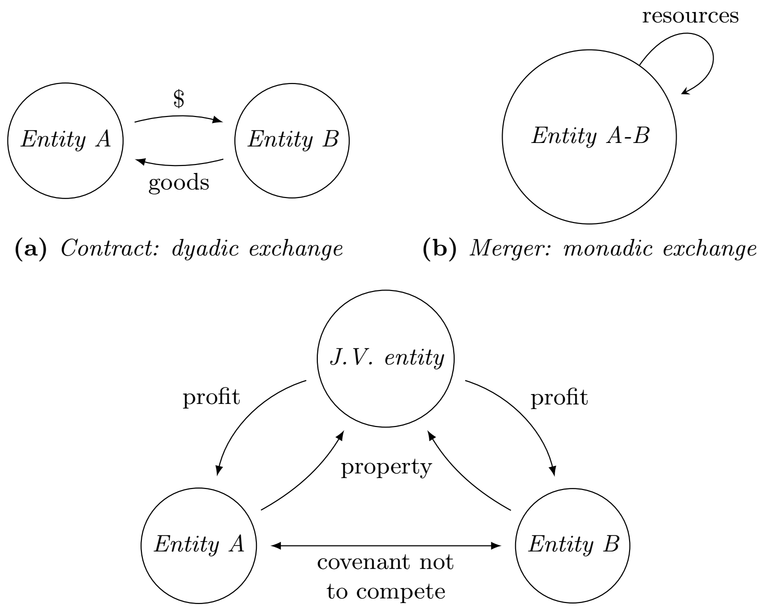
[46] Lockheed Martin v. Boeing, Case No. 6:03 CV 796 ORL28KRS filed in the United States District Court for the Middle District of Florida.

came the ULA joint venture.[47] The details are unclear (and confidential), but much of the impetus behind ULA seems to have come from the Air Force. For national security reasons, it wanted to keep both Boeing and Lockheed rocket systems operational. In order to do this, the Air Force encouraged a joint venture between the two firms. It expected (or hoped) that this would not only ensure their survival, but also result in higher quality launches.

Boeing and Lockheed, in spite of their pending suits and counter-suits, were probably happy to oblige since the venture would create a monopoly on launch services to the U.S. government. The Federal Trade Commission noted this anticompetitive effect in its review of the proposed venture, but nevertheless approved of it on account of the Air Force's position.[48] Boeing and Lockheed settled their civil claims and—out of this dramatic conflict—their venture was born.[49] They may have been rivals, and cheating rivals at that, but as partners they now owe each other a fiduciary duty "of the finest loyalty."[50]

III. Joint venture contracts

In this part, I explore the structure of the contractual solution to the intrinsic fiduciary conflict of joint venture. Part III.A presents a theory of how a joint venture entity and a covenant not to compete (CNC), working together, resolve the conflict and distinguish the structure of joint venture from both merger and arms-length contract. Parts III.B then applies this theory to the Boeing-Lockheed venture.



(a) *Contract: dyadic exchange* **(b)** *Merger: monadic exchange*

(c) *Joint venture: triadic exchange*

Figure 1: *The structure of corporate trade.* Contractual exchange is *dyadic* because two parties directly exchange with each other. Merger is *monadic* because one party (the merged entity) trades with itself through intra-firm allocations. Joint venture is *triadic* because three parties all trade with each other: two co-venturer corporations trade with each other (a covenant not to compete) and with a separate joint venture entity (property for profit).

A. *Theory: The structure of joint venture*

The joint venture entity and the covenant not to compete together form a single organizational device. This device is what defines the structure of

[47]Most of the following comes from the FTC case regarding ULA. Available online at `http://www.ftc.gov/enforcement/cases-proceedings/0510165/lockheed-martin-corporation-boeing-company-united-launch`.

[48]Commissioner Harbour noted that

> DoD unequivocally has communicated its position to the Commission: the creation of ULA is critical to protect national security interests, and enabling these unique national security benefits to flow is more important to the public interest than preventing the loss of direct competition between Boeing and Lockheed.

In the Matter of Lockheed Martin Corporation, The Boeing Company, and United Launch Alliance, L.L.C., Docket No. C-4188, FTC Matter/File Number: 0510165 (Concurring Statement of Commissioner Harbour). Available online at `http://www.ftc.gov/enforcement/cases-proceedings/0510165/lockheed-martin-corporation-boeing-company-united-launch`.

[49]The settlement was folded into the joint venture agreement it self. See ULA-JVA Section 5.12 Stay of Civil Proceeding.

[50]Meinhard v. Salmon, 164 N.E. 545 (N.Y. 1928).

the modern joint venture.[51]

Figure 1 compares the structure of joint venture with two other types of trade: merger and arms-length contract. In a typical contractual exchange, each party gives the other consideration, e.g., goods for money. This is a *dyadic* exchange because there are two parties. Of course, contractual exchanges can become more complicated and involve more than two parties, but figure 1 depicts the idealized exchange. The most primitive, simplified contractual exchange requires that, at a minimum, two distinct parties make at least one exchange.

Merger, in contrast, is a *monadic* exchange because there is only one party (the merged entity) that trades with itself. The previously two separate entities forgo contractual exchange on an open market. Trade between the two entities is intra-firm and effected by fiat. Managers simply dictate which resources go where.[52] Again, this is an idealized, minimal case.

Joint venture follows a *triadic* structure. The modern joint venture, in its simplest, idealized form, requires three parties: two founding co-venturers and one joint venture entity. Each party exchanges with the other, so there are a total of three exchanges. The founding co-venturers each provide property and capital to the joint venture entity in exchange for a claim over the entity's profits. The fact that they provide property—or rather *share* property—with the joint venture entity (instead of just providing capital) is what distinguishes them as *co-venturer* shareholders. This is the *quarantining* exchange because the joint venture entity isolates both the co-venturers' property and the jointly-owned business opportunities; only the joint venture entity has access to each co-venturer's property.

At the same time, the co-venturers exchange a mutual covenant not to compete in the joint venture's market. That market, and all its opportunities, belongs to the joint venture entity and not to either co-venturer. This is the *delineating* exchange because a covenant not to compete delineates the jointly-owned business opportunities from the opportunities that either may independently pursue. Only the joint venture entity is permitted to compete in the joint venture's market.

B. *Practice: The Boeing-Lockheed venture*

1. *Quarantine opportunities*

(a) *Create an entity.* The Boeing-Lockheed venture created a new entity that is separate from both companies. The joint venture agreement it-

[51] The fact that some contract terms may be complements or substitutes cautions against studying any one, individual type of provision in isolation. See, generally, Ronald J. Gilson. "Value Creation by Business Lawyers: Legal Skills and Asset Pricing," 94 Yale Law Journal 239 (1984).

[52] See, generally, note 78.

self was a contract among three parties: Boeing, Lockheed, and "a Delaware limited liability company to be formed."[53] The "company to be formed" was United Launch Alliance LLC, (ULA).

Entity creation accomplishes many tasks that are independent of the intrinsic fiduciary conflict. It limits the liability of both companies for the venture's actions, serves as an accounting convenience to keep track of each party's contributions and the venture's operations, and clarifies the managerial chain of command.

Operating the venture through an LLC (or corporation) also avoids the confusion in state law between joint venture and partnership. For example, some states maintain different and confusing procedures for terminating joint ventures and partnerships.[54] In contrast, Delaware provides clear statute and case law on when a co-venturer can petition the court to dissolve a joint venture corporation or joint venture LLC.[55] Creating an entity thus serves many roles that are separate from the intrinsic fiduciary conflict: economic, accounting, managerial, and legal.

Yet creating a separate entity is also an innovative and deceptively simple response to the intrinsic fiduciary conflict. The innovation is that a joint venture entity serves the critical role of *quarantining* the venture's opportunities. ULA, the joint venture entity, acts as a buffer between the two co-venturers. Boeing and Lockheed may own the entity itself, but neither directly owns the joint venture's opportunities. Instead, they are owned by a neutral, third-party entity.

Critically, ULA has a separate set of agents who work only for ULA and not for either Boeing or Lockheed. As a matter of law, these managers owe a duty of loyalty to ULA itself, *not* to either company. Of course, there may be economic temptations that would bend the loyalties of ULA's agents toward Boeing or Lockheed, especially since the managers themselves come from each: the CEO from Lockheed and the COO from Boeing.[56] But these are problems of enforcement that, while important, only come after

[53] ULA-JVA p.1. Section 2.01 further provided that "Prior to the Closing, the Members shall cause the Company to be formed as a Delaware limited liability company by filing a certificate of formation with the Secretary of State of the State of Delaware." Id.

[54] See section I.B and note 37.

[55] See Del. Code Ann. title 6, §18-802 (on court-ordered dissolution of joint venture LLCs); Corp: DGCL §273 (on court-ordered dissolution of joint venture corporations). Delaware courts have noted that the doctrine covering these two statutes are analogous. See Vila v. BVWebTies LLC, 2010 Del. Ch. LEXIS 202 (Oct. 1, 2010) (on court-ordered dissolution of a joint venture LLC); Wah Chang Smelting & Ref. Co. of Am. v. Cleveland Tungsten Inc., CIV. A. 1324-K, 1996 WL 487941 (Del. Ch. Aug. 19, 1996) (applying the "not reasonably practicable" standard for dissolving a joint venture LLC to a joint venture corporation). See also DGCL §226 (appointment of custodian to resolve deadlock in a joint venture corporation).

[56] See The Boeing Company; Form 8-K; Item 1.01; Filed: May 4, 2005. Boeing and Lockheed each appoint three members to the six-member board.

the entity has first resolved the intrinsic fiduciary conflict.

The default duty of loyalty in partnership would have required Boeing agents to be loyal to Lockheed (and vice versa). Instead, creating a joint venture entity means that the bulk of these loyalty duties are borne by agents of the joint venture entity, agents that are not conflicted by a countervailing duty owed to either Boeing or Lockheed. Loyalties remain "undivided" because no individual agent owes loyalty to more than one firm: Boeing agents are loyal to Boeing, Lockheed agents to Lockheed, and ULA agents to ULA.

The joint venture entity thus supplants the default structure of both loyalty and ownership over partnership opportunities. It replaces this with a structure in which partners retain ownership over the *profits* an opportunity generates while the *opportunities themselves* remain out of reach. Instead of "joint custody" over the opportunities there is "third-party guardianship." Instead of having Solomon "split of the baby," Solomon himself—the neutral third—keeps the baby.

(b) *Assign rights to the entity.* Step 1 of "quarantining opportunities" is to create the quarantined zone. This is the joint venture entity. Step 2 is then to place things in this zone. To do this, the co-venturers assign rights over their own property to the entity.

In the case of the Boeing-Lockheed venture, both parties assigned rights over all of their rocket-related intellectual property to ULA. They granted ULA "a worldwide, perpetual, irrevocable, non-transferable, no-cost, royalty-free" license over all of their intellectual property relating to expendable launch vehicles (one-time use rockets). The license is exclusive during the term of the CNC (with one exception noted below in the discussion of the CNC).[57] During this term, ULA enjoys both unrestricted and exclusive

[57] Boeing first grants ULA an general, non-exclusive license, then makes the license exclusive during the term of the CNC:

> Boeing hereby grants to the Company, solely for its use within the Field of Use, a worldwide, perpetual, irrevocable, non-transferable, no-cost, royalty-free nonexclusive license, with the right to grant sublicenses within the Field of Use and with written notice to Boeing, in the Intellectual Property owned or controlled by Boeing or any of its Subsidiaries and used by Boeing or any of its Subsidiaries as of the Closing in Boeing's ELV Business (the "Licensed Boeing Intellectual Property"). This license includes the right of the Company to use the Licensed Boeing Intellectual Property for any purpose within the Field of Use, including the right to create derivative works and modifications, to manufacture products that incorporate Licensed Boeing Intellectual Property and to perform or have performed services which incorporate or otherwise use the Licensed Boeing Intellectual Property.

ULA-JVA Section 5.08(a)(i). The text of Lockheed's grant is similar.

access to the rocket-related intellectual property of Boeing and Lockheed. After this term, ULA's access is unrestricted but not exclusive.

This is an awesome power on the part of ULA. Intellectually property is the core of an aerospace firm and many of its technologies are general. The same patents that go into the guidance and aerodynamics of rockets are also used to design airfoils and electrical systems on fighter jets or commercial airliners. Thus, though it is difficult to say exactly, the value of ULA's access to intellectual property likely exceeds the (transferable) value of ULA itself.

This power creates both uncertainty and vulnerability. The uncertainty is that Boeing and Lockheed's relative contribution cannot be easily quantified ex ante. Even ex post, it may not be clear which side contributed more. A "pay per use" accounting scheme for patents (i.e., a price mechanism) would mitigate this. Instead, the ULA joint venture agreement simply grants equal and unrestricted access and shares the profits and losses 50/50.

ULA's access also leaves Boeing and Lockheed vulnerable. Instead of a piecemeal assignment or tailored access to individual technologies, ULA is given the keys to both kingdoms—with the sole restriction that it use the keys "within the scope of the purpose of [the venture]."[58]

This vulnerability was the very problem that the Massachusetts court cited when, way back in 1858, it prohibited the corporate partnership in *Whittenton Mills*. The problem was that one partner had "too much" access—and therefore control—over the Whittenton Mills corporation. The further problem was that such control was not actually illegal within the realm of partnership law. To the court, this presented not just an intrinsic fiduciary *conflict*, but an intrinsic fiduciary *contradiction*. As discussed above, the original solution seemed also like the only one: prohibition.[59]

If it were the case that Boeing and Lockheed granted *each other* unrestricted access to their intellectual property, then we would be in a situation that is akin to *Whittenton Mills*. Each corporate partner has arguably "too much" direct access to the other's operations; their mutual vulnerability would be protected only by a threat of mutually assured destruction. But Boeing and Lockheed did not grant each other such access. They granted it to the joint venture entity, whose independence is checked by the fact that it exists only by the grace of the co-venturers. Instead of mutual access, there is only third-party access.

Here it is worth contrasting the joint venture LLC with the typical, non-joint venture LLC (or corporation). The fact that any of the coventurers' property is placed in the quarantined zone is what distinguishes

[58]ULA-JVA Sections 5.08(a) and 2.08.

[59]See section I.A.

a co-venturer shareholder from the typical shareholder. Co-venturer shareholders are more integrated with their joint venture firm in the Coasian sense: each co-venturer offers certain services to the joint venture firm without relying on a price mechanism. In the Boeing-Lockheed venture, the Coasian integration came in the form of "cost-free" access to the co-venturers' intellectual property. This access was not mutually granted to each co-venturer, but instead assigned to the joint venture firm. The integration is thus not between the co-venturers themselves, but between the co-venturers and their joint venture firm.

For the joint venture entity, the quarantining role is essential. Agents of the joint venture insulate and protect the venture's opportunities from the venture's shareholders. Shareholder appropriation, whether on purpose or "accident," is a serious risk for ULA since, prior to their venture, Boeing and Lockheed directly competed in the exact market in which ULA operates.

In contrast, the dispersed corporation presents almost no risk of shareholder appropriation. A dispersed shareholder is often not even in a position to evaluate the corporation's opportunities, let alone appropriate them. The much greater risk is that the corporation's agents themselves, not shareholders, will appropriate corporate opportunities.

A separate corporate entity is not needed to protect corporate opportunities from dispersed owners. It is also not needed to act as a "neutral third party" that can access shareholders' personal property since non-joint venture corporations have no access in the first place. It is finally not needed to resolve any intrinsic fiduciary conflicts because there are none: the corporation's agents owe loyalty only to the corporation, the shareholders owe no loyalties at all.[60] Simply put, co-venturer shareholders, even when acting through a joint venture entity, are still partners; regular shareholders are not.

2. *Delineate opportunities*

The first contractual step to solving the intrinsic fiduciary conflict is to create a separate joint venture entity. We now arrive at the second step: the covenant not to compete.

(a) *Covenants not to compete.* The ULA venture includes two types of covenants not to compete: a non-competition agreement and a non-solicitation agreement. Non-competition agreements are promises over product market supply. Non-solicitation agreements are analogous promises over

[60]The analysis may change in the case of large and activist shareholders. See Iman Anabtawi and Lynn Stout. "Fiduciary duties for activist shareholders." 60 Stanford Law Review 1255 (2008).

labor market demand.[61] The analysis will concentrate on the former.[62]

At nearly 6 pages, the non-competition clause is one of the longest and most detailed sections of the ULA joint venture agreement.[63] In order to summarize it, I will break it down into several parts.[64]

First, the parties define their joint market as launch services for which: (1) the customer is the U.S. government (2) payloads are between 2–70 metric tons, and (3) payloads are delivered into low Earth orbit, which is between 160–2,000 km above sea level. Boeing and Lockheed next agree to refrain from two types of competition in this joint market: (1) for 5 years, neither will separately engage in the R&D of related products and (2) for 7.5 years, neither will separately engage in the manufacture or provision of related products.

Having cast a broad net, the non-competition agreement then makes several exceptions. These include carve-outs relating to Boeing and Lockheed's preexisting joint ventures (discussed below),[65] carve-outs for specific business activities that could be summarized as "ordinary course" activities (12 total), and finally a severability clause—a kind of judicial carve-out that essentially asks the judge to make only the minimum modification necessary to cure an unenforceable CNC.

(b) *Two rationales for CNCs.* Why would a joint venture agreement adopt a CNC? Here I briefly note two rationales based on the holdup and antitrust problems. I then offer a third rationale that is based on the intrinsic fiduciary conflict.

The holdup problem is that collaboration yields gains from trade, but only after both sides make relationship-specific investments.[66] The prob-

[61]In the ULA agreement, Boeing and Lockheed promised not to actively solicit each other's employees. Given their history (particularly the espionage case against the Boeing and Lockheed executives) a non-solicitation agreement seems particularly prophylactic.

[62]One might also consider promises over labor market *supply*. Employers often include such CNCs in employment contracts in order to limit their employees' mobility. For an excellent study on how such agreements interact with law and industrial organization, see Ronald J. Gilson "The Legal Infrastructure of High Technology Industrial Districts: Silicon Valley, Route 128, and Covenants Not to Compete." 74 NYU Law Review 575 (1999).

[63]The joint venture agreement is organized into 80 sections and is 120 pages in total (30,158 total words / 250 words per page). This includes only the main text. It excludes the table of contents, signature pages, and list of attachments.

The non-competition clause is 1,350 words (4.5 percent of the agreement). The 5 longer sections are on Environmental matters—6.8 percent, Intellectual property licenses—5.9 (discussed above), Adjustment of capital contributions—5.8, Confidentiality—4.6, and Dispute resolution—4.5.

[64]This is not precisely how the non-competition provision is written. I do this to aid summary.

[65]See part V.A.

[66]See, generally, Oliver E. Williamson, "Transactions-Cost Economics: The Gover-

lem with such investments is that they cannot be redeployed outside the joint venture relationship, or at least not without cost. Having sunk a relationship-specific investment, the cost of backing out of the deal increases for the investing party, thereby strengthening the bargaining power of the counter-party. The counter-party is then incentivized to "hold up" the project by demanding a greater share of the surplus. Ex ante, the holdup problem leads to an inefficient under-investment.

A CNC mitigates the holdup problem by lowering the value of investments made outside the relationship. If a CNC is perfectly enforced, then investments made within its scope but outside the relationship become worthless. The CNC thus provides mutual assurance for relationship-specific investments.

The antitrust rationale cuts two ways.[67] Co-venturers in similar markets might prefer a broader CNC in order to capture a larger monopoly rent. The Federal Trade Commission, on the other hand, would prefer the opposite. A joint venture's CNC in this case delineates a compromise between these two interests. We observe this compromise in action in the Boeing-Lockheed venture. The FTC conditioned its approval for the venture on the implementation of certain pro-competitive policies.[68] These policies effectively altered the ULA CNC.

(c) *A third rationale: Organizing venture opportunities.* The holdup and antitrust rationale are compelling. They demonstrate that, just like a separate entity, CNCs can accomplish several things at once. However, these rationale are not the focus of this paper. The question for us is: How

nance of Contractual Relations," *Journal of Law and Economics*, 22(2), pp. 233-62; Aaron S. Edlin and Stefan Reichelstein. "Holdups, Standard Breach Remedies, and Optimal Investment." *American Economic Review*, 478-501 (1996).

[67] Antitrust law applies differently in the context of joint venture versus competition. For example, under Section 1 of the Sherman Act, "naked" price-fixing arrangements are per se illegal. Catalano, Inc. v. Target Sales, Inc., 446 U.S. 643, 647 (1925). In the context of a joint venture, however, the rule of reason applies. Texaco Inc. v. Dagher, 547 U.S. 1, 8 (2006).

[68] To summarize, the FTC required that

> (1) ULA cooperate on equivalent terms with all providers of government space vehicles; (2) the space vehicle businesses of Boeing and Lockheed provide equal consideration and support to all launch services providers when seeking any U.S. government delivery in orbit contract; and (3) Boeing, Lockheed, and ULA safeguard competitively sensitive information obtained from other providers of space vehicles and launch services.

In the Matter of Lockheed Martin Corporation, The Boeing Company, and United Launch Alliance, L.L.C., FTC Docket No. C-4188, Matter/File Number: 051-0165 (Analysis of Agreement Containing Consent Order to Aid Public Comment, issued October, 2006). Available at `http://www.ftc.gov/enforcement/cases-proceedings/0510165/lockheed-martin-corporation-boeing-company-united-launch`.

do CNCs respond to the intrinsic fiduciary conflict of joint venture?

Boeing and Lockheed extended a free license to ULA over all their rocket-related intellectual property. But, as discussed above, this intellectual property is also applied to purposes well outside the scope of ULA's operations. Aerospace technologies are general. The same intellectual property that is used to launch rockets into space can also be used to design and manufacture airframes, satellites, and guidance systems.

For this reason, the Boeing-Lockheed licensing agreement made one significant exception—and this is where the intrinsic fiduciary conflict applies in full force. The exception is that each firm retains the right to separately and independently exploit the same intellectual property in the ordinary course of its own business.[69] Boeing and Lockheed can (and indeed do) continue to separately market their launch systems (the Boeing "Delta" and Lockheed "Atlas") to commercial markets. The co-venturers are thus loyal partners with respect to technologies in one market, then aggressive competitors over the very same technologies in another. How is this possible?

The third rationale for CNCs in joint ventures is that they enable this competitor-partner dichotomy. A CNC regulates the duty of loyalty, but the CNC itself does not exist by default. By default, the duty of loyalty is a legal standard. It requires that each corporate partner "refrain from competing with the partnership in the conduct of the partnership business."[70] This standard is used to determine which opportunities belong to the venture and which can be legally appropriated by either party. But like any standard, the boundaries are unclear. Judges, co-venturers, and

[69] Note 57 gives the first half of the licensing agreement in the ULA-JVA. The second half provides that this license is exclusive during the term of CNC, but carves out an exception to this: Boeing and Lockheed can continue to use rocket-related IP in markets that do not overlap with the CNC.

The text goes on to make the "ordinary course" exemption:

> provided, however, that notwithstanding the foregoing, (A) Boeing may license or sublicense a Person to use Licensed Boeing Intellectual Property within the Field of Use: (1) to the extent necessary to allow such Person to make products or sell services for use by Boeing in Boeing's *ordinary course of business*; or (2) as part of the sale to such Person of products or services in the *ordinary course of Boeing's business*, to the extent the applicable Licensed Boeing Intellectual Property is used in such products or services, and (B) Boeing may, in connection with the sale of a portion of a business or product line of Boeing to a Person, license, sublicense, transfer, assign, convey or sell Licensed Boeing Intellectual Property used in such business or product line to such Person under terms permitting its use within the Field of Use, but not in a manner that would violate the provisions of Section 5.13 if used by Boeing in that manner.

ULA-JVA, p.18 (emphasis added). The provision for Lockheed is similar.

[70] RUPA §404(b).

even agents of the joint venture entity could hold reasonable but conflicting positions on what precisely constitutes "the partnership business" and whether any given opportunity lies strictly inside or outside of it.

In order to organize the venture's opportunities, CNCs swap the default loyalty standard for a bright-line loyalty rule. As a result, co-venturers can more readily distinguish partnership opportunities from "fair game" opportunities. For any given opportunity, both sides can more confidently don the "partners hat" or the "competitors hat."

Though CNCs draw clear lines, they do not draw *perfectly* clear lines—nor should they. A CNC *generally* replaces the default fiduciary standards with fiduciary rules, and some of the CNC carve-outs discussed above provide very clear lines.[71] But both the CNC and the licensing provisions also expressly incorporate standards. For example, Boeing and Lockheed are permitted to separately engage in the R&D and manufacture of *reuseable* launch vehicles (as opposed to *expendable* launch vehicles, which is the business of the ULA venture). Expendable and reusable vehicles are distinct concepts, but the line between them is not exactly bright. It could be analogized to the line between NASA's Apollo and Space Shuttle programs. The former used expendable vehicles while the latter used reusable vehicles. The line between these programs may separate distinct projects and goals, but it does not separate distinct boundaries in intellectual property.

CNCs do not strive for the greatest clarity because certainty does not come for free. Requiring certainty means that co-venturers can only collaborate in markets that can be perfectly delineated. These markets do not necessarily coincide with the markets for which there are gains from collaboration.

A more rule-like CNC also discourages spontaneous collaboration outside the scope of the CNC, collaboration that could in turn lead to innovation that neither would have achieved separately. At the extreme, a perfectly delineated CNC would perfectly discourage such collaboration. Contrast this with the "default CNC" (i.e., the default fiduciary standard), which would strongly encourage spontaneous collaboration because the partners define fiduciary boundaries ex post: the boundaries are the scope of their venture, which is wherever their collaborations take them. Indeed, the history of aerospace is a history of applying technologies well beyond their original intention—a lesson that counsels against the "perfect" CNC.

In summary, CNCs replace the default loyalty standard with a level of clarity that balances the rule-standard tradeoff. In so doing, they mitigate the intrinsic fiduciary conflict by organizing joint venture opportunities.

[71] For example, Boeing and Lockheed are permitted to own 10 percent or less of a competing business. ULA-JVA Section 5.13(b)(iii).

IV. Joint venture networks

Boeing and Lockheed's venture is but one in a vast network of joint ventures in aerospace. By "joint venture network," I mean the situation in which three or more firms simultaneously engage in separate joint ventures with each other.

A. *The aerospace industrial network*

Figure 2 gives a hint of the enormity of the aerospace joint venture network. It graphs the network for Boeing, Lockheed, and BAE Systems. BAE was randomly selected from among the top 20 aerospace firms. The large solid black circles near the middle of the graph represent other top-20 firms, while the smaller grey circles on the periphery represent non-top-20 firms (though many of these are still in the top 50). Two companies are connected if there exists a joint venture between them.

I found 30 joint ventures that involve at least one of these three companies. Yet figure 2 significantly underestimates the scale of the aerospace network—even among these three firms. The biggest reason is that it only includes ventures that *directly* involve one of these three. "Partners of partners" are not depicted. The scale is further underestimated because I personally gathered the sample. In my attempts to cobble together annual reports, industry reports, and news articles, I almost surely missed some joint ventures.

Figure 2 also understates the complexity of the true network structure. Lockheed and BAE, for example, have two joint ventures together. One of them involves Rafael Advanced Defense Systems (and Israeli firm) and the other involves Airbus (a European conglomerate) and Finmeccanica (Italy). A single joint venture can also give rise to several entities, each with its own distinct purpose yet part of the larger partnership. Perhaps most confusing of all, joint venture entities themselves enter into joint ventures.[72] Figure 2 compresses all of these complexities into a single link between the parent companies. The full picture is thus much grander in scale and complexity.

B. *Why are there so many joint ventures?*

There are several structural reasons for the proliferation of joint ventures in aerospace. These reasons run the gamut of both economic and political motives.

[72] For example, the FADEC Alliance is a joint venture between General Electric and FADEC International, which is a joint venture between BAE Systems and Safran. The FADEC Alliance was created to supply components to CFM International, which is a joint venture between General Electric and Safran.

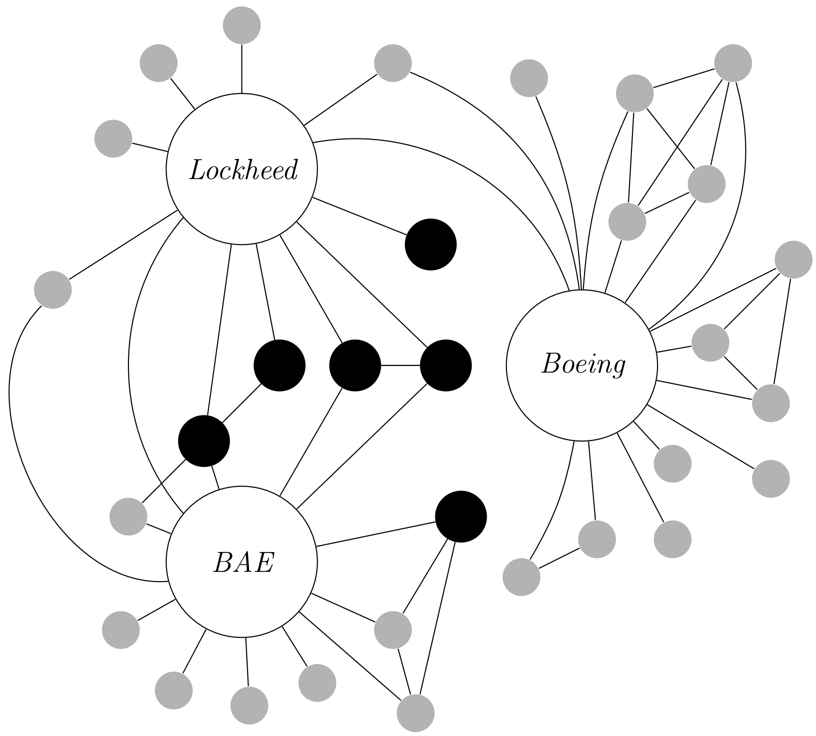


Figure 2: *An aerospace joint venture network for three top-20 companies.* Solid black circles indicate other top-20 companies; grey are non-top-20. *Source*: Author's research.

As for economic rationale, aerospace products must integrate complex systems—airframes, engines, weapons, communications—into a single product. One way to conceptualize this industry is that each firm specializes in a few systems and any given product is either sourced from several firms or developed through a joint venture. Relatedly, joint ventures are also key to maintenance of existing products. For example, in the commercial airline industry, ventures often form among the airframe manufacture, local airport authorities, and airlines.

The political rationale is specific to aerospace. International ventures sometimes form as a response to the military procurement bureaucracy. The bureaucracy is a myriad of regulatory and political hurdles for any supplier, but is especially cumbersome for the *foreign* supplier.[73] International ventures are sometimes created in order to "domestically" source technologies, either because "pure" foreign sourcing is prohibited or because the bureaucracy is too treacherous for the foreign firm to navigate alone.

[73] See, e.g., Buy American Act of 1933 (41 U.S.C. 8301–8305, as amended, on federal procurement generally); the Berry Amendment (10 U.S.C. §2533a, as amended, military procurement of food, clothing, and related items). For an overview, see the report by the Congressional Research Service: John R. Luckey, "Domestic Content Legislation: The Buy American Act and Complementary Little Buy American Provisions." April 25, 2012. Available at `http://fas.org/sgp/crs/misc/R42501.pdf`

International joint ventures can also arise out of a desire for political cooperation. Many of NATO's suppliers, for example, are joint ventures among the large aerospace firms of member states.[74] It should be noted, however, that ventures also form even in the face of domestic pressure not to trade with foreign governments.[75] International ventures thus form both because of and in spite of international politics.

C. *Theory of the firm: No firm boundaries*

The vastness of the aerospace network compels a simple question for theory: Where are the firm boundaries?

Joint venture networks do not conform to a traditional theory of the firm. If A, B, C, and D are the four firms of an industry, and in the course of their competition they form and maintain all possible combinations of joint ventures (11 in total),[76] does that mean that there are $4 + 11$ firms? Or still just 4? Or 1 mega-firm?

The industry may have begun as a set of disjoint firms. And even after all 11 joint ventures are created, firms A, B, C, and D—by themselves—would continue to form a partition of the industry. That is, they are disjoint firms that together account for all of the industry's activity.

But A, B, C, D would no longer be the list of *all* firms. There are firms A, B, C, and D separately, but there are also joint venture firms $\{A, B\}$, $\{A, C\}$, $\{A, D\}$, $\{A, B, C\}$, ... not to mention the possible "joint venture of joint venture" firms.[77] The upshot of joint venture networks for the theory of the firm—whether that theory be premised on transaction costs, control, ownership, or contract[78]—is that firms may be *distinct* entities, but they are not necessarily *disjoint* entities.

In the aerospace industry, the "foundational" firms such as Boeing and Lockheed overlap with each other through their much more populous joint

[74] E.g., NATO missile systems come from a joint venture among BAE Systems (UK), Airbus Group (headquartered in Netherlands, but with divisions in several European states), Finmeccanica (Italy), and Lockheed Martin (US). NATO also manages the joint venture among BAE Systems, Airbus Group, and Finmeccanica that produces that "Eurofighter" jet.

[75] See, e.g., John Bussey, "China Venture Is Good for GE but Is It Good for U.S.?" *Wall Street Journal*, September 30, 2011 (on a joint venture between General Electric and a large state-owned Chinese aerospace company).

[76] $11 = 2^4 - 1 - 4$. (The power set minus the empty set minus each individual firm.)

[77] We actually observe joint ventures of joint ventures. See note 72.

[78] See, respectively, Ronald H. Coase, "The Nature of the Firm," 4 Economica 386 (1937); Oliver E. Williamson, *The Economic Institutions of Capitalism.* Simon and Schuster, 1985. Oliver Hart. *Firms, Contracts, and Financial Structure*, Oxford, 1995. Michael C. Jensen, and William H. Meckling. "Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure." *Journal of Financial Economics*, 3(4), pp.305-360 (1976).

venture firms. The idea that a given transaction occurs inside or outside a *network* might be true enough, but the idea that it occurs strictly inside or outside a *firm* is illusory. The industry is an interconnected network of joint ventures in which the intrinsic fiduciary conflict pervades and traditional conceptions of firm boundaries do not apply.

V. How contracts sustain networks

The aerospace joint venture network presents the intrinsic fiduciary conflict writ large. In the context of a single joint venture, the entity-CNC combination is, at the very least, an extremely convenient organizational device. In the context of an interconnected industry such as aerospace, this device becomes critical to sustaining the joint venture network.

A. *Specifically: Boeing & Lockheed*

Before their ULA venture, both Boeing and Lockheed were independently engaged in separate joint ventures with RSC Energia, a large state-owned aerospace company in Russia. Both of these joint ventures also provided launch services.

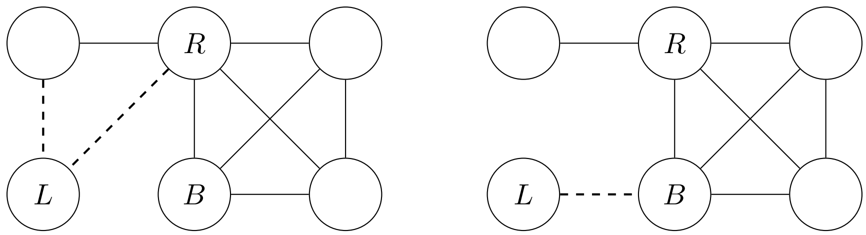
Boeing was and continues to be a partner in Sea Launch, which began as a partnership between Boeing, RSC Energia, and two other firms.[79] The ULA CNC enabled Boeing to maintain its position in Sea Launch because the ULA CNC is conditioned on (1) sales to the U.S. government and (2) launch services to *low* Earth orbit. In contrast, Sea Launch sells only to commercial customers (such as DirecTV and XM radio) and delivers payloads into *medium* and *high* Earth orbit.[80] This latter fact quite literally puts Sea Launch's market thousands of miles beyond the scope of the ULA venture. The ULA CNC explicitly acknowledges this.[81]

Lockheed's joint venture with RSC Energia was like Sea Launch in that

[79]The venture was created in 1995. The other co-venturers are Kvaerner Group (since merged with Aker Solutions of Norway), and SDO Yuzhnoye/PO Yuzhmash (Ukraine). The shares were Boeing (40 percent), RSC Energia (25 percent) Kvaerner Group (20 percent) and SDO Yuzhnoye/PO Yuzhmash (15 percent). After a reorganization in 2010 (well after the establishment of ULA), Boeing's share was reduced to 2.5 percent.

[80]Medium Earth orbits refers to orbital altitudes greater than 2,000 km from sea level. A particularly convenient orbital altitude lies just at the boundary of medium and high Earth orbit (35,786 km). Satellites that orbit the equator at this altitude achieve an orbital path such that they appear to be stationary in the sky relative to an observer on Earth ("geostationary orbit"). Receivers on Earth do not have to deal with problems relating to tracking satellites in geostationary orbit.

[81]See ULA-JVA Section 5.13(d) ("Nothing in this Section 5.13 shall be deemed to prohibit, limit or restrict in any way any activities of (i) Boeing or its Subsidiaries related to Sea Launch vehicles").



(a) *Pre-ULA* **(b)** *Post-ULA*

Figure 3: *Dynamic joint venture networks.* This figure graphs joint venture networks among Boeing, Lockheed, and RSC Energia (B, L, and R, respectively) before and after Boeing and Lockheed formed the ULA joint venture. Empty circles represent other aerospace companies; co-venturers are joined by a link. Before ULA, both Boeing and Lockheed separately collaborated with RSC. After ULA, only Boeing continued its venture with RSC. Dashed links indicate these changes.

it also catered launch services to commercial buyers.[82] The venture would have been beyond the reach of the ULA CNC, but Lockheed nevertheless divested its position just before joining with Boeing.

Joint venture networks are thus dynamic. Figure 3 diagrams the joint venture network among Boeing, Lockheed, and RSC Energia before and after the ULA joint venture. The dashed links indicate changes to the network after ULA was formed.

B. *Generally: The aerospace network*

Consider the CNC in the context of a dynamic joint venture network. A CNC delineates the loyalty boundary for a given dyad. This makes it easier for each co-venturer to then turn around and cooperate with another company, for those companies to in turn form partnerships with others, and so on. Even if the fuzzy default loyalty standard were optimal for a given dyad in isolation, it probably would not be optimal for a given company on a network. This is because the costs of a loyalty standard are compounded over a network. Uncertainty over loyalties translates to uncertainty over ownership of corporate opportunities. This creates uncertainties in neighboring ventures, both realized and potential. If A and B form a venture with fuzzy boundaries, how can C plan a potential venture with either? Suppose C forms a venture with B; then what is D to make of the fuzzy boundary from A to B and B to C? CNCs mitigate the propagation of this negative externality—both across firms and within ventures for a given firm.

[82]The venture was also created in 1995 and involved one other company, Khrunichev Research and Production Space Center, a large Russian aerospace firm. The name of the venture is International Launch Services. It continues to operate without Lockheed's involvement.

Joint venture entities also play an essential role. Suppose A and B run their venture through a separate entity, J. If C is planning a partnership with A, it can be relatively confident that A's preexisting venture is limited to whatever J does. Of course, A and B can always modify their agreement, but the alternative is that there is no J, the scope of their venture is not nearly as public, clear, or quarantined, and C is less able to plan its future joint ventures. Joint venture entities across the entire network enable C to find the best marginal link, be it with A, B, J, or any other.

This explanation, on the roles of entities and CNCs, is emphatically *not* a "theory of everything" or a theory of why or how joint ventures form, or even a theory of necessary or sufficient conditions for joint venture formation. Some aerospace firms collaborate more than others; some industries have few or no joint ventures; some ventures fail, others thrive. Explaining all this is way beyond the scope of this paper.

This is a theory of the modern contractual solution to the intrinsic fiduciary conflict. In regular competition, the fiduciary duties are straightforward: every firm for itself. In a partnership, things become complex but still manageable: each partner holds and pursues partnership opportunities as a fiduciary for the benefit of all partners.

A joint venture network, however, presents the case in which everyone is simultaneously a competitor and a partner of everyone else. The unmitigated intrinsic fiduciary conflict presents a very real problem for joint venture networks. In order to sustain such a network, there must be some device that organizes business opportunities. A joint venture entity and a CNC, working in concert, provide this device.

Conclusion

Corporate joint ventures, by compounding the agency costs of both corporation and partnership, create an intrinsic fiduciary conflict. This paper explored contractual responses to this conflict. The main point was that corporations resolve the intrinsic fiduciary conflict through contract. Specifically, joint venture entities, together with covenants not to compete, mitigate the intrinsic fiduciary conflict by organizing the venture's opportunities. This organizational device is key to sustaining both individual ventures, as well as networks of ventures such as those we observe in the aerospace industry.