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Journal

UCLA School of Law Law & Economics

Authors

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Publication Date

2024



THE UNIVERSITY OF CHICAGO

**COASE-SANDOR INSTITUTE
FOR LAW AND ECONOMICS**
The Law School

COASE-SANDOR INSTITUTE FOR LAW AND ECONOMICS RESEARCH PAPER NO.999
PUBLIC LAW AND LEGAL THEORY RESEARCH PAPER NO.838

Sharing Where Bargains are Impossible

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THE UNIVERSITY OF CHICAGO LAW SCHOOL

OCTOBER 2023

Acknowledgment: This working paper series is generously supported by the Coase-Sandor Institute at the University of Chicago Law School.

Sharing where Bargains are Impossible

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October 20, 2023

Abstract

COOPERATION SOMETIMES BREAKS DOWN, AND FORMER TEAMMATES WILL DISAGREE ABOUT WHAT HAPPENS NEXT. FOR EXAMPLE, WHEN CAN AN EMPLOYEE QUIT TO JOIN A COMPETITOR? COURTS OFTEN RESOLVE DISPUTES BY LOOKING AT THE PARTIES ACTUAL OR HYPOTHETICAL BARGAIN. THUS, A COURT MAY ASK WHETHER THERE WAS A NON-COMPETITION AGREEMENT (AND WHETHER IT WAS REASONABLE), OR WHETHER THE EMPLOYEE IS TAKING A “CORPORATE OPPORTUNITY” AS SHE DEPARTS. THESE ARE ALL-OR-NOTHING DETERMINATIONS BY COURTS; EITHER THE BARGAIN, OR LAW, FULLY ALLOWS OR FULLY PROHIBITS THE DISPUTED CONDUCT.

THIS IS A SUITABLE APPROACH WHEN FAIR AND EFFICIENT BARGAINS ARE POSSIBLE. BUT, THIS ARTICLE ARGUES THAT FAIR AND EFFICIENT BARGAINS ARE OFTEN IMPOSSIBLE, AND EXPLAINS A BETTER WAY OF RESOLVING DISPUTES IN SUCH CASES. WE CONSIDER IMPOSSIBLE BARGAINS IN NUMEROUS AREAS OF LAW (ADMIRALTY, FAMILY LAW, PATENT LAW, AND MORE). WHEN ASSESSING DISPUTES IN THESE AREAS OF LAW, COURTS OFTEN LOOK BEYOND THE BARGAIN, AND FREQUENTLY SHY AWAY FROM ALL-OR-NOTHING DECISIONS. INSTEAD, COURTS SHOULD REVIEW THE PARTIES’ COLLECTIVE SUCCESS (OR FAILURE) AND SPLIT UP THE GAINS (OR LOSSES) IN A WAY THAT IS INTENDED TO CREDIT EACH PERSON’S CONTRIBUTION AND GIVE THE RIGHT INCENTIVES TO BOTH PARTIES IN MULTIPLE TIME PERIODS – BEFORE , DURING AND AFTER THEIR INTERACTIONS. WE ARGUE THAT THIS APPROACH DESERVES SERIOUS CONSIDERATION IN EMPLOYMENT LAW, CORPORATE LAW, AND BEYOND.

Sharing where Bargains are Impossible

Saul Levmore & Andrew Verstein

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I. Introduction

Success requires teamwork. Teamwork might be encouraged by a government that provides infrastructure to enable combinations of private activities. It might be accomplished by private parties who form communities or who work with each other through contracts that law supports through existing mechanisms for interpretation and enforcement. There are, however, many areas of interaction where parties are unable to contract effectively, either because outcomes are not foreseeable or because at least one party is sorely disadvantaged compared to the other. Where productive and fair contracts are impossible, law can resolve these gaps and either prescribe rules surrounding conduct, or divide gains or losses after interactions are completed. For a society to be prosperous and just, law must incentivize parties to behave in ways that make them good teammates.

This Article offers a broad view of the law in the absence of successful bargains. It shows that the law often involves after-the-fact assessments of parties' contributions to a gain or loss with an eye on encouraging efficient investments by all parties in an ongoing team effort. In other words, the law can look at what the team produced as a whole and order a division of the loss or gain which reflects the contributions as well as the incentive needs of each teammate.

While this is a sensible approach, it is rarely deployed in the legal system. This Article draws particular attention to two areas of law where this strategy has not been adopted. The question of enforcing or disregarding covenants not to compete that are imposed by employers on employees is a difficult and unsettled legal question. Courts have also grappled with case-by-case allocation of corporate opportunities, when fiduciaries leave a corporation and take with them an opportunity that, at least arguably, belonged to the corporation to which they were bound. In both cases, courts usually make all-or-nothing determinations—either the departing employee is completely free or completely in breach—rather than finding some way for the former teammates to share responsibility.

This Article develops straightforward solutions to these problems by reinterpreting and drawing on the law of patents, divorce, and salvage. These are also areas where bargaining can be difficult and law has wrestled with the problem of how to allocate in a way that encourages socially useful investments early in time, as well as efficient behavior in the period after the parties are in conflict. In each of these areas, an after-the-fact sharing rule is found.¹ In contrast, the laws regarding corporate opportunities and non-compete clauses currently deploy all-or-nothing rules. This Article argues that the law should consider how rules of redress affect incentives to invest at every stage of a legal transaction. This goal is rarely accomplished by an all-or-nothing rule. This Article argues for an after-the-fact division of the pie in cases involving corporate opportunities and non-compete clauses.

Existing law normally provides all-or-nothing solutions to disputes between parties who have or could have bargained. If A promises but then fails to deliver wheat to B at a given price and time, a court will either order A to deliver, or it will calculate and award monetary damages. In some situations, it will declare the original contract invalid. It is often the case that contracts are not entirely complete. B might be disappointed with the quality or variety of wheat delivered, and courts will attempt to clarify agreements and determine available remedies (if any) for a failure to deliver or to specify the given quality, as well as the location and time of fulfillment and payment. The categories may be arbitrary, but legal decisions that declare winners and losers can help clarify agreements by developing precedent. A court's task in determining which party prevails is more difficult when good teamwork involves complex collaborative activities among parties operating over extended periods of time. In these situations, some division of the pie will often be superior to a legal rule that declares one party a winner and the other a loser.

Consider a few examples:

¹ This Article presents a theory of law as a vehicle for cooperation even as it is an article offering judges straightforward solutions to some discrete problems that have vexed both them and legislatures. In some ways the Article's discussion of law in the absence of informed bargaining resembles the case for comparative negligence in tort law.

- (1) The director of an oil company learns of a plausible site for oil exploration. He quits and brings this idea to a new employer. Can he do this, or does the old employer have some enduring claim on the drilling strategy?
- (2) A scientist conceives of a patentable technology while working at University X. She then quits, moves to University Y and, after some additional work, files for a patent. Does the patent belong to the scientist, University X, or University Y?
- (3) One spouse develops a costly gambling addiction, frittering away the couple's collective wealth. The other spouse is then discovered by a talent agent and gains glamorous and remunerative opportunities. Does the judge give all the wealth to the latter spouse?
- (4) A ship is damaged by a storm and a rescuer rushes from port to save it just before it is entirely lost at sea. Can the rescuer keep the saved ship?
- (5) A new employee signs a non-competition agreement. After substantial training, she discovers a new employer that she prefers. Can she switch employers or is she stuck?

Each of these examples asks how to resolve entitlement disputes in circumstances in which the parties did not fully appreciate or agree upon what the future might hold. Courts can ask what the parties would have wanted *ex ante*, but the inquiry is somewhat fictional. Lovers and new employees can be quite starry-eyed early on. And what about the oil field in Example (1)? A rule that favors the oil company (rather than the director) would stymie the director's incentive to join the company to begin with. It would also limit his incentive to dream up new ways to find oil and to market a particular parcel to whichever company can most efficiently develop it. But the contrary rule would discourage the company from hiring him in the first place or investing in exploration and development more generally. It is plausible that *some* new opportunities should go to the oil company and some to the director, though there is unlikely to be an easy way to categorize the cases. Courts that make such determinations will be challenged and criticized.

At present, Question (1) is difficult to answer. The area is said to be governed by the corporate opportunity doctrine ("COD"), but the application of this doctrine is thought to be unpredictable.² Question (5) is similarly unpredictable, though some states have now moved to make agreements not to compete ("non-competes") unenforceable, so that the employee can leave as she likes, restrained perhaps only by trade-secret law.³ A second employer is free to poach from the first, even when the first now finds its investment in training the employee to be wasted.

² Unpredictability is a feature of papers that had significant influence on this Article. Chief among them is Eric Talley, *Turning Servile Opportunities to Gold: A Strategic Analysis of the Corporate Opportunities Doctrine*, 108 YALE L. J. 277 (1998) and the earlier work of Victor Brudney & Robert Charles Clark, *A New Look at Corporate Opportunities*, 94 HARV. L. REV. 997 (1981), as well as the under-appreciated work of Kenneth B. Davis, Jr., *Corporate Opportunity and Comparative Advantage*, 84 IOWA L. REV. 211 (1999).

³ Teresa Lewi et al., *Recent Federal and State Laws Restrict Use of Employee Non-Competition Agreements by Government Contractors and Other Employers*, INSIDE GOV'T CONTS. (Aug. 19, 2021), [<https://perma.cc/XKF4-8JHS>].

Question (2) is generally resolved by contract. As we will see in Part III, universities have developed a variety of sharing agreements with scientists who do or do not stay in the laboratories provided by the first university. Finally, Questions (3) and (4) are decided by courts after the fact, on a case-by-case basis, and equipped with information about how things turned out. This Article explores the similarities and differences among these settings and proposes solutions to Questions (1) and (5) based on those that have been developed for the other cases. Once we see the commonalities among these legal problems, the right rules for the as-yet unresolved cases become much easier to advance and adopt. In many cases, the solution requires courts to relax the instinct to provide all-or-nothing determinations. Instead, courts should seek to establish some reasonable and efficient division of disputed entitlements.

The law has evolved in some of these areas, but it does not yet reflect an understanding of the similarities among these cases. In some cases, courts and lawmakers have moved cleverly or intuitively to sharing rules that are widely accepted. In tort law, the old rule of contributory negligence might have encouraged both parties to behave non-negligently, but the rule often seemed unjust. An injured driver who did not wear a seatbelt could, in theory, receive no recovery at all from another who drove recklessly. Courts attempted to fashion a variety of responses to this unpopular result, but eventually the rule of comparative negligence developed, and a division of losses has become the norm.⁴ Where gains rather than losses are at stake, courts have done the same in several areas but not yet in all. In family law, when spouses divorce, courts tend to evenly divide property acquired during the marriage. They often do not honor pre-nuptial agreements of ancient vintage,⁵ nor do they seek an accounting of each partner's contribution to the marriage. Courts instead adopt a sharing rule when contracts were drafted with wildly imperfect information about the past or the future.⁶

Admiralty was perhaps the first area of law to see the genius of after-the-fact sharing rules once full information is in hand. This encouraged efficient behavior. When ships rather than marriages are on the rocks, courts do not decide whether professional rescuers get all or nothing of the vessel they save. Instead, the law allows the award of a well-calculated sum, reflecting factors such as the risk of the job and the value of the saved vessel. The rule reflects a sensitivity to the cost of investing in salvage vessels and equipment, which are often lying in wait for the next rescue opportunity. Courts regard the prize — in this case, the value of the ship and cargo saved — as an asset to be divided rather than as something to be allocated exclusively to the party with the superior claim.⁷

Part II begins with the observation that in corporate opportunity cases (such as the oil-drilling hypothetical), courts do not divide the gains that are brought about by what is, in reality, a team effort between a corporation and one of its fiduciaries. Courts apply the COD by determining

⁴ Gary T. Schwartz, *Contributory and Comparative Negligence: A Reappraisal*, 87 Yale L. J. 698 (1978).

⁵ See *infra* Part III.C.1.

⁶ Jane Ruthford, *Duty in Divorce: Shared Income as a Path to Equality*, 58 Fordham L. Rev. 539 (1990).

⁷ Steven F. Friedell, *Salvage*, 31 J. of Maritime L. and Commerce 311 (2000).

whether a fiduciary breached its duties. Many COD cases are close-calls, and the stakes are high. Either the fiduciary gets to keep the valuable project entirely or is personally liable for vast sums of money. Courts do not currently consider the possibility that a better outcome in close cases is to split the value of the opportunity between the fiduciary and the corporation. As far as we can see, no court gives the value entirely to one party and then lets the other charge for its costly contribution to making the opportunity possible.⁸ This Article begins with COD cases not to insist on the benefit of a sharing rule – as that is deferred to Part V – but rather to show that the crux of the problem is that the parties cannot simply bargain in advance. They may have the best available information, but it is still not sufficient to produce a mutually acceptable and efficient bargain. In tort law, the parties do not normally know one another in advance, or that the tortious situation will occur, so bargaining is impossible. In the corporate case, by contrast, the parties are well-acquainted. Yet, this Article maintains that effective bargains are also impossible in these situations, thus highlighting an opportunity for legal advancement.

Part III turns to patent law where the pie is divided not by courts, but rather by private contract. Part III.C then digs deeper into family law and admiralty law to show the value of after-the-fact sharing rules. In both family law and admiralty, courts defer to a subset of private contracts, but where contracting is difficult, this Article will show that courts apply default sharing rules.

Part IV addresses the problem of non-compete clauses. The law regarding non-competes has developed in a way that reflects the potential impediment to effective bargaining in instances in which inexperienced employees are at the mercy of large employers. In some states, these contracts are now completely unenforced. In other states, challenges to non-competes are resolved through all-or-nothing determinations. Courts apply multi-factor examinations (including duration of the restriction and its geographic reach). If the factors reveal that the employee had sufficient contracting power, the restrictions in the non-compete clause or agreement are enforceable. The employee may be enjoined from working in a new, competing workplace. If the factors instead show that the employee lacked contracting power, the employee can disregard the non-compete as unenforceable, and can permissibly depart for the more attractive job. The cases can be painstaking for parties to litigate and for courts to decide. A complete rejection of the validity of non-competes is dangerous; it risks harming future employees because employers may have less incentive to train employees. This Article suggests that courts should treat these cases more like divorce and salvage, whereby the employee would be permitted to depart, but the employer would be entitled to charge the employee (or a new employer) a reasonable sum for training costs. This application of the law might even allow the first employer to extract payment for its work in discovering the employee.

⁸ Of course, corporate law could simply tell fiduciaries not to be in conflicted positions, in which the case the value of teamwork would be lost. This seems to be the approach in the UK where there is little reliance on litigation. See Martin Gelter & Genevieve Helleringer, *Corporate Opportunities in the US and in the UK* (European Corp. Governance Inst., Working Paper No. 346, 2017), [<https://perma.cc/6FWD-T5Q4>].

Part V returns to the corporate opportunity doctrine. Borrowing from the other areas of law explored here, while reminding readers of the difficulty of bargaining at the outset, this Article makes the case for an after-the-fact sharing rule. Revisiting problems with the COD doctrine as it currently stands, this Article emphasizes the opportunity for law to mitigate coordination problems where it is difficult for the parties to strike efficient bargains before conflicts arise. Ultimately, the prevalent approach in certain other areas of law (like divorce and salvage) has some advantages for dealing with these problems and we propose that this application be expanded. While our inquiry makes small discoveries along the way, the critical normative assertion is that courts should be comfortable dividing the surplus between the parties in COD cases.

II. The difficulty of bargaining (in corporate opportunity and beyond)

A. Easy and disputable COD cases

Corporate opportunity cases can be clear-cut. Imagine that the owner of a property adjacent to a corporation's headquarters calls and asks to speak to the CEO, intending to offer the property to the corporation under the assumption that the corporation is the party most likely to pay the highest price. The receptionist answers the call and transfers the matter to the CFO, who is also on the board of directors. The CFO tells his cousin about the inquiry and the cousin calls the property owner and says (falsely) that he heard from his cousin that the CEO has no interest in accumulating property. The cousin then proposes a take-it-or-leave-it offer for the property. The sale is completed, with the CFO and his cousin jointly owning the property. Properties in the area soon rise in value for other reasons. The CEO then calls the person that he thinks owns the adjacent property and is told, to his surprise, that the property had recently been sold. Following some inquiry, the corporation sues the CFO for a usurpation of a corporate opportunity.

This case raises a few questions. Should the CFO, who has now been fired, be forced to disgorge his profit, or should he or his cousin also pay or disgorge the other's profits and make the corporation whole? Is there a presumption that if the old CFO had been honest and loyal to his employer, the corporation would have purchased the property next door? And what if the corporation waited a few months to see if property values continued to rise?⁹

Regardless of how these questions are answered, it is apparent that the CFO's behavior was wrong and that every court will award the corporation some kind of victory. It is possible that the sale will be rescinded, leaving another court to decide whether the cousin has a claim.¹⁰ But if we limit the discussion to the COD claim, it is obvious that a fiduciary breach occurred and that the corporation wins. The case is straightforward.

⁹ Saul Levmore, *Strategic Delays and Fiduciary Duties*, 74 VA. L. REV. 863, 865 n.5 (1988).

¹⁰ See *In re Mobilactive Media, LLC*, No. CIV.A. 5725-VCP, 2013 WL 297950, at *23 (Del. Ch. Jan. 25, 2013) ("In cases where the defendant breaches the duty of loyalty, the infringing party must disgorge all profits and equity from the usurpation."); *Hollinger Int'l, Inc. v. Black*, 844 A.2d 1022, 1090 (Del. Ch.), *judgment entered*, (Del. Ch. 2004), and *aff'd*, 872 A.2d 559 (Del. 2005) (holding that defendant is enjoined from consummating business transaction since, "If no injunction issues, the damages inquiry might well have to involve imprecise estimates . . .").

But consider *Guth v. Loft*, a case taught to virtually every law student who takes a course in business organizations.¹¹ The corporation successfully sued its fiduciary, Guth, for appropriating an opportunity—the chance to buy the (then) defunct Pepsi-Cola company. Loft originally sent Guth off to scout opportunities precisely because it needed some new way to access syrupy drinks. It was Loft’s trust and investment in Guth that allegedly put him in touch with Pepsi. So, on its face, *Guth* may look like an easy case, because the corporate opportunity doctrine is surely aimed at cases where the opportunity comes to the fiduciary because of the fiduciary’s relationship with the corporation that argues that something of value, whether present or potential, has been taken from it.

On the other hand, a year before Guth went to work at Loft, Pepsi reached out to Guth, who was a known figure in the industry, to try to sell the Pepsi-Cola Company. Later, Guth tried to get other Loft executives to explore a purchase of Pepsi. But Pepsi apparently preferred to deal with Guth individually, and not with Loft. It is easy to see why the lower court and the appellate court took different views of the matter.¹² One court regarded the idea of investing and working with Pepsi as Guth’s idea; it was he who took the initiative.¹³ On the other hand, Guth worked for Loft at the time the transaction matured, and something like a syrupy drink was surely in Loft’s “line of business,” inasmuch as it was a candy company and already owned shops with soda fountains.¹⁴

Loft won the case against Guth, but it is easy to imagine that the result would discourage entrepreneurs like Guth from joining companies like Loft. And yet, a victory for Guth might mean that a company like Loft, which was better equipped than Guth to develop the Pepsi product and brand, would from an efficiency perspective put Pepsi directly into the wrong hands.

B. The bargaining problem

What if prospective fiduciaries and employers try to bargain in advance in order to avoid such disputes and disinclinations to join forces? At first blush, parties like Guth and Loft are likely to be more knowledgeable than courts about the specifics of their businesses’ transactions. For this reason, many scholars believe it is efficient for courts to enforce of contracts rather than try to improve upon them.¹⁵ For example, courts are unlikely to promote well-being by setting the salaries of CEOs in the private market. This is the case even though CEO salaries are rarely set at true arm’s length and probably do not perfectly reflect the interests of shareholders. Similarly, in the world of the COD, law might create clear property rights around which the parties can negotiate. If all goes well, the parties will maximize the joint product and then share the results (or

¹¹ *Guth v. Loft, Inc.*, 5A.2d 503 (Del. 1939).

¹² *Compare Guth v. Loft, Inc.*, 5A.2d 503, 515 (1939), *with Loft, Inc. v. Guth*, 2A.2d 225, 248 (1938).

¹³ *Loft, Inc.*, 2A.2d at 237 (1938).

¹⁴ *Guth*, 5A.2d at 505 (1939).

¹⁵ *See, e.g.*, RICHARD ALLEN EPSTEIN, *SIMPLE RULES FOR A COMPLEX WORLD* 72 (1995); *see also*, FRANK H. EASTERBROOK & DANIEL R. FISCHER, *THE ECONOMIC STRUCTURE OF CORPORATE LAW* (1996) (emphasizing the same approach).

costs of failure) in some way that does not much matter in terms of overall efficiency. New employees may not be expected to bargain with joint products in mind, but corporate fiduciaries – the target of COD law – are another thing. They are knowledgeable and are often represented by experts who review their employment contracts.

In fact, private parties, however sophisticated, may also be ill-equipped to anticipate the future and, therefore, to bring about efficient allocations by contract. Consider the starting and end points of most fiduciary relationships. Once a fiduciary like Guth has access to a valuable opportunity, and believes this opportunity should or will be his, it may be impossible to bargain with the corporation. The corporation, which is to say its managers or its board of directors, may later claim the opportunity as its own and regard the fiduciary as no better than an employee who steals a computer from the office or embezzles money because he thinks he deserves a raise. Guth could have sought Loft's approval before pursuing Pepsi. More generally, a fiduciary may ask the corporation for permission to depart from the corporation or simply to pursue an opportunity. In some cases, the corporation will assent, either because it anticipates that a court will side with the individual or because it thinks that its reputation will be improved by letting the opportunity go. Letting fiduciaries and other employees depart with opportunities that are arguably part of the employer's line of business might in the long run attract other talented people to work for the corporation, and at a lower wage, than would be the case with a strictly enforced COD rule. But in other circumstances, corporations like Loft will decline to permit a fiduciary to run away with an idea that the corporation could pursue. In turn, a fiduciary risks something by trying to negotiate for a waiver of the corporation's (possible) rights. The fiduciary will look worse if the corporation declines and the fiduciary still proceeds with the new project. If the dispute is brought to court, the fact that the fiduciary asked the corporation and was told no will be held against the fiduciary who goes ahead despite the fact that permission was not granted.

Turn now to the moment before a person takes a position with a firm. Conventional thinking is that parties can contract to avoid future problems and to take advantage of superior knowledge. The problem here is that parties cannot bargain effectively about an unknown future. In some cases, one or both sides can observe and predict the corporation's (as well as the individual's) investment costs, but that may be the limit of anyone's knowledge. It is often impossible to know what kind of opportunities might arise many years in the future. It is unknown how hard the fiduciary will work down the line. It is impossible to predict whether opportunities will arise because of one person's work or through teamwork with other employees, or simply because of the employer's location or expensive equipment. Finally, it is often difficult to predict whether and to what extent future development of an idea would be more valuable in the hands of the employee or the corporation.

Nor does it make much sense to insist that parties bargain and agree on some allocation of rights and then re-open the bargaining from time-to-time as they acquire more information about what lies ahead. Additional information often exacerbates the problem ascribed to the first step of bargaining. Once a fiduciary knows what is at stake, and a firm refuses to release any claim, it is

quite likely that there is no bargaining space. In modern parlance, even if it seems easy to bargain about unknown unknowns, as by flipping a coin, it is difficult or impossible to bargain over such things in a way that promotes efficiency. Parties could say: “Look, we have no idea what the future will bring, so let us just agree on a high salary and an extreme COD rule” or “Let us agree that, whatever happens, we will divide things fifty-fifty.” Any such agreement is likely to inefficiently reduce some investments because the optimal investments may be unequal, and an equal division may be unappealing to a party that expects its share of the gains to be less than the investment costs assigned to it. The firm may need to buy expensive equipment or hire additional employees. On the other side of the bargain, with a division of gains in favor of the employer, potential employees may not be willing to invest time and money into the training process. The problem continues after an opportunity is identified. The firm may need to increase hiring or it may need to buy properties and equipment. Meanwhile, if the employee has an idea that can be developed with very hard work, but she knows that the product will belong entirely to the firm, she may not be willing to put in the requisite level of effort to develop or pursue the opportunity. With four investment decisions at issue (that is, with two parties operating prior to and after the opportunity is identified), bargaining is difficult, and it is no wonder that a single COD rule is hard to apply and is often found to be unattractive. Multiple incentive problems require more than one tool. There is often a difficult two-party-two-period problem.

The problem is not entirely solved with internal prizes, which would provide a second tool. In the previous example, the firm might at the outset say to the employee that she should know that if she works harder than “expected,” the firm will reward her with a bonus. Loft could have promised, or become known, to reward people like Guth quite handsomely if a deal akin to the one with Pepsi proved profitable. Again, the firm has some incentive to make and keep promises because, by doing so, it will attract good employees, as well as encourage and benefit from the hard work of current employees. This sort of promise may work sometimes, but it is not sufficient to guarantee the value-maximizing result. There is likely an end-game problem, and there may be an opportunity that is sufficiently valuable that neither party will voluntarily share it in the way that encourages optimal ex-ante (and perhaps ex-post) investments.

It is arguable that in everyday affairs, the problem of dividing unknown pies, or sharing jointly produced products, is mitigated by the expectation of repeat play. The literature on this subject is quite mixed, and depends on the assumptions that are made about the likelihood of repeat play, the knowledge possessed about one’s opponent, and the transaction costs of negotiation.¹⁶ This last factor is probably the critical one in assessing the likelihood that COD law makes much difference.

Another plausible tool or apparent solution to the problem of balancing ex-ante and ex-post incentives involves a different kind of bargaining. The parties could make side-payments. In the extreme, a firm can offer to waive its right to COD claims, and perhaps pay a lower salary in

¹⁶ Omri Ben-Shahar, *A Bargaining Power Theory of Default Rules*, 109 COLUM. L. REV. 396 (2009).

return. Many firms offer such waivers.¹⁷ But the waiver approach leaves open the question of exactly what sort of opportunities it includes. A fiduciary, like any employee, cannot simply take a copy-machine from the workplace and sell it for personal profit or use it at home. This would be theft. But theft is theft; even if the employer has promised that it waives its claims as to corporate opportunities, and perhaps it does so to entice creative individuals to come work for it, no court will think that taking a copy-machine for oneself without proper payment is a permissible taking of a corporate opportunity (to use or sell equipment). Selling the copy-machine on the street is an “opportunity” the corporation could have undertaken, but common sense indicates that attaching the corporate opportunity label, and even a stated waiver of the right to corporate opportunities, does not much alter the fact of the theft. If the individual really wants this particular machine, or perhaps sees that the employer is about to upgrade its equipment, the employee might offer to buy the machine from the company. Even with this openness, a fiduciary needs to be careful because the transaction might be challenged and later evaluated for “entire fairness.”¹⁸ In this particular example, a fair price is relatively easy to establish because machines of this kind are sold in the market. The only risk is that the fiduciary might be able to require that the corporation upgrade its equipment unnecessarily in order to make used machines available for purchase by well-positioned fiduciaries.

Other solutions to the bargaining problem are less apparent but probably similarly ineffective. For example, an individual who expects to be an efficient developer of an opportunity might pay a flat fee to join the corporation, in order to compensate the idea generators for the opportunities that the joiner will extract. Similarly, an individual could offer (or agree) to pay a stipulated sum for each opportunity that is extracted, where that sum is large enough to reward the opportunity generator or compensate for the earlier investment in equipment or education. This suggests one solution to the problem addressed by non-compete agreements, as we will see in Part IV. With suitable side-payments, the COD (and the law addressing non-competes) can call for an

¹⁷ There is evidence that waivers can enhance efficiency. Rauterberg and Talley document the widespread adoption of COD waivers and find that most of these waivers protect directors and shareholders. Gabriel Rauterberg & Eric Talley, *Contracting Out of the Fiduciary Duty of Loyalty: An Empirical Analysis of Corporate Opportunity Waivers*, 117 COLUM. L. REV. 1075, 1081 (2017) (finding that COD waivers are widespread and generally protect officers and directors). They therefore make it easier for investment funds to finance and guide multiple companies. Ofer Eldar et al., *Common Venture Capital Investors and Startup Growth* 23 (Eur. Corp. Gov’t Inst.—Fin. Working Paper No. 902/2023, 2020), <https://ssrn.com/abstract=3406205> (examining venture capitalist arrangements and finding that cross-ownership (of the sort facilitated by COD waivers) tends to raise more money in subsequent funding rounds and is more likely to succeed, as measured by IPOs and corporate acquisitions). See also Heng Geng et al., *Does Board Overlap Promote Coordination Between Firms?* 1 (Swiss Fin. Inst. Rsch. Paper No. 21–79, 2021), <https://ssrn.com/abstract=3973387> (finding greater firm profitability where COD waivers encouraged greater cross-investment and management). While waivers may be efficiency advancing, one must be blasé about their potential. This Article is about the challenge of finding an efficient and fair division of corporate opportunities. COD waivers expand the bargaining space, but they do not solve the problem of striking an efficient bargain.

¹⁸ The entire fairness rule, or standard of review, is normally understood as an exception to the business judgment rule, applicable when a fiduciary has a self-interest in a transaction. It, too, is an after-the-fact review by courts. See Zohar Goshen & Assaf Hamdami, *Corporate Control, Dual Class, and the Limits of Judicial Review*, 120 COLUM. L. REV. 941, 950–51 (2020) (reviewing and exploring applications of Entire Fairness review).

ex-post allocation by courts. But, again, it is extremely difficult for the parties to know the value of these investments and then to reach an agreement about how much to pay for what is extracted. Even the most optimistic view of this side-payment solution runs up against the reality of transaction costs. Once again, the corporate opportunity problem is difficult because the parties, like courts, must mind as many as four different and potentially inconsistent goals in allocating equitably and maximizing the combined value of what they do. There is a difficult two-party-two-period problem.

With transaction costs in mind, it appears that it is impossible to design a perfect contract or legal rule. The parties cannot know the future and a court cannot predict it for them, or so it seems. This claim is a familiar one in the law-and-economics literature, as well as with work in game theory.¹⁹ But this is not the place to involve this work and the assumptions required to be confident in the claim that the parties will or will not reach a bargain. The game of chicken is more easily played than solved. It is enough to say that the more things are unknown, and the greater the transaction costs, the harder it can be to bargain over their product. Put differently, it is hard to know whether to be surprised that so many bargains are reached despite looming uncertainties, or to wonder and be troubled by the many efficient bargains that never come to fruition. To take two examples, most labor union strikes end, and it is as hard to explain why they begin as it is to explain why they eventually settle. Even the presence of an unemployed worker suggests a missed bargaining opportunity, either because of the problem of dividing the pie or because of transaction costs in matching employees with employers at an agreed-upon wage. Similarly, perhaps the corporate mergers we observe that end up adding value are just a small subset of all the efficient mergers that would and should have occurred without this conceptual problem regarding pie division and the inevitability of transaction costs.

Another approach to this problem of assessing the likelihood that parties can bargain to divide gains comes from evolutionary theory.²⁰ The optimistic argument is that a group will survive if it develops in its individuals the inclination to share surpluses, perhaps evenly. We set that aside here in part because the opposite argument also seems plausible; individuals who are strong—that is, they bargain and hold out for the larger share of the surplus—survive and reproduce more than their competitors. Evolutionary theory needs some assistance from empirical studies, and this is difficult when it comes to the question of dividing or forgoing surpluses far away from a laboratory; in the laboratory, at least, parties are rewarded when they demonstrate generosity, or “trust”.²¹

¹⁹ Alan Schwartz & Robert E. Scott, *Contract Theory and the Limits of Contract Law*, 113 YALE L. J. 541 (2003).

²⁰ Tore Ellingsen, *The Evolution of Bargaining Behavior*, 112 Q. J. ECON. 581 (1997) (noting conflict between empirical observations and straightforward theories of splitting surpluses).

²¹ In the lab, a well-known result is that parties “irrationally” give up small gains when the other party does not share a prize. A more precise way to describe this result is that it is valuable (at least in experiments) to build up trust. See Armin Falk & Michael Kosfeld, *The Hidden Cost of Control*, 96 AM. ECON. REV. 1611 (2006).

The bargaining problem described here, and attributed in large part to unknown futures, can also be blamed on human nature. People are likely to have deeply held beliefs about who should get credit, and therefore compensation, for new ideas and their execution. No law or economics professor thinks that her new idea, and written work, belongs to her employer. Only a copyright expert understands this as an exception to the normal work-for-hire default rule,²² and yet most academics can identify with Guth or with the fiduciary of a gas-and-oil company who begins to think that an observation (followed by an opportunity) developed through hard, individual work belongs to the individual. In the business setting, a fiduciary might hint to another corporation that if she is hired, she will arrive with some valuable information. Alternatively, and rather cleverly, the fiduciary/employee might switch employers, perhaps to a known competitor, much as a law partner shifts firms, and sign a new employment contract that gives her a large share of the gain from any project that she suggests. When this occurs, the first firm will want to insist that the knowledge was gained while this recently departed employee was in the firm's sphere. The original firm might bring a COD claim, reasoning that it was its time and equipment that brought about the discovery. It will maintain that it is at the very least a but-for cause of the gain, and it might well be the case that if it loses many such claims, it also loses the incentive to hire experts.

If a problem like that described in an earlier example, Question (1) of this Article, is decided in favor of the employee, firms will be less likely to look for oil, and less likely to invest in the equipment required to drill in search of valuable deposits. Most such firms will certainly be less inclined to have employees share information with one another, as knowledge might come from teamwork. Similarly, law firms may think that new business came to the firm because of its reputation, while a new partner may naturally think it is because of the great ideas she communicated to a prospective client, met perhaps on a flight or at a social event. There are private and social gains to mobility, but also potential losses when parties think that mobility takes away potential gains from investments. Individuals and firms are unlikely to consider the incentives of other parties and the impact of total or restricted mobility on the larger question of overall efficiency. Guth would have remembered that it was he who first had the idea of pursuing Pepsi, but Loft's directors or managers will be sure their superior ability to develop and market products is what has kept Guth in touch with developments in the industry.

In short, and to oversimplify, workers are likely to believe that their insights belong to themselves, while their employers are apt to think that insights came about because of experiences and materials provided by the firm. An efficient contract between the two may be impossible because the parties have conflicting views about who has the property right and the information. The corporation will not want to waive its perceived corporate opportunity property right, and

²² See *infra* note 25.

employees and directors know that they can profit by taking their knowledge elsewhere. It will often be the case that there is no bargaining space between the parties.²³

If conventional COD law calls on courts to say whether a fiduciary has violated his or her duty, it is bound to create inefficiencies. A doctrine that favors the firm will cause many individuals to steer clear of firms and to rely on their ability to work on their own, even if it is more efficient to work as a team within a firm. Other employees will simply work less hard, or less creatively, knowing that their ideas will belong to their employers who may not acknowledge their contributions or reward them sufficiently. And if the doctrine favors the enterprising individual, like Guth, firms will be less inclined to invest in the equipment and people that would foster optimal teamwork. Moreover, departing employees will take with them ideas and opportunities that the firm can develop better than can the individual. The two-party-two-period problem is a difficult one.

This Article stresses the two-party-two-period's presence in the COD context, in part because this is an area of law that currently addresses the problem of difficult bargains suboptimally through an all-or-nothing approach. This approach is likely to be inefficient. Part III illustrates that the problem appears in other areas of law, and that in some of these areas law has developed better solutions in the form of sharing rules. It is time to see that the problem exposed here, and the idea of sharing opportunities, is not entirely original. The bargaining problem is ubiquitous, and a good solution has been developed in other areas of law.

III. Overcoming bargaining problems (in divorce, salvage, and patents)

A. Where bargaining is easy or unnecessary

Before turning to cases where a difficult problem is solved, it helpful to note that these problems are not always present, either because the parties have good information or because fewer investments are needed, such that the two-party-two-period problem is never confronted. Consider the case of a lawyer who can always work more hours at a firm but who takes some time over the weekends to work on a novel that after some effort proves quite profitable. The law firm does not invest in any fiction-writing classes the lawyer might have taken. The firm is unlikely to be better at marketing the novel after it is written. It is hard to see a two-party-two-period problem. This is the case even if the novel draws on the author's law firm experience (as did the many novels of Louis Auchincloss) and the time spent on writing might have instead been spent, on attracting new clients or on other work that is likely to benefit the firm in the long run. The default rule is that earnings from the novel accrue entirely to the author (and his publisher).

One way to understand this practice, or norm, is to spell out the absence of the two-party-two-period problem. Unlike the case of the corporation that invests in drilling equipment in search

²³ The problem may be like that of settlement. If two parties have different perceptions about a dispute, they may be unable to settle, and they will prefer to incur the cost of litigation. Similarly, the parties here might absorb the transactions costs of a sale to a third party, when it is one of them who is the best situated to go forward with the opportunity.

of oil deposits, the law firm's investment in equipment or summer programs designed to attract associates has no serious impact on the lawyer-novelist's weekend hobby that turns out to be profitable. Indeed, even if the lawyer does this writing in his office at the law firm on weekends, the firm would likely have the same offices and the same computers as it would if it remained empty on the weekends. Moreover, the firm could attract favorable publicity and be more attractive to potential recruits when they learn that the firm's lawyers enjoy time to pursue personal interests, such as writing novels. As an aside, Auchincloss's many novels made (even) the practice of trust and estate law seem fascinating and rewarding; novels by John Grisham are yet more popular, and they draw on many experiences that are not attributable to any actual law firm or fiduciary relationship.²⁴

The efficiency considerations described above suggest that the (nearly) complete allocation of the opportunity to the fiduciary makes sense here; such a one-sided allocation, or non-existent COD, benefits one or both parties and is unlikely to hurt either. The firm is already inclined to structure compensation based on hours spent serving clients, or on business brought to the firm, so that the individual is incentivized to spend more time on the firm's work. Moreover, nothing stops the firm from asking its lawyers not to produce these novels; the partnership can, if necessary, dismiss or vote any author out of the firm. To be sure, even a partner must not use associates or other employees for work on a novel, and especially so during normal work hours, as that would be like stealing the firm's equipment. In any event, these pursuits outside of the normal work hours are not corporate "opportunities." And, of course, if the novel succeeds in the market, or even simply enriches the emotional and intellectual life of the author or its readers, there is social gain. A conventional lawyer might simply say that a novel is not in the firm's "line of business" and that is a perfectly fine way to describe the situation, though it elides the fact that it efficiently encourages investments by the parties.

The case of a law professor who writes a good article and then receives a highly compensated position at another institution, or even well-paid consulting opportunities, is much the same. The article might have been selected due to the professor's association with a reputable university but, at the same time, a good publication improves the employer's reputation. It does not require the employer to build a large building or expand its library to include costly online subscriptions. The parties' interests are aligned, and indeed the university, in almost all cases, wants the professor to do more research of the kind that leads to outside offers. It can easily set teaching expectations and here, too, the interests are aligned because the professor's market value

²⁴ Grisham practiced criminal law in a small private practice in Mississippi and then served for a short period in that state's legislature. He has not written novels that can be understood as criticizing a particular employer, though he does criticize an imagined for-profit law school, Foggy Bottom Law School, in *The Rooster Bar*. JOHN GRISHAM, *THE ROOSTER BAR* (1st ed. 2017). Louis Auchincloss practiced at Sullivan & Cromwell and then Hawkins, Delafield & Wood but did not write about either firm so much as about clients and families that he encountered or imagined in New York City. He was fond of saying that people he knew misidentified themselves in his novels. Larissa MacFarquhar, *East Side Story*, *THE NEW YORKER* (Feb. 17, 2008), <https://www.newyorker.com/magazine/2008/02/25/east-side-story-2> [https://perma.cc/5DRJ-DTXX].

increases when her teaching reputation improves. One can imagine a university wishing that its star researcher would choose a co-author from among her own colleagues rather than a faculty member at another institution. But this freedom to select one's co-author is almost surely value enhancing and likely to benefit the first institution as well. After all, one of the first institution's faculty members is just as likely to be offered the chance to co-author with an established academic at another university.

Note that the implicit assumption here about property rights can probably be overcome by bargains, and that bargaining would not be difficult. Even a university can contract at the outset for a reversal of modern copyright law's "teacher's exception," so that anything written by the employee becomes a "work made for hire."²⁵ The parties are sophisticated, and they are knowledgeable about how scholarly articles, like novels, are developed. More importantly, any teamwork between the employer and employee is low cost. If the parties did not actually bargain, it is easy for a court to complete their hypothetical bargain.²⁶

Even where there is significant teamwork, and equal bargaining power is unlikely, the efficient assignment of property rights is only clear if one side invests before parting ways. Hairstylists normally invest in their own training, but this training is the same regardless of where the stylist works. The stylist's employer, on the other hand, invests in a shop and in advertising, and often provides training for young stylists. This suggests that the employer will have the right to hang on to customer information. A stylist who leaves one employer for another is often subject to an implicit non-compete agreement prohibiting the stylist from attempting to poach clients of the stylists worked with at the stylist's former salon-employer. A customer's call to the first employer in search of the individual stylist will usually lead to a response that the stylist no longer works there. Apparently, even in the Facebook era, some customers are unable to find their former stylist who relocated, because the relationship is often on a first-name basis, leading to difficulty in finding the stylist online. Few employees dare to distribute new business cards during their last days of employment with the first employer. There is an inefficiency here, but it is absorbed by those customers who make an effort to search for their preferred stylist. It may be that a departing stylist could pay the first employer for the right to give out business cards to her regular customers, but we know of no such contracts.

The same pattern is found in dance studios. A studio owner invests in a location, trains instructors and advertises to the public. Individual instructors are often contacted through the studio's e-mail address and website, and they are discouraged from contracting with customers outside of the studio's control. The instructors are free to exit and work for other studios; the presence of competition among studios, or other employers, is emphasized presently in Section III-B. The first studio has no monopsony power over the instructor, but its investment is efficiently

²⁵ See *Hays v. Sony Corp. of Am.*, 847 F.2d 412, 416 (7th Cir. 1988) (describing the "teacher exception" as sensible but as inconsistent with the 1976 Copyright law).

²⁶ This stands in contrast to other cases discussed in the Article, such as those dealing with corporate opportunities.

protected. In the case of stylists as well as dance instructors, and as is true in many other industries, investment by the employee is encouraged because skilled employees are in demand and are rewarded. Moreover, customers do switch to other employers, and then recommend that the new employer try to hire the terrific stylist or dance instructor they encountered earlier.

B. Private solutions with competition: universities and patents

As some readers might anticipate, there must be cases where the bargaining problem is solved by uninformed agreement, and something of the flip of a coin. This works so long as both parties retain some incentive to invest before and after information about an opportunity becomes better known. This will be attractive where after-the-fact allocations are difficult because it will be hard to calculate what is needed to promote optimal investment in what is often a two-party-two-period problem.

Scientists working in university laboratories will sometimes produce valuable patents. Unlike the case of the law firm or university, whose worker produces a profitable novel or course materials during time that might have been spent on leisure activities or work that clearly benefits the employer, the university's investment in the laboratory and in graduate student assistants is quite considerable. The scientist also has a large investment in time and opportunity costs. Both the university and the scientist can work hard to market the patent later on. However, there exists something of a two-party-two-period problem. In some institutions, there was a norm that a patent belonged to the one who filed for it, and the individual inventor was often the one to do so. This is contrary to the work-made-for-hire idea, but it might have been a method of rewarding hard work and creativity, and the university was, after all, a not-for-profit institution relying on contributions, government support, and tuition revenue. Attention was paid to the goal of encouraging hard work by the individual employee, or perhaps even attracting good scientists in the first place. To our knowledge, no university in over 100 years has asked a Nobel Prize Laureate to turn over the prize money because the work that was done relied upon the university's resources. Of course, the university advertises and benefits from prizes won by its current and past scientists. But there are also periods and cases in which the patent is awarded to the university rather than to an individual, and this is especially the case when many individuals worked together and the university did most of the work in applying for the patent. It is easy to see the incentives on both sides.

But times have changed, with increasing up-front expenditures and some patents proving to be extremely valuable. It is now the norm for a university to contract, or simply announce, how income from patents will be shared. Scientists know in advance that the university at which they work, or wish to work, has a set formula for dividing patent proceeds. It is especially interesting that these formulas are not uniform across universities. To solve the (now familiar) two-party-two-period problem, there is a kind of competition among universities, or simply shots in the dark when determining the optimal division of the pie. The University of Chicago retains 85% of the profits

and the individual receives 15%.²⁷ Both parties have incentives to invest in equipment, assistants, and hard work, but ex-ante it is difficult to evaluate the likely effort required, or that is ideal, for different projects. The 85/15 split does not vary across departments, even though some require more expensive laboratories. Harvard divides profits on a 75/25 basis, but only after first taking a 35% share for its “administrative costs.”²⁸ Stanford offers a different division of the pie, giving

²⁷ UChicago Ownership:

Under Statute 18 of the University of Chicago Statutes, the University owns inventions, including “device-like” software, made in the course of work at the University, and/or with the substantial aid of its facilities and/or funds administered by it. If there is doubt about ownership of an invention, the inventors must raise the question with TCL at the time a disclosure is submitted and receive a written decision concerning the University’s interests. Faculty, students, and employees who feel that such a decision is incorrect (i.e., that their patentable inventions or software should be exempt from the University policies) may present a case to the Faculty Committee on Patents, Software, and Intellectual Property. This committee is convened as required by the Office of Research, Innovation and National Laboratories.

UChicago Royalty Sharing:

For patented inventions or inventions on which a patent is pending: 25% of revenues (e.g., royalties, license fees, stock sales) are paid to inventors. If there is more than one inventor, the revenue is split equally among them unless they agree to an alternative arrangement. In addition, 10% of revenues are paid to the inventors’ lab(s), 5% to their department(s) and 5% to their division(s).

For non-patented inventions (for example, certain software or tangible materials): researchers contributing to non-patented inventions, software and materials may elect to not receive a personal share at all, and instead direct 85% of the gross revenues to a University research account, up to a cumulative gross revenue of \$50,000. The remainder of the revenues covers the expenses of Technology Commercialization and Licensing at the Polsky Center. More details are available in the Revenue Sharing Policy document (PDF).

See Univ. of Chicago, *Patent Policy (Statute 18)*, HANDBOOK FOR ACAD., <https://perma.cc/W2GT-W8NC> (last visited Sept. 19, 2023); Univ. of Chicago, *Frequently Asked Questions*, POLSKY CTR. FOR ENTREPRENEURSHIP AND INNOVATION, <https://perma.cc/6RDW-HS45> (last visited Sept. 19, 2023).

²⁸ Harvard Ownership:

Upon review of the disclosure document, OTD will determine whether the *Invention* is a *Supported Invention* or an *Incidental Invention* and, in the case of a *Supported Invention*, shall further determine, with assistance from patent counsel, who are the *Inventor(s)*, consistent with U.S. patent law. Harvard shall have the right to own and each *Inventor*, at Harvard’s request, shall assign to Harvard all of his/her right, title and interest in a *Supported Invention*. Ownership of an *Incidental Invention* shall remain with its *Inventor(s)*, subject to any rights that may be granted to Harvard as required by this policy.

Harvard Royalty Sharing:

equal thirds to the inventor, the inventor's department, and the inventor's school.²⁹ The University of Washington's allocation model introduces other players that might need incentives. Their administration fee is 20%, and the remaining "80% of proceeds from a license are shared equally among the inventors of the technology (26.67%), their departments and schools (26.67%), and the Provost (26.67%)."³⁰ The variation among these contracts is consistent with the idea that the most efficient allocation is still unknown; yet, it may be sensible to announce a division at the outset.³¹

A further bargaining, or division, problem arises if a scientist moves from one university to another. Absent an explicit contract, the two universities are joint owners of a patent that was developed through work in both places. Each can sell or use without the other's permission, though they are forced to share in maintenance costs.³² Even if one would be credited with doing just 10% of the work and the other with 90%, they are joint owners with equal rights. The two owners (who then divide their gains with the individual scientist(s) according to the percentages announced ex-ante) might race to the bottom when it comes to setting a price for a third party to pay, so a bargain

Administrative fee – 15%; Of the remainder: *Creator* personal share – 35%; *Creator* research share – 15%; *Creator* Department/Center share (except that if within FAS, or if no Department or Center, to be allocated by Dean of the *Creator*'s School for research purposes) – 15%; *Creator* School share – 20%; President's share – 15%.

See link above for slight difference in distribution pre- and post- 2011; see Harvard Off. of Tech. Dev., *Statement of Policy in Regard to Intellectual Property (IP Policy)*, HARVARD UNIV., <https://perma.cc/U3D5-WJSV> (last visited Sept. 20, 2023).

²⁹ See Stanford Off. Tech. Licensing, *Stanford Policies on Intellectual Property*, STAN. UNIV., <https://otl.stanford.edu/stanford-policies-intellectual-property> [<https://perma.cc/7Y8S-TYF7>] (last visited Sept. 20, 2023).

Stanford Ownership:

The University's Patent Policy requires that all potentially patentable inventions conceived or reduced to practice in whole or in part by members of the faculty or staff (including student employees) of the University in the course of their University responsibilities or with more than incidental use of University resources be disclosed on a timely basis to the University. Title to such inventions is assigned to the University, regardless of the source of funding, if any.

Id.; Stanford Royalty Sharing: "net cash royalties are divided 1/3 to the Inventor, 1/3 to the Inventor's department and 1/3 to the Inventor's school." *Id.*

³⁰ Univ. of Washington, *Intellectual Property Advising and Protection: Protecting Your Innovation*, COMOTION, <https://comotion.uw.edu/intellectual-property/> [<https://perma.cc/T7DG-3QZL>] (last visited Sept. 20, 2023). For general UW Policy, see Univ. of Washington, *Executive Order No. 36: Patent, Invention, and Copyright Policy*, UW POL'Y DIRECTORY, <https://www.washington.edu/admin/rules/policies/PO/EO36.html> [<https://perma.cc/RUT8-4VUW>] (last visited Sept. 20, 2023).

³¹ For an attempt to compare arrangements and their incentive effects, see Lisa Larrimore Ouellette & Andrew Tutt, *How Do Patent Incentives Affect University Researchers?*, 61 INT'L REV. L. & ECON. 1, 16 (2020) (*finding no* compelling empirical evidence that increasing university inventors' royalty share has a significant effect on any of the outcomes one would expect to be most affected).

³² See 35 U.S.C. § 262.

is mutually advantageous. All of this creates an ex-post or ex-middle (because they might agree before knowing the final use or profit) bargaining problem of the kind that might stall negotiations.

Patent law enables and enforces these contracts, but it is the universities that develop them and then compete for scientists. The parties are guessing what a decent division of the pie will be to provide the incentives required on each side. Their ex-ante agreements are apparently superior to ex-post squabbling, whether directly or in a courtroom.

C. Divorce and salvage at sea

At long last we take on cases where law has already developed solutions of the kind this Article recommends with respect to CODs and non-compete clauses. Again, as in the other settings discussed in this Article, bargaining can be difficult. However, in both divorce and salvage, bargaining is manageable – and enforced – in a subset of cases. These can be characterized as those where the information problem is relatively small. However, in most settings, there is too much that cannot be anticipated and there is the two-party-two-period problem, or something close to it.

1. Divorce

The overwhelming majority of marriages involve a decision to share everything. Yet some people, and especially those with significant funds or prospects of inheritance, as well as those with children from a prior relationship, contract otherwise through pre-nuptial arrangements. Without law's willingness to give credit to pre-nuptial assets, families might discourage some wonderful marriages, and some people might choose not to marry though they would otherwise wish to do so.

Courts are happy to enforce these arrangements exactly as one would expect. The Uniform Premarital and Marital Agreements Act sets out a roadmap that is not unlike the factors courts consider in accepting or rejecting pre-nups, even in the many states that have not passed the Uniform Act. The Act wants parties to be represented by counsel, to have full and accurate knowledge of one another's pre-marital assets, and it leaves room for courts to reject "unconscionable" contracts. Presumably, lawyers will help the parties sign contracts that provide for termination, renegotiation, or detailed terms that foresee the possibility of divorce after the couple has children, some of whom might require expensive medical care, or experience other events that are difficult to detail in advance.

In theory, pre-nuptial contracts can last forever, so long as the marriage lasts. However, in reality, lawyers often advise that the contract should be limited, perhaps to five or ten years. The shorter the period, the more the parties can bargain with good information. Practices differ from state to state, and many courts do not enforce pre-nuptial contracts that they regard with hindsight as unfair.³³ The shorter the period between contract and divorce, the more likely pre-nups are to

³³ Barbara A. Atwood & Brian H. Bix, *A New Uniform Law for Premarital and Marital Agreements Symposium on Uniform Premarital and Marital Agreements*, 46 FAM. L. Q. 313, 320 (2012).

be enforced.³⁴ All this conforms to the idea that the more difficult it is to contract, the more law will step in.

If there is no pre-nup, or one has been rejected as unconscionable or based on inaccurate information about pre-existing circumstances, a court will get to work on a divorce agreement if the parties are not able to do so themselves. A court will examine the marriage, the earnings of the couple during marriage, the needs of children, and so forth, before dividing assets and future earnings between the divorcing couple. Some states provide more than just guidance. A party might be entitled to one half of the couple's assets and might expect half the combined income of the spouses subject to some maximum.³⁵ The details are not important here because the theme is apparent.

In short, the more the parties can anticipate the future, the more they can bargain and expect their bargain to be enforced. But as time goes by, it is apparent that any contract agreed upon many years earlier was negotiated without knowledge of the future. The marrying couple did not know their future economic prospects, lifestyles, or actual earnings, and they certainly did not know the number and needs of children they might have. The more likely it is that any bargain takes place without important knowledge, and especially if a party hid pre-marital assets, the more law discounts ex-ante agreements and relies instead on an experienced judge's ability, ex-post, to allocate wealth, responsibilities, and opportunities. The law does not want to discourage post-divorce employment earnings by either party. Again, we see that attention is paid to both ex-ante and ex-post incentives. When there is a limited two-party-two-period problem, because the divorce occurs soon after the marriage with good information, courts are more likely to respect the earlier bargain, often drafted with the help of lawyers. But where there is a significant bargaining problem, courts are more likely to divide the pie ex-post, with a rough sharing rule modified by an attempt to encourage a sensible division of labor before divorce, as well as incentives not to free ride after the divorce.

³⁴ One can love contracts and still think that long-term agreements, especially about something like marriage, ought to be questioned by courts because of bounded rationality of the contracting parties. See Brian Bix, *Bargaining in the Shadow of Love: The Enforcement of Premarital Agreements and How We Think About Marriage*, 40 WM. & MARY L. REV. 145, 182-88 (1998) ("...parties may have some sense of the consequences of failure one year from now, but it may be harder to foresee and plan for the consequences of failure fifteen years from now—after one or both partners have made sacrifices in their careers and perhaps after children have been born."). The American Law Institute long ago suggested that courts review agreements after a fixed number of years have pass, with the commentary suggesting 10 years. See American Law Institute, *PRINCIPLES OF THE LAW OF FAMILY DISSOLUTION: ANALYSIS AND RECOMMENDATIONS* ch. 7 §7.05(2) (Tentative Draft No. 4, 2000).

³⁵ In states, most property acquired during the marriage is held jointly by the spouses. This makes it more likely to be equally divided. In equitable distribution states, property acquired during the marriage is considered marital property. It is divided fairly but not necessarily equally. Some state laws add the earned income of the parties and divide this in two, often subject to some limit in order to give the high earner an incentive to work hard, and perhaps to encourage the low earner to do so as well.

2. Salvage at sea

The law of salvage, and rescue quite generally, whether at sea or on land, can be understood as structured in a similar fashion. Famously, there is rarely a penalty for a failure to rescue (on land), with some exceptions for cases where there is a single clearly identifiable and best situated rescuer, and also in cases where someone abandons a rescue once begun (and where their earlier effort might have lowered the probability of rescue by another person).³⁶ When, however rarely, courts do impose liability after failure to rescue, they will say that there was a “duty” to rescue.³⁷ In some cases, even where rescue was not required, the rescuer will be able to recover expenses, as if the parties could have bargained beforehand.³⁸ Note, however, that a recovery of expenses produces a result that is near one end of the likely bargaining space. A bargain between the parties is not enforced, of course, if it is reached once one side is in grave danger and is thus bargaining under duress.³⁹ This might be surprising to an economist unfamiliar with the thinking of lawyers and philosophers, because both sides, and not just one, have holdout power. The situation is one of dual monopoly, and we could resort to asking about taking precautions ex-ante or even the danger of pushing another into a position from which rescue is sought. In any event, the notable thing for the purposes of the present Article is that there is little need to consider ex-ante investments by the potential rescuer, and perhaps the same is true for the party requiring rescue.

If someone voluntarily rescues another, and even valuable property, and in doing so destroys the value of equipment, the rescued party can be required to pay these costs of rescue. The payment will not quite encourage potential rescuers to invest in equipment ex-ante; there is no multiplier to compensate for cases where the equipment was not ruined; nor is there payment when the rescue is unsuccessful.⁴⁰ Perhaps these rules will change in the future, though compensation might result in a moral hazard. In any event, the cost of investing in rescue equipment is normally quite low and perhaps law simply relies on potential rescuers’ noble inclinations or expected approbation, or perhaps it fears that too many people will (unnecessarily) invest in equipment.

In contrast, rescues at sea, known as salvage, require considerable ex-ante investments. Salvage is a serious industry, unlike rescue on land where significant investments are normally made by governments. Indeed, governments normally cannot collect for the expense of rescue, even if the need for rescue arises because of a party’s negligence.⁴¹ Professional salvors, on the

³⁶ Saul Levmore, *Waiting for Rescue: An Essay on the Evolution and Incentive Structure of the Law of Affirmative Obligations*, 72 VA. L. REV. 879 (1986).

³⁷ Levmore, *supra*, at 899-900.

³⁸ Levmore, *supra*, at 901-02.

³⁹ For an interesting discussion of the rule and a philosophical argument to avoid it in some situations, see Shahar Lifshitz, *Distress Exploitation Contracts in the Shadow of No Duty to Rescue*, 86 N.C. L. REV. 315 (2008).

⁴⁰ See Levmore, *supra* note 33, at 898-99.

⁴¹ David C. McIntyre, *Tortfeasor Liability for Disaster Response Costs: Accounting for the True Cost of Accidents Note*, 55 FORDHAM L. REV. 1001, 1005 (1987).

other hand, are compensated by admiralty conventions written into law.⁴² Their investment in salvage vessels – which may sit around for long periods – is encouraged by ex-post payments. Some vessel owners, and especially those whose crafts stay around one port, will contract in advance with professional salvors, and these contracts take precedence over the normal rule calling for after-the-salvage assessments.⁴³ The private contracts usually involve vessels and locations where the potential need for salvage can be evaluated in advance. In other words, where bargaining is possible, and might even be among repeat players, it is respected.

In most cases, ship owners recognize that there might be a need for a future rescue, but they cannot predict weather and sea conditions. They also do not know how far from shore the disaster will take place, how often they and others will need salvage services, nor the value of what will be on the vessel on a given day. An efficient market solution is thus nearly impossible. Appropriately and efficiently, admiralty law calls on an expert judge to evaluate all these things ex-post, and to determine the amount of the reward accordingly. The owner of the vessel still has a significant incentive to take care and not to undertake dangerous trips or make wild decisions when disabled at sea. At the same time, and more plainly, salvage companies are encouraged to invest in the optimal amount of equipment. Here, too, we see that law takes account of the ex-ante and ex-post decisions in need of incentives. It solves the two-party-two-period problem, embedded in the bargaining problem, with after-the-fact expert assessments that take risk and other factors into account. A nice, modern addition is that the updated international convention considers the value of preventing a ship from causing excessive pollution; the admiralty award now takes account of the savior's success not only in rescuing a vessel, but also in reducing environmental damage.⁴⁴ Apparently, the cost of educating and deploying these judges is manageable.

D. Summary

In all three of the areas discussed here – patents, divorce, and salvage – bargaining is difficult, and yet to a limited degree, the parties have found their way to divide the pie. In the patent context, universities announce sharing rules at the outset, and unless multiple universities can lay claim to one patent, the bargain seems to work even though it is difficult to predict the future. It helps that rewards down the road are sufficiently large to incentivize both parties. It may also be because there is some competition among employers, as scientists can move from one university to another. In the divorce context, pre-nuptial agreements are easily accepted for a period of a few years before circumstances are likely to have changed in ways that were unanticipated and thus difficult to incorporate into sensible bargains. Still, courts maintain the ability to find pre-nups unconscionable, and they seem more likely to do so when parties, and even

⁴² Proshanto K. Mukherjee, *Salvage Agreement and Contract Salvage: Risk Dynamics in Salvage Law*, in *REGULATION OF RISK: TRANSPORT, TRADE, AND ENVIRONMENT IN PERSPECTIVE* 551, 568 (2022).

⁴³ *Id.*

⁴⁴ To be sure, soon after the convention came into being, calls came for its updating, see, e.g., Patthara Limsira, *Toward a New Salvage Regime for Environment: Reformation of the International Convention on Salvage 1989 and Thailand's Implementation*, 13 J. E. ASIA & INT'L L. 179 (2020).

their lawyers, lack the knowledge to bargain sensibly. And with respect to salvage operations, repeat players can bargain in advance, and courts accept these bargains. These ex-ante bargains trump admiralty law's more common ex-post calculations which themselves respond to the bargaining problem emphasized in the present Article.

There are notable areas where the parties might also bargain in advance but do not. One example is the division of the expected pie after a parent corporation swallows a subsidiary that the parent largely owned and controlled before a "short-form" merger took place.⁴⁵ The parent company and its largely-owned subsidiary might merge because there is synergy, reporting requirements, or tax savings from a closer or total connection. The unrelated shareholders of the subsidiary are often frozen out and must be compensated for their shares. Most mergers are between unrelated companies and do not present a problem. The market does the work; one firm bids for the other by either offering to buy stock or combining through a sale of assets negotiated by the firms' managers. Often, the parties cannot agree on how to divide the pie; we have no estimate of the number of mergers that would be good but that never take place.

In contrast, in the short-form merger case, there is a need to divide the pie to determine the freezeout price. The pie might be divided according to the market value of the firms, the previous costs that each firm encountered, or any number of other factors, including dividing the projected gain in half. In practice, fiduciaries (of the parent company) can probably get away with what they decide, so long as they do not choose the formula that is most favorable to the parent corporation. In theory, and long ago, corporate law scholars were attracted to the idea of a "fair-shares" division between the entities as a means of deciding the amounts paid to the target company's minority shareholders. The idea was to look at pre-merger market values, bring on a mediator, or somehow otherwise develop a method of fair sharing. This problem was even analogized by the leading commentators to that of sharing corporate opportunities.⁴⁶ It is fair to say that the spirit of the fair-shares approach is to announce a formula that will not discourage efficient combinations while also not favoring the party with the greater bargaining power.

It is somewhat surprising that corporations did not follow the pattern we now see in universities with respect to patents. A corporation could announce that in the event of one of these takeovers, a third party will assess the gains from the combination and divide them on a per-share basis with the parent company enjoying 80% or 90% (or any set amount) of the gain. Investors are able to stay away from corporations that make disfavored announcements. In these cases, although the future is unknown, there is little need to share in a way that discourages efficient investments on both sides, or in multiple time periods. The fair-shares idea is noted here in part because it has much in common with non-competes, discussed presently in Part IV. In both cases, bargaining is not trusted because one side is less informed and less organized than the other.

⁴⁵ Victor Brudney & Marvin A. Chirelstein, *Fair Shares in Corporate Mergers and Takeovers*, 88 HARV. L. REV. 297 (1974).

⁴⁶ *Id.*

IV. Covenants not to compete

When a significant impediment to effective bargaining exists, such as when inexperienced employees are at the mercy of large employers, law has become skeptical of the bargains, or terms of employment. In at least one state, covenants not to compete are now completely disregarded.⁴⁷ In other states, challenges to contractual restrictions on employee departures are all-or-nothing determinations. Courts analyze multiple factors, including duration of the restriction and geographic reach.⁴⁸ If the factors are strong enough, the employee has no right to a new job taken in violation of the non-compete previously set out in an employment contract. The employee may be enjoined from working in a new, competing firm.⁴⁹ If the factors are weak, the employee may disregard what is now ruled to be an unenforceable covenant not to compete, and they can depart for the job of their dreams. The cases can be painful to litigate. However, a complete rejection of non-competes is dangerous. It risks making future employees worse off because employers have less incentive to train employees. This Article suggests that courts should treat these cases more like divorce and salvage cases. If they did, they would often permit the employee to depart, but entitle the employer to charge the employee (or a new employer) a reasonable sum reflecting training costs, especially training that made the employee attractive to the new employer.

There are, it would seem, reasonable paths for law to take with respect to employers' attempts to bind employees. One starts with the idea that the employer is taking advantage of the employee and wants to restrict the market for good employees. The employer can pay lower wages if its employees cannot accept higher offers elsewhere. In principle, employees would not accept the restriction without being paid for it, but often these job seekers are unable to bargain in this manner. If this is the case, then non-compete clauses should be unenforceable, and perhaps employers should be penalized for trying to use them, since some employees will not learn that they are unenforceable. A critic may say there is no social loss attached to (even these) non-competes, because a second employer could also pay the first employer who fashioned the non-compete to release the employee. But this possibility comes with transaction costs, and it also requires the employee to know that it is useful to look for a new position despite the existence of a non-compete clause.

⁴⁷ See Abigail Schechtman Nicandri, *The Growing Disfavor of Non-Compete Agreements in the New Economy and Alternative Approaches for Protecting Employers' Proprietary Information and Trade Secrets*, 13 U. PENN J. BUS. L. 1003, 1008 (2011) ("In California, by far the most employee-friendly state, courts have interpreted California Business & Professions Code, § 16600 as almost completely banning CNCs. As applied by the courts, California law allows for CNCs in only three narrow circumstances: those agreements related to (1) the sale or business, (2) dissolution of a partnership, or (3) termination of a member's interest in a limited liability company.").

⁴⁸ For this and a more general discussion, see Eric A. Posner, *The Antitrust Challenge to Covenants Not to Compete in Employment Contracts*, 83 ANTITRUST L.J. 165 (2020).

⁴⁹ See Ronald J. Gilson, *The Legal Infrastructure of High Technology Industrial Districts: Silicon Valley, Route 128, and Covenants Not to Compete*, 74 N.Y.U. L. REV. 575, 603–06 (1999) (comparing Massachusetts and California's enforcement and non-enforcement of covenants not to compete as superior means of protecting trade secrets, with the former normally leading to injunctions blocking employment in competitor businesses).

Non-compete clauses may be even worse than usually imagined. Not only might the employer exercise monopsony power over employees once they are constrained from moving to other employers; an employer can also observe the performance of employees, letting go of the less productive ones and retaining the better employees without raising their wages. Employees lose out because at-will employment and non-competes are combined to their disadvantage. What is profitable for the employer is a lose-lose for the employees. It is no wonder that law is friendly to attempts to unionize and, at present, increasingly skeptical of non-competes.

Things are different if the employee is sophisticated. The same reasoning that regards non-competes as bad suggests that they ought to be acceptable when negotiated among sophisticated parties. A high-level employee may be compensated for agreeing to a non-compete. This condition allows the employer to trust the employee with trade secrets or expend resources searching for good employees.

The more optimistic way to think about non-competes is that they serve to protect employers' investments in searching for and training employees. In the absence of the ability to restrict employee departures, a second employer, E2, could simply poach employees from E1. E2 could observe that an employee who had been at E1 for six months, who was selected by E1 after some screening, attended work on a regular basis (a significant problem with new employees), picked up skills because of training that E1 has provided, and then performed well enough at work not to be let go by E1. E2 could attract E1's employees by offering a slightly higher wage. Following this story about non-competes, both employers and employees are better off if non-competes are respected, at least for some periods of employment. If non-competes are destroyed by law, E1 and E2 will try to poach from one another, and it may be that neither invests in training and perhaps neither screens efficiently. This argument is stronger the more the training builds skills that are transferable to other employers. Contemporary law appears to believe that the first story, that of the employer's market power rather than its incentives to invest, is more common than this one.

If law discourages non-competes and imposes an inefficiency because employers will now hesitate to train employees, there is the opportunity for employers to more directly charge employees for their training. Minimum wage laws come into play. An employer might want to dictate to a potential employee that they ought to come as an intern for a period, during which they will do some work, be trained, and be evaluated. This is of course common practice, but the employer is somewhat restricted by the need to pay at least the minimum wage to persons who qualify as employees. And even if law and employer ingenuity protect the investment in training, there is still the problem and practice of E2 taking advantage of E1's effort to hire the best-suited people, discover which ones come to work in timely fashion, and let E1 absorb the cost of observing employees' performance and letting some go. E1 can hold on to successful employees, but in the absence of non-competes, it must match E2's offer of a higher wage.

There is also a tax angle. An employee who pays for training before obtaining a job cannot deduct the payments because only businesses can deduct business expenses.⁵⁰ Just as one cannot deduct the cost of going to high school, one cannot deduct the cost of initial training. It is another matter if an employee has a job and then invests in further training to secure a better job, but this situation more resembles the high-level fiduciary who can agree to something like a non-compete clause, for that is likely to be enforced. It is therefore in both parties' interest for the employer to do the training. The employer deducts the cost of providing the training, and this is more desirable to the employer-employee pair than is the alternative scheme where the employee pays for schooling without the opportunity to take a tax deduction. If the trained employee stays and works for the first employer that provided training, the employer benefits, or is at least compensated for the training provided, by paying a lower wage – although this requires that non-compete clauses be enforced.

Another scheme would be for the employer to do the training but to charge the employee. Most beginners are unlikely to have the means to pay for the training, but the employer could lend the money and be paid back over time. If the employee leaves, they will owe the money at the time of departure. This may be difficult to enforce. It is likely that any legal system that refuses to enforce non-competes would also refuse to enforce these promises of deferred direct payments for training.

It is tempting to solve this problem, and encourage employees to provide training, by offering employees a choice. A new employee could agree to be bound by a non-compete or could instead pay for training (as well as the value of showing E2 that she was able to stay on the job for a period). The non-compete would then be accepted by law if it could be demonstrated that a significant number of employees chose each option. Employees would choose the non-compete option only if it came with a significantly higher wage. This idea is both complicated and attractive, but, as just described, is discouraged by tax law.

There is another less elegant solution to the possibility that the law has been mistaken and that the optimistic story is more common. If so, employers must not be discouraged from training employees; they need more than tax deductions. When an employee leaves within a stated period, perhaps two years, the employer, E1, could go to an unbiased third party who would estimate the training costs absorbed by the employer. Either the departing employee or the new employer, E2, must then reimburse E1 for these costs, which would of course be taxable income to the first employer, E1. To simplify this unusual approach, a factfinder could estimate the training cost to E1 and the value of the benefit to E2, and the payment required would then be split. E2 would pay for its gain, and the employee would pay the remainder of the costs initially absorbed by E1.

⁵⁰ Generally speaking, an employee can deduct the expense of training or education if it is related to staying in the same line of business he or she is already in. 26 CFR § 1.162-5 (1967).

This idea is less complicated than it sounds. For one thing, it only applies if the employee leaves E1 within a short period of time. Non-compete clauses would be valid for two years, we might imagine, and then would be limited. Instead of a ban on switching employers, the employee's departure would trigger a payment to E1 for the benefit it provided the employee and E2.

This ex-post idea borrows, of course, from the legal and private ordering developments described in Part III. Non-competes are now disfavored because the parties are unlikely to have bargained fairly for them. Bargains are unreliable, though for different reasons than they were in the areas of divorce, salvage, and short-form mergers. But these problems can be addressed by ex-post determinations with an eye on the need to not destroy any party's incentive to invest efficiently.

V. Revisiting and refashioning the corporate opportunity doctrine

The corporate opportunity doctrine (COD) has much in common with contributory negligence in tort law and with how law has treated covenants not to compete, though these treatments have taken a 180-degree turn over time. In these areas, the law settled on an all-or-nothing rule.⁵¹ If law is hard to predict, as it might be or have been in these areas, the all-or-nothing approach may not be inferior in terms of economic efficiency. In the case of COD, for example, if a corporation does not know whether some fiduciaries may be able to walk off with opportunities,

⁵¹ The foremost defenders of a strict COD, especially in the case of public corporations, do not make an exception that is comparable to contributory negligence, perhaps because COD cases deal with gains rather than injuries, which is to say overall losses. The leading commentators do, however, recognize the presence of what this Article calls the two-party problem, and how private contracts can solve that part of the problem. See Brudney & Clark, *supra* note 1 (generally regarding fiduciaries who cross the line in COD cases to be thieves, but leaving some room for a sharing rule); Tally, *supra* note 1 (favoring the best developer of a project and leaving room for side payments where the other party is the more efficient provider, and also suggesting the use of liquidated damages). In contrast, the more one is willing to rely on private contracts, the more there is reason to think that fiduciaries will take only when it is efficient to do so. FRANK H. EASTERBROOK & DANIEL R. FISCHER, *THE ECONOMIC STRUCTURE OF CORPORATE LAW* 142 (1991) (imagining that most executives would like to reserve some freedom of movement, and that law should therefore follow along, penalize only egregious thefts, and rely on private contracts).

The attention paid in this Article to the two-party-two-period problem, and therefore to long-ago investment incentives by the firm, is central to the under-appreciated work of Kenneth Davis who recognized that the content of the rules governing the right to a corporate opportunity will often affect whether the opportunity is created at all. The law may conclude that it makes better sense to grant the right to the opportunity to the officer or director who developed it, even though the corporation's existing business activities place it in the best position to put the opportunity to use. The focus is on the incentive to invest ex-ante in things that can lead to later opportunities and profit. Kenneth Davis, *Corporate Opportunity and Comparative Advantage*, 84 IOWA L. REV. 211, 259 (1999). Davis's point is that the corporate opportunity doctrine cannot just hand opportunities to the most efficient implementer if doing so will discourage opportunity discovery. An employee will often possess some advantage in exploiting an opportunity, but her taking it will deprive the corporation of a return on the exploration and infrastructure that made the discovery possible. The corporation might therefore reduce those investments or affirmatively invest in inefficient prophylactic strategies (to prevent the employee from spotting and developing the opportunity) if it cannot recoup its investments. The similarity with the law of non-competes is obvious, but again the idea of a sharing rule does not appear.

the corporation may still invest optimally.⁵² A company may invest \$2X on equipment if it could be sure that a rigid COD gave it complete rights to all opportunities that it could identify as at least plausibly belonging to the corporation. We know that this COD is inefficient because it does not take account of investments that would be socially efficient for individual fiduciaries to undertake on their own. With this all-or-nothing COD in favor of the corporation, a fiduciary might underinvest in education and spend less time considering exploration opportunities. Only if the corporation can be guaranteed to provide perfect rewards to the hardworking and well-educated fiduciary would the fiduciary invest in optimal fashion. It is more likely that the wealth-maximizing legal rule would divide the value of the opportunity, and assign half to the corporation and half to the fiduciary. But in this case, unpredictable COD cases can do just as well. Over the long run, if the corporation knows that it will win half the time, it will invest exactly as it would if it knew it would receive half the value of every opportunity the fiduciary takes without consent. It might invest \$1.1X, with the fiduciary investing \$1.1X, and together this team will produce something worth more (\$2.2X here) than what would be accomplished with the corporation doing all the investment (or \$2X).

This is the same as the well-known result in tort law. The fewest avoidable accidents might be best achieved by each of two parties investing in some precaution. Teamwork can be efficient. One party drives slower and the other wears a seatbelt; one has a higher smokestack and the other lives further from the factory. What is the case for avoiding losses is not terribly different from what is true for achieving gains. Comparative negligence has achieved dominance in tort law not because it is more efficient than an all-or-nothing rule like contributory negligence, but rather because it is more intuitive to people as an ethical or emotional matter.⁵³ COD cases might be the same. A sharing rule is often efficient, but it may be no better than an all-or-nothing rule if the parties are not sure which way cases will come out. And again, a sharing rule is probably more attractive when both parties have some plausible claim that they were instrumental in reaching a profitable result. The patent arrangements discussed in Part III offer a good example. Most people find the sharing of patent royalties between a university and its scientists attractive. Even in the case of an employee leaving one firm to go to another, it is likely that most observers would be comfortable with a system that said that if the firm could show its cost of training and asked only

⁵² Waivers can themselves reduce investment by the firm. See Eliezer M. Fich et al., *Disloyal Managers and Shareholders' Wealth*, 36 REV. FIN. STUD. 1837 (2022).

⁵³ The idea is that as long as a party sees that the other party has an incentive to be non-negligent, it pays for who will be left holding the entire bag to be non-negligent as well. For the link to binary rules, see Saul Levmore, *Convergence and Then Downstream Divergence in Torts and Other Law*, 92 S. CAL. L. REV. 769, 770 (2019).

Note that comparative negligence works because law seems equipped to decide what is negligent behavior, and then to opt for rules that assign liability to negligent parties. COD cases, however, involve the division of gains rather than the assignment of damages, and they do so in cases where law is unlikely to know the optimal investments of the concerned parties. For example, we are unprepared and ill-equipped to tell a corporation that if it does not drill for oil in certain places, it will be found "negligent." For this reason, some allocation of rights will often be superior to an all-or-nothing decision in favor of the corporation or the fiduciary.

for reimbursement of that expense if the employee left within a year or two, then the employer could collect that amount.

The suggestion offered here is that corporate opportunity cases should be more like comparative negligence, divorce, and salvage law. A sharing rule will be intuitively attractive, and a sharing rule is more directly efficient in terms of encouraging efficient investment and solving the two-party-two-period problem. After the fact, a court or another expert should allocate the value of the opportunity in a way that encourages efficient behavior by the parties –in both the early stages, when one or both invests, and in the later stages, when other investments can be made. We want the oil-drilling company to invest efficiently in equipment, and later we want it to invest efficiently in developing a discovered oil field or in selling the development rights to another party. At the same time, we want the fiduciary to invest in education and to work hard to discover oil fields. And later, if this person's skills are best suited elsewhere, but the fiduciary uses information developed by the first employer, this too should be considered. The result will normally be some sort of sharing of the pie in the manner of divorce law and salvage cases. It is not critical for a court to get this division of the pie just right so long as it is unbiased. What is important is that both parties think there will be rewards for their investments and contributions to the joint enterprise.

There remains the question of whether actual bargains between a corporation and a fiduciary should be respected, because here (as in salvage but unlike the case of entry level employees asked to agree to non-competes) there would be well-informed and sophisticated parties. It seems sensible to respect any contract the parties make in advance even though they are using guesswork and even though this Article began with the claim that bargaining is often impossible. Courts should respect their bargains, just as courts respect pre-salvage bargains, pre-nuptials that address the near-term or that otherwise are reached with full information, university-drawn patent agreements with scientists, and even parties who do know one another in advance and bargain about the division of tort liability, as is the case for manufacturers (who might be held strictly liable for their products) and vendors who produce parts that they assemble.⁵⁴ In most cases bargaining is close to impossible, and it is likely that ex-post evaluation by courts is the superior model to follow – so long as this is done with an eye on the four opportunities for investment and effort described here. The parties will often be unable to bargain in advance and if courts do their (new) job right, parties engaged in teamwork will have no need to bargain over matters with which they are hopelessly ill-informed. To be sure, this reliance on courts imposes costs on the judicial system. It is more difficult and time-consuming to decide the right ex-post recovery than it is to make a binary decision as to whether there was or was not a taking of a corporate opportunity under current law. But the similarity between many COD cases and complex divorce and salvage

⁵⁴ Essentially, a strictly liable party is free to buy a kind of insurance from a vendor. An automobile manufacturer held strictly liable can collect from the supplier of its tires or its window glass if it had contracted with these vendors in advance.

cases is so striking that one can be confident in concluding that what is accepted in family law and admiralty law should also become the rule in corporate law.

VI. Conclusion

Dividing an unknown asset or opportunity is a difficult problem even for parties that can identify one another and bargain in advance. As usual, the law matters in a quest for efficient outcomes when bargaining is difficult, whether this is because of hold-out problems or transaction costs. This Article shows that property rights in many (arguably) corporate opportunities are especially difficult to assign because there are many moving parts and many unknowns. Both parties can invest ex-ante and ex-post. An efficient division of the pie requires a sensitivity to all four of these moving parts. Similarly, when an employee who has been discovered and trained by one employer moves to another, the first employer should be allowed to announce upfront that it will lay claim to its costs. Employers and employees will benefit from some allocation to this first employer. This Article has developed several ways of making such an allocation, and each one is superior to completely enforcing or dismissing non-compete clauses. In both cases, when a recently trained employee departs, or when a fiduciary leaves with an opportunity that arguably belongs (at least in part) to a corporation – an after-the-fact division of the pie is likely to be superior to an all-or-nothing rule.

The larger and more theoretical idea offered in this Article is that bargains between parties are more difficult to consummate than is often assumed. When this is the case, it is sensible and attractive to divide a known pie rather than to decide which party should enjoy a complete victory. It turns out that law has already reached this conclusion in several areas, and it is time to encourage this solution in others.