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WAIVING GOOD FAITH: A NATURAL LANGUAGE PROCESSING APPROACH

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In Northwest, Inc. v. Ginsberg, *the Supreme Court recognized that some states impose contractual good faith performance obligations and others do not. States that impose the duty are said to deploy the doctrine to ensure that contractual partners adhere to community standards of decency, fairness, and reasonableness. By contrast, states that let the parties decide for themselves are said to protect the parties' reasonable expectations and give full latitude to their contractual intentions. As noted in Ginsberg, these distinct approaches reflect the two leading theories of contractual good faith performance. One theory, the Excluder Thesis, asserts that good faith is an open-ended standard that excludes bad faith. The other, known as the Recapture Thesis, asserts that good faith is more like a closed-ended rule that prohibits parties from recapturing opportunities that are implicitly sacrificed when making promises to a contractual partner.*

Through Natural Language Processing of more than 20,000 contractual good faith cases, this Article presents the first exhaustive empirical study of the entire body of contractual good faith case law. The analysis reveals that courts, in the main, adhere to the Excluder Thesis, and deploy good faith as an open-ended standard in order to exclude community-based definitions of bad faith. Use of the Recapture Thesis for supplying good faith relief is scarce. This is true even in jurisdictions that permit parties to waive obligations of good faith. The empirical analysis further demonstrates, counter-intuitively, that states which permit waiver, and that are said to

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focus on party intentions, more often use good faith to police community standards of decency.

Taken together, the empirical findings vindicate the Excluder Thesis and suggest the decline of waiver. Abating waiver, however, would be a mistake. Waiver of the duty to perform contractual obligations in good faith should be understood in terms of degree. After all, permission to waive is established by law, and is presumably sanctioned by the will of the community. An important example is federal preemption of state-based good faith claims, which can be understood as a form of imposed waiver. Another example is state-imposed exemptions of good faith duties in employment contracts. In both cases, an alternative public policy is prioritized over community standards of decency, fairness, and reasonableness between contractual partners.

Parties who waive good faith obligations reject today's community standards. Otherwise they would not waive. A subtler and more meaningful observation is that they reject the unknown community standards of tomorrow. Inasmuch as good faith is deployed as an open-ended standard that relies on fluid community norms, good faith is a doctrine that evolves over time and presents unknown risks. Waiver states allow contractual partners to mitigate those risks. While waiver may disadvantage weaker contractual parties, the empirical analysis suggests that it is rarely used in that manner, and as noted in Ginsberg, competition and federal regulation can be expected to suppress its egregious and undesirable use. Authorized waiver should be expanded.

INTRODUCTION

To the point of frustration, the concept of contractual good faith performance[1] tracks Aristotle's observation that one should "look for precision in each class of things just so far as the nature of the subject admits."[2] Frustration is only natural in a domain, such as commercial law, which favors certainty over the unknown; definite and detailed rules over loose standards; the promotion of arms-length bargaining and freedom of contract over restrictive paternalism and judicial meddling; and a general repugnance toward moralizing.[3] The philosophy of trade and commerce embraces the broader con-

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1. Contract law generally distinguishes among contractual good faith negotiation, purchase, and performance. *See* RESTATEMENT (SECOND) OF CONTRACTS § 205 (AM. LAW. INST. 1981). This Article focuses on performance, and throughout, uses the terms "good faith," "contractual good faith," "contractual good faith performance," and "the implied covenant" interchangeably. In addition, scholars and courts sometimes distinguish between precontractual and postcontractual conduct. *See, e.g.*, Mkt. St. Assocs. Ltd. P'ship v. Frey, 941 F.2d 588, 595 (7th Cir. 1991) (Posner, J.). A precontractual duty of good faith encompasses negotiation and purchase. The focus of this Article is the postcontractual duty of good faith performance.

2. ARISTOTLE, NICHOMACHEAN ETHICS I, 3.

3. *See* Robert S. Summers, *"Good Faith" in General Contract Law and the Sales Provisions of the Uniform Commercial Code*, 54 VA. L. REV. 195, 266 (1968) (citing P. DEVLIN, THE ENFORCEMENT OF MORALS 47 (1965))

> (If the Court were to interfere otherwise than as a referee to prevent fouls, or if it were to tender help to the party who appeared to be getting the worst of it, worse still if it engaged itself as an active promoter of fair dealing, sooner or later it would be telling both parties that it knew what was good for them better than they did themselves. That is an attitude that always has been and still is repugnant to lawyers. . . .).

This attitude is closely related to the basis for corporate law's insistence that the actions of business managers should not be second-guessed so long as the process of a business judgment is sound "or employed in a good faith effort to advance corporate interests." *In re* Caremark Int'l Inc. Deriv. Litig., 698 A.2d 959, 967 (Del. Ch. 1996).

cern that vague maxims, policies, and principles tend to stifle industry and exchange, and worse, open the door to stagnation and opportunistic behavior. The late Robert Summers, in his magisterial study of contractual good faith, sought to temper those concerns by documenting definitive and precise instances of bad faith, while simultaneously articulating normative argument in favor of an open-ended and circumstantial approach to the doctrine's design.[4] He argued that even though "[g]ood faith is not vague in its applications,"[5] judges should "refuse to adopt restrictive descriptions [. . .] and not waste effort formulating [. . .] reductionist definition[s]."[6]

Lawyers, courts, and especially scholars, however, continue to search for precision and have attempted to carefully design good faith as a closed-ended rule.[7] After all, academics truck in theory and testing even in the midst of communicative indeterminacy,[8] and many legal scholars prefer a good challenge. Perhaps the most influential example is Steven Burton's design of contractual good faith as a tool for preventing parties from recapturing opportunities foregone through the exchange of promises.[9] Deviations in expected performance are legitimate and should be lawful, so long as they are reasonably contemplated by both parties ex ante. But parties sacrifice something in order to secure a promise, and deviations that recapture a sacrifice cannot be legitimate since, by Burton's

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4. Summers, *supra* note 3, at 264–65.

5. *Id.* at 266.

6. *Id.* at 206–07.

7. *See, e.g.*, Steven J. Burton, *Breach of Contract and the Common Law Duty to Perform in Good Faith*, 94 HARV. L. REV. 369, 403 (1980) (positing that good faith is applied when parties attempt to recapture opportunities that are instantly sacrificed when entering into bargains).

8. *See, e.g.*, Jacques Derrida, *Force of Law: The "Mystical Foundation of Authority", in* DECONSTRUCTION AND THE POSSIBILITY OF JUSTICE 3, 6 (Drucilla Cornell, Michel Rosenfeld & David Carlson eds., 1992) (noting, in what appears to be a response to Foucault's emphasis on the normalizing force of law, that "there is no law without enforceability, and no applicability or enforcement without force be direct or indirect, physical or symbolic, exterior or interior, brutal or subtly discursive and hermeneutic, coercive or regulative, and so forth"). *Accord* GARY S. BECKER, ACCOUNTING FOR TASTES *passim* (1998) (emphasizing the role of enforcement, whether it be derived from traditional forms of punishment or social interactions).

9. *See* Burton, *supra* note 7, at 403.

lights, recapturing always harms the expectation interests of the dependent party.[10]

In effect, this rule would have parties consider a contractual obligation as an opportunity cost—or as a tradeoff of a foregone opportunity—in an effort to encourage careful contracting.[11] However, the act of recapturing a foregone opportunity, even one not reasonably contemplated by the parties, can be socially worthwhile,[12] which pushes up against a narrow view of contractual good faith—specifically, one that contemplates the relationship between the parties only.

A narrow rules-based view of contractual good faith performance is normatively misguided. Judges sometimes fashion their rulings to efficiently protect non-parties.[13] More importantly, contractual good faith obligations are shaped in part by parties themselves, and in part by the society in which their relationship is conceived. Law relies upon the ethos of the community, in every contract, to police contractual participants.[14] This is true whether a jurisdiction exclusively uses good faith doctrine to effectuate the intentions of parties and

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10. *Id.* It follows that recapturing foregone opportunities cannot be reasonably contemplated by contractual parties—by definition—according to this understanding of good faith. *Id.* at 387 ("A reasonable person accordingly would enter a contract that confers discretion on the other party only on the belief that the discretion will not be used to recapture foregone opportunities.").

11. *Id.* at 392–94.

12. Of course, harming a party's expectation interest, even if it involves recapturing a foregone opportunity, may be socially beneficial if the cost of performance exceeds the benefits to all parties. *See* ROBERT COOTER & THOMAS ULEN, LAW & ECONOMICS 254–61 (4th ed. 2004) (discussing efficient breach and performance given either an unfortunate or fortunate contingency).

13. *See* Frank Fagan & Urmee Khan, *Common Law Efficiency When Joinder and Class Actions Fail as Aggregation Devices*, 47 EUR. J.L. & ECON. 1, 1 (2019) (developing a model where judges decide cases on the basis of immediate third-party effects who are not party to litigation); Frank Fagan, *Renovating the Efficiency of Common Law Hypothesis*, *in* THE TIMING OF LAWMAKING 280 (Frank Fagan & Saul Levmore eds., 2017) [hereinafter *Efficiency of Common Law Hypothesis*] (developing the same model).

14. *See* Alan D. Miller and Ronen Perry, *Good Faith Performance*, 98 IOWA L. REV. 689, 690 (2013) (noting that community standards form the basis of all judicial and academic accounts of contractual good faith performance). Similarly, in tort, Mark Geistfeld has identified a community-based metanorm of reciprocity for setting the outer bounds of socially accepted behavior in negligence cases. *See* Mark Geistfeld, *Folk Tort Law*, *in* RESEARCH HANDBOOK OF

"protect their reasonable expectations,"[15] or, with more expansive positive law, ensures that a party adheres to "'community standards of decency, fairness, or reasonableness.'"[16]

An emphasis on community standards is consistent with the law-and-economics approach to contractual good faith, which takes "a stab at approximating the terms the parties would have negotiated had they foreseen the circumstances that have given rise to their dispute."[17] In the face of opportunistic conduct, law must appeal to standards of reasonableness established by the community whether those standards are evidenced in the patterned behavior of the parties, the trade, or society as a whole. Courts naturally rely on outside definitions of opportunistic behavior insofar as it remains expressly undefined by the parties.[18] This approach is normatively desirable. Articulating rules for good faith, as opposed to standards, would freeze customs into particular molds that would destroy the flexibility essential for the gradual evolution of commercial practices.[19] For instance, the defendant in *Market Street As-*

PRIVATE LAW THEORIES (Hanoch Dagan & Benjamin Zipursky eds., forthcoming 2020).

15. Burton, *supra* note 7, at 371.

16. *See* Northwest, Inc. v. Ginsberg, 572 U.S. 273, 286 (2014) (citing Universal Drilling Co. v. R & R Rig Serv., LLC, 271 P.3d 987, 999 (Wy. 2012)) (noting the distinction, and collecting cases). The role of community standards in determinations of good faith duties is discussed *infra* Section II.A.

17. Mkt. St. Assocs. Ltd. P'ship v. Frey, 941 F.2d 588, 595 (7th Cir. 1991) (Posner, J.).

18. This determination essentially takes the form of assessing whether the parties would have stipulated to their present conduct in express terms at the time of contract formation had they known the future and the costs of negotiating and adding provisions were zero. If not, then that conduct is opportunistic.

19. On the desirability of standards over rules when contexts are changing, even in the presence of large-scale data collection, see Frank Fagan & Saul Levmore, *The Impact of Artificial Intelligence on Rules, Standards, and Judicial Discretion*, 93 S. CAL. L. REV. 1 (2019). On the problem of freezing business customs with good faith doctrine, see Walter Malcolm, *The Proposed Commercial Code*, 6 BUS. LAW. 113, 128 (1951), which provides this very argument for *excluding* language related to community standards of reasonableness from a definition of good faith since it could be interpreted as fixing reasonable standards in time. Of course if this interpretation is a concern (and it is easy to see how it could be one in 1951, prior to the rise of dynamic approaches to interpretation), then a positive definition can be amended to "community standards of reasonableness that prevail at the time of an alleged good faith violation." In most cases, standards of reasonableness are

sociates prevailed because the plaintiff failed to provide notice of a contractual term that the defendant agreed to twenty years earlier.[20] That case was decided in 1990, prior to the rise of contract management software, which in essence, drives the economic cost of notice for the defendant toward zero. Today, plaintiff's behavior may remain characterized by opportunism, but perhaps less so, given that the defendant is now less vulnerable.

From a community-standards perspective, good faith can be described in objective evolutionary terms.[21] If parties are permitted to waive a duty to act "honestly" for instance, then waiver is permitted by a legal rule or a community norm authorized by that same community. Substantive differences in state-imposed versus voluntary obligations of good faith are therefore a matter of degree, at best. In theory, they reduce to an identity.[22] But this is true only in a static setting. In jurisdictions where parties can contract around the duties implied by good faith, they are essentially permitted—by the interplay of norms and law—to reject a reasonableness standard of today (or replace it with something else), but they are also permitted to reject the standards of tomorrow. While waiver of good faith in every contract may subdue the gradual evolution of commercial practices, as will become clear both empirically and theoretically, wide embrace of waiver is unlikely.[23]

If the view that contractual good faith performance relies on broad societal norms is correct, then empirically, one should expect to see little evidence that courts rely on the recapture thesis unless, of course, a recapture expectation itself

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probably not so fluid as to change between the time of an alleged violation and the time of judicial decision.

20. *Mkt. St. Assocs. Ltd. P'ship.*, 941 F.2d at 597.

21. *See* discussion *infra* Section II.B.

22. Traditional law-and-economics contract theory suggests parties rely on a default rule of good faith to reduce defensive expenditures, that is, effort to protect oneself from harm. Insurance is a classic example. Note, however, that as the precision of good faith increases, the less value it has as a default rule for reducing defensive expenditures, since counterparties must be investigated more widely and more contractual terms must be included. Note, too, that a draconian and expansive good faith default rule may make parties more fearful that they themselves could violate the doctrine and encourage greater contractual precision and defensive drafting costs.

23. *See* discussion *infra* Sections I.C–D; II.A–B.

is the actual norm in ascendance. This Article, through computational topic modeling of contractual good faith case law, casts doubt on the use of recapture in any form. No pattern related to recapture is clearly evident in the data.[24] While a subset of cases may rely on the recapture thesis for justifying a rule-based approach to good faith, a broader cut of the cases suggests that the recapture thesis has been subsumed by a broader Summers-like standard of bad faith.[25]

This pattern holds up when dividing the data into jurisdictions that permit and prohibit waiver of the duty of good faith. Waiver is permitted by a handful of jurisdictions.[26] It is often associated with Burton's recapture thesis, as it focuses on the will of the parties as opposed to the state-imposed will of the community.[27] However, the empirical analysis below reveals that waiver is scarcely litigated by contractual parties, even in those jurisdictions that permit it.[28] More interesting still, is that the empirical analysis demonstrates that waiver jurisdictions routinely deploy good faith as a standard.

There is, nonetheless, a place for waiver. As a matter of policy, waiver permits law to prioritize other goals over communitarian contractual good faith norms. An important example is federal preemption doctrine. Inasmuch as preemption precludes parties from pleading violations of good faith, preemption can be understood as a federally imposed waiver of the implied covenant. For instance, in *Northwest, Inc. v. Ginsberg*, the Supreme Court held that good faith enlarged the contractual obligations that the parties voluntarily adopted.[29] This enlargement was interpreted to impact an air carrier's "price,

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24. It is certainly possible that courts are deploying the recapture thesis without explicitly saying so. The analysis presented below is valid to the extent that the opinion texts represent judicial rationale.

25. *See* discussion *infra* Sections I.C–D. Note, too, that the recapture thesis, in all likelihood, has been incorrectly characterized as an antipodal opposite to Summers' excluder thesis. One of the problems with opposites is that they tend to contain a hidden assumption that the magnitude of each is roughly half of the whole. The empirical analysis below reveals that courts deploy the recapture thesis in far less than half of the case law—in addition to its subsumption as an instance of bad faith.

26. *See* Northwest, Inc. v. Ginsberg, 572 U.S. 273, 286 n.2 (2014) (noting that California, Idaho, and South Dakota permit waiver).

27. *Id.* at 286.

28. *See* discussion *infra* Section I.C.

29. *Ginsberg*, 572 U.S. at 276.

route, or service,"[30] potentially opening the door for states to "undo federal deregulation [of the airline industry] with regulation of their own."[31] The *Ginsberg* Court held that plaintiff's good faith claim was preempted, which requires, in effect, waiver of all future good faith claims that, in theory, could undo the Airlines Deregulation Act of 1978.[32] Similarly, many states exempt employment contracts from good faith claims in order to prioritize a policy of at-will employment.[33] Exemption, too, can be understood as a form of imposed waiver.

Finally, as mentioned above, waiver matters for parties who wish to insulate themselves from the risks associated with evolving community standards. Parties that contract with the duty in force are, presumably, unconcerned with the current state of good faith obligations; otherwise, they would not enter into agreements. Those parties, however, are subject to an unknown good faith obligation of tomorrow, and waiver permits its rejection.

There is a danger that waiver can broadly disadvantage weaker contractual parties, especially consumers, and lead to social loss. This argument was put forward by the plaintiff in *Ginsberg*, who claimed that Northwest had breached a duty of good faith by terminating his frequent flyer contract, leading to his loss of accumulated miles. The Court noted that Northwest would quickly lose its customers if it began terminating frequent flyer contracts haphazardly.[34] Firms that treat their customers badly lose them. For this reason, the danger of a broad, underhanded use of waiver is particularly small in competitive markets. Less competitive markets, on the other hand, may present a risk, but they often involve sophisticated contractual parties of relatively equal bargaining power. In addition, other regulation may check bad behavior. Consider that in cases like *Ginsberg*, the Department of Transportation has the authority to punish unfair and deceptive practices in the

30. *See id.* at 279 (quoting 49 U.S.C. § 41713(b)(1)).

31. *See id.* at 280 (quoting Morales v. Trans World Airlines, Inc., 504 U.S. 374, 378 (1992)).

32. The same is true for any other piece of federal legislation that preempts contractual obligations enlarged by state-based notions of good faith.

33. *See e.g.*, Hunt v. IBM Mid Am. Emp's. Fed. Credit Union, 384 N.W.2d 853, 857–58 (Minn. 1986).

34. *Ginsberg*, 572 U.S. at 288.

sale of air transportation.[35] In other domains, for instance, consumer finance, the law prohibits similar misconduct.[36] The dangers of waiver are therefore small.[37] Its authorized use should be expanded inasmuch as it insulates parties from risks presented by the unknown community norms of tomorrow.

I.
AN EMPIRICAL INTERPRETATION OF CONTRACTUAL GOOD FAITH

A. *The Excluder and Recapture Theses*

Both the Summers and Burton studies hand-select several dozen cases to support their particular approach to good faith. While the Summers study appears fairly agnostic on its face, its goal was to elevate contractual good faith performance to a recognized, positive doctrine in pursuit of justice. This goal is clarified in a follow-up article that Summers wrote following the publication of the Second Restatement, which explicitly recognized that "[e]very contract imposes upon each party a duty of good faith and fair dealing in its performance and its enforcement."[38] According to Summers:

> Section 205 represents a major advance . . . [T]he section symbolizes a commitment to the most fundamental objectives a legal system can have—justice, and justice according to law. Thus, it is of a piece with explicit requirements of "contractual morality" such as the unconscionability doctrine and various general equitable principles. The increasing recognition of such requirements is one of the hallmarks of the law of our time.[39]

Summers details a number of instances of contractual bad faith and sorts them into broad headings. His categories are mirrored in the Second Restatement and consist of (1) evasion

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35. *See* 49 U.S.C. § 41712(a) (2018).

36. *See* Christopher L. Peterson, *Consumer Financial Protection Bureau Law Enforcement: An Empirical Review*, 90 TUL. L. REV. 1057, 1061 (2016) (describing the Consumer Financial Protection Bureau's power to restrict "unfair, deceptive, or abusive acts or practices").

37. This assertion is supported by the empirical analysis *infra* Sections I.C–D.

38. RESTATEMENT (SECOND) OF CONTRACTS § 205 (Am. Law. Inst. 1981).

39. Robert S. Summers, *The General Duty of Good Faith—Its Recognition and Conceptualization*, 67 CORNELL L. REV. 810, 811 (1982) (footnotes omitted).

of the spirit of the bargain; (2) lack of diligence and slacking off; (3) willful rendering of imperfect performance; (4) abuse of a power to specify terms; and (5) interference with or failure to cooperate in the other party's performance.[40]

Burton's study, which, by contrast, emphasizes the importance of reasonable expectations—and specifically, the expectation that the promisor gives up discretion to recapture opportunities that are foregone through contracting with the promisee—also provides a number of cases, but makes no attempt to catalog them into broad headings. Burton seems to attempt something closer to formulating a specific rule, certainly more so than Summers, who characterizes good faith as a "safety valve" available to judges when formalism fails.[41]

On the surface, the difference appears to present stark contrast. As noted above, the Supreme Court has acknowledged that

> while some States are said to use the doctrine "to effectuate the intentions of parties or to protect their reasonable expectations," other States clearly employ the doctrine to ensure that a party does not "'violate community standards of decency, fairness, or reasonableness.'"[42]

The Court's opinion in *Ginsberg* goes on to explain that the jurisdictions which focus on reasonable expectations often permit contractual parties to waive the implied covenant.[43] States that ensure community standards, by contrast, forbid parties to waive.[44] In those states, "the implied covenant must be regarded as a state-imposed obligation," with occasional exceptions.[45]

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40. *See* RESTATEMENT (SECOND) OF CONTRACTS § 205, cmt. d (AM. LAW. INST. 1981).

41. Summers, *supra* note 39, at 812.

42. Northwest, Inc. v. Ginsberg, 572 U.S. 273, 286 (2014) (citations omitted) (first quoting Burton, *supra* note 7, at 371; then quoting Universal Drilling Co., LLC. v. R&R Rig Service, LLC, 271 P.3d 987, 998 (Wyo. 2012); then citing Summers Summers, *supra* note 39, at 812).

43. *Id.* at 286–87 n.2.

44. *Id.* at 286–87.

45. *Id.* at 287. Minnesota law, for instance, under which the *Ginsberg* case arose, holds that the implied covenant of good faith and fair dealing applies to every contract except for employment contracts. *See* Hunt v. IBM Mid Am. Emp's. Fed. Credit Union, 384 N.W.2d 853, 857–58 (Minn. 1986).

Thus, an associative pattern, or grouping of ideas, emerges in the *Ginsberg* Court's reasoning. On the one hand sits Summers: exclusion of bad faith—a safety-valve for formalism—an open-ended standard that cannot be waived, and one which is formed and refined in accordance with prevailing norms; it is state-imposed. On the other sits Burton: a device for prohibiting the recapture of contractually foreclosed opportunities—a closed-ended rule that can be waived, and one which is formed, and then frozen in time, by the parties themselves and their reasonable expectations of contractual performance; it is imposed voluntarily. As a standard, good faith appeals to the will of the community. As a rule, it appeals to the will of the parties.

FIGURE 1: THE EXCLUDER AND RECAPTURE THESES COMPARED

Excluder Thesis	Recapture Thesis
Summers	Burton
Exclusion of bad faith	Device for prohibiting opportunism
Safety valve for formalism	Protection from judicial meddling
Open-ended standard	Closed-ended rule
Waiver not permitted	Waiver permitted
Community norms	Parties' reasonable expectations
State-imposed	Voluntarily imposed by parties
Will of community	Will of parties

As stark as this contrast appears to be, it does not hold up well under theoretical or empirical scrutiny. The theoretical overlap between the excluder and recapture theses is actually quite dense since both rely on community norms for resolving disputes. Differences between the two are a matter of degree.[46] The empirical analysis below is consistent with this clarification; it provides little evidence of application of the recapture thesis as a rule that protects parties' reasonable expectations.[47] If expectations matter, it is because they are subsumed by the community norms which provide for their protection.

B. *Empirical Strategy*

What makes computational analysis of contractual good faith so attractive is that the doctrine is obscure. One type of

46. *See* discussion *infra* Section II.A.
47. *See* discussion *infra* Section I.C.

skeptic sees good faith devoid of clear-cut meaning.[48] Another asserts that while good faith exists, it remains cryptic and difficult to discern.[49] While some commentators believe that the doctrine's obscurity reflects its breadth,[50] greater breadth and application can illuminate essential principles. Why would wider coverage lead to greater vagueness? It would seem that breadth only obscures doctrine if new observations (cases) add additional variables (case features) that generate new hypotheses about the identity of the doctrine.[51] If wider coverage strengthens existing hypotheses and sharpens meaning, then greater breadth should assist in doctrinal development. And where there is unhelpful overlap, specific categories can be carved out and distinguished. These are the basic techniques of common law reasoning.[52]

On the other hand, there is something to be said for a perpetual state of unhelpful overlap. Imagine that good faith is used as a safety valve as Summers suggests, and that in 1,000 cases, courts find that the defendant "evaded the spirit of the bargain."[53] Suppose further that they all involve a scenario in which a bank cuts off the supply of funds to a borrower and then demands immediate payment. Furthermore, this scenario occurs within two business days—in all 1,000 of the cases—leaving the borrower little time to secure refinancing. In what way has defendant evaded the spirit of the bargain? The problem, of course, is that if there exist 1,000 spirits, then there

48. *See, e.g.*, Tymshare, Inc. v. Covell, 727 F.2d 1145, 1152 (D.C. Cir. 1984) (Scalia, J.) (quoting Summers, *supra* note 3, at 201) ("[T]he concept of good faith in the performance of contracts 'is a phrase without general meaning (or meanings) of its own.'").

49. *See, e.g.*, Mkt. St. Assocs. Ltd. P'ship v. Frey, 941 F.2d 588, 593 (7th Cir. 1991) (Posner, J.) ("[The Wisconsin case law is] cryptic as to its meaning though emphatic about its existence."); *see also* Clayton P. Gillette, *Limitations on the Obligation of Good Faith*, 1981 DUKE L.J. 619, 650 (1981) (suggesting that judges freely attach labels of bad faith).

50. *See* Todd D. Rakoff, *Good Faith in Contract Performance:* Market Street Associates Ltd Partnership v. Frey, 120 HARV. L. REV. 1187, 1189–90 (2007) (noting that a duty of good faith qualifies commercial and other types of performance obligations, including those between employers and employees, which "seem to have a life of their own").

51. *See* Fagan & Levmore, *supra* note 19.

52. *See, passim*, EDWARD H. LEVI, AN INTRODUCTION TO LEGAL REASONING (1962).

53. RESTATEMENT (SECOND) OF CONTRACTS § 205, cmt. d (AM. LAW. INST. 1981).

exist 1,000 rules. Judge Easterbrook has held that the bank may exercise this doubtful contractual right so long as it does not take opportunistic advantage of the borrower's vulnerability.[54] The problem remains evident. Easterbrook illuminated only one of many possible spirits.

This is not to say that his approach is wrong. It only demonstrates that identification of one approach to good faith in 1 of 1,000 lending cases does not eliminate every other possible approach. Over time, plaintiffs' use of failed approaches should diminish in a common system of law, but only if those failed approaches are identified and share commonality with the circumstances of the borrower of today.[55] A borrower that shares little commonality, because factual circumstances are different or because times have changed, may bring a good faith claim that generates yet another new hypothesis about what, exactly, is the spirit of a bargain. A positive correlation between a particular legal claim and its ability to generate new hypotheses about the nature of a doctrine itself is the essence of a standard. Put differently, a standard in this example is 1,000 future potential rules.

Ideally, in terms of identifying the spirit of a bargain, computational text analysis should demonstrate a pattern if one exists. If Easterbrook's approach to good faith, for instance, could be formulated as "contractual parties may exercise doubtful contractual rights so long as they do not take advantage of a counterparty's vulnerability," then the good faith case law should yield terms such as "opportunistic advantage" and "vulnerability" with relative frequency. Moreover, these terms should cluster with "good faith." Consider the recapture thesis. If courts apply good faith to prevent promisors from recapturing opportunities that they explicitly or implicitly sacrificed when entering into a bargain, then the text analysis should yield terms such as "failure to perform" or "performance," paired with terms such as "reasonable expectations,"

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54. *Compare* Khan & Nate's Shoes No. 2, Inc. v. First Bank of Whiting, 908 F.2d 1351 (7th Cir. 1990) (Easterbrook, J.), *with* KMC, Inc. v. Irving Trust Co., 757 F.2d 752, 760–66 (6th Cir. 1986) (requiring no showing that the bank had taken opportunistic advantage of the borrower's vulnerability).

55. This is because plaintiffs' expectations of victory would be reduced and they would fail to bring claims as a result. *See* Fagan & Khan, *supra* note 13, at 5.

"[outside] opportunity,"[56] "waiver," and "expected performance."

The analysis below is interested in sketching the broad contours of contractual good faith. In other words, is it the excluder thesis or the recapture thesis that is applied with frequency across the universe of contractual good faith cases in American law? As with most doctrinal scholarship, leading studies of good faith such as Burton's and Summers' consist of hand-selecting cases to support a theory or formulate a rule. This approach can generate "selection bias," in which preselecting data to support a preferred theory distorts a conclusion. While in other disciplines, random experiments are generally preferred—especially for the identification of causal relationships[57]—the problem of selection bias can be less severe in legal scholarship given an objective of simple rule description. The problem is simplified further still, given the hierarchy of courts because a single case from a high court is often sufficient for describing a rule. For example, *Marbury v. Madison* is sufficient "data" for asserting the Supreme Court has established that courts have the power to invalidate laws that violate the Constitution.[58] Cherry-picking *Madison* is actually efficient because there is no variance: whether n equals 1 or 1000 still yields the same result. As a doctrine becomes increasingly contingent upon circumstance, increasing n is helpful, so long as (i) the number of hypotheses remains manageable when examining additional cases; (ii) a pattern can be discerned; and (iii) the environment in which those circumstances obtain is sufficiently regular over time and space.[59] When these three conditions are met, a highly circum-

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56. Outside is bracketed because the text analysis might only reveal the term "opportunity" collocated with the terms "performance" and "reasonable expectations." In that case, outside would be implied.

57. *See* Michael Abramowicz, Ian Ayres & Yair Listokin, *Randomizing Law*, 159 U. PENN. L. REV. 929, 929 (2011) (discussing the merits of randomized experiments for identifying causal relationships).

58. Marbury v. Madison, 5 U.S. (1 Cranch) 137 (1803).

59. On the manageable number of hypotheses, see PEDRO DOMINGOS, THE MASTER ALGORITHM 73–74 (2015), which notes that the number of hypotheses can grow exponentially with new cases since each new case can often introduces new variables. On pattern observability and environmental consistency, see LESLIE VALIANT, PROBABLY APPROXIMATELY CORRECT 61–62 (2013), which notes that learning can only occur if a pattern is observable and the environment in which that pattern appears is sufficiently stable.

stantial doctrine can be identified with specificity along the lines of Burton's approach.

Against this background, it is easy to see why Burton's thesis could be incomplete. While contractual good faith doctrine may be relatively "settled" so that the environment in which a case is decided is sufficiently regular over time and space to articulate a rule, the larger questions may be whether the number of case features is sufficiently small for hypothesis management, and relatedly, whether a pattern (or patterns) can be discerned across the universe of good faith cases. Summers' approach may be easier to vindicate. Instead of mining the cases for a pattern of recapture, which is specific, the cases only need to show a pattern of circumstantial exclusion, which is broad. On the other hand, if recapture is well-defined and frequently applied by courts, then the thesis should be broadly manifest nonetheless, regardless of surrounding factual circumstances and variety.

1. *Data*

Data was collected from the CourtListener archives. CourtListener collects legal opinions from court websites and data donations. To date, the database consists of 4,134,439 judicial opinions, including the complete United States Reports from 1759, the complete second series of the Federal Reporter, and volumes 1 through 491 of the third series.[60] More recent cases are scraped from the internet daily.[61] In addition to the federal case law, the database contains comprehensive collections of state court opinions, in which coverage begins in the eighteenth or nineteenth centuries for most state supreme courts, and in the nineteenth or twentieth centuries for most appellate and lower courts.[62]

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60. *Data Coverage—What's in CourtListener?*, COURTLISTENER.COM, https://www.courtlistener.com/coverage/#opinions (last visited Jan. 28, 2019).

61. CourtListener runs over 200 scrapers per day. As of 2019, they have contributed 1,609,270 opinions to the archive. *Id.*

62. *Available Jurisdictions*, COURTLISTENER.COM, https://www.courtlistener.com/api/jurisdictions/ (last visited Jan. 28, 2019). Because CourtListener scrapes cases from multiple sources, including directly from federal courts, coverage of federal cases extends beyond volume 491 of the Federal Reporter.

The universe of American contractual good faith is quite large. A search of CourtListener for the stemmed[63] term "contract" within ten words of the term "good faith" produced 20,987 judicial opinions.[64] Without preprocessing,[65] the body of 20,987 opinions consists of 1,612,107 unique words.

The corpus was preprocessed by removing punctuation, numbers, stop words,[66] and a specially constructed list of approximately 100 words often used in law that routinely appear across the opinions, but offer little analytical power.[67] In addition, words were transformed to lower case and stemmed.[68] Preprocessing reduced the number of unique words to 407,221. Finally, sparse terms were removed at the 98% level, further reducing the number of unique words to a manageable 5,051.

A random sample of 2,000 opinions was constructed from the corpus. Preprocessing the sample returned 5,070 unique words, consistent with the 5,051 returned by the entire corpus

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63. In textual analysis, stemming is the process of removing the inflectional endings of words in order to return them to their dictionary base. In this example, results such as contracts, contracting, contracted, and contractual are included in the search.

64. The date that each opinion was published ranges from 1796 to 2018. Of the total number of opinions collected, 313 opinions were published in the eighteenth and nineteenth centuries. Thus, the corpus primarily consists of opinions from the twentieth and twenty-first centuries. Corpus is a term of art used to describe the total number of texts examined in a text mining project. Here, it refers to the 20,987 judicial opinions produced by the keyword search on contractual good faith.

65. Preprocessing is the practice of preparing a corpus for computational analysis by carrying out mundane tasks such as the removal of punctuation, spaces, and metadata; and the minor modification of words. *See* Frank Fagan, *Big Data Legal Scholarship: Toward a Research Program and Practitioner's Guide*, 20 VA. J.L. & TECH. 1, 49–52 (2016) (describing preprocessing and giving examples).

66. Stopwords consist of articles, helping verbs, prepositions, and other similar words that occur frequently within and across texts. They are removed because they provide little power for identifying specific topics. *See* David D. Lewis et al., *RCV1: A New Benchmark Collection for Text Categorization Research*, 5 J. MACHINE LEARNING RES. 361 app. 11 (2004).

67. A list of these words is provided *infra* Appendix II.

68. On corporal stemming, see Fagan, *supra* note 65, at 50; *see also* C.J. Van Rijsbergen, *A Non-Classical Logic for Information Retrieval*, 29 THE COMPUTER J. 481 (1986), *reprinted in* READINGS IN INFORMATION RETRIEVAL 268 (Karen Sparck Jones & Peter Willett eds., 1997); Michael F. Porter, *An Algorithm for Suffix Stripping*, 14 PROGRAM 130, 130 (1980).

of 20,897 opinions. This suggests that randomly sampling approximately 10% of the population yields a sample that approximates the population's true features, and that little has been lost analytically from the sample's construction. For this reason, and for computational efficiency, the sample is used for evaluating the optimal number of topics, and for building the various topic models.

As an initial step in carrying out testing, the corpus terms were tokenized into bigrams. This procedure converts singular one-word terms into singular two-word terms.[69] For instance, bigram tokenization of the phrase "class action working" results in two singular terms "class_action" and "action_working" that are used for analysis. Because language is coherent, and words are not ordered randomly in judicial opinions, tokenization can strengthen analytical power and precision. A topic model built from data that includes the phrase "class action working" might inaccurately generate a topic related to working-class activism, for instance, while a tokenized corpus should avoid that inaccuracy.

After tokenizing the terms of the 2,000 randomly sampled opinions into bigrams, sparse terms were removed at the 98% level to facilitate computational efficiency.[70] The final vocabulary of the corpus consists of 2,850 terms.

2. *Topic Modeling*

A useful tool for discerning broad categories across textual data is topic modeling.[71] In law, topic modeling has been fruitfully applied to discern categories within corporate veil-piercing and successor liability doctrine.[72] It has also been

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69. *See* Fagan, *supra* note 65, at 52–57 (providing an example of bigram tokenization).

70. *Id.* at 51 (describing sparse term removal).

71. *Id.* at 74–77 (describing the use of topic models in doctrinal legal scholarship).

72. *See* Jonathan Macey & Joshua Mitts, *Finding Order in Morass: The Three Real Justifications for Piercing the Corporate Veil*, 100 CORNELL L. REV. 99, 99 (2014) (providing topic models of veil-piercing); Frank Fagan, *From Policy Confusion to Doctrinal Clarity: Successor Liability from the Perspective of Big Data*, 9 VA. L. & BUS. Rev. 391, 391 (2015) (providing topic models of successor liability).

used to measure narrower features of textual data, such as shifting styles of Supreme Court opinions over time.[73]

Each topic model consists of a number of topics, which generates various words with high or low probabilities. For instance, the topic "securities law" can generate the words fraud, statement, and shares with relatively high probabilities; and alimony, children, and spouse with low probabilities. The topic model assigns a judicial opinion to one or more topics based upon that opinion's underlying distribution of words.[74] If an opinion contains the word "fraud" 10 times, "shares" 6 times, and "children" 3 times, it might assign that opinion to the topic "securities law." If it contains "children" 7 times, "fraud" 5 times and "statement" 2 times, it might assign it to both "securities law" and "family law."

3. *Number of Topics*

How many topics should an ideal topic model contain? Earlier techniques for evaluating the optimal number of topics across a corpus of judicial opinions consisted of arbitrarily selecting a number of topics and evaluating the output word lists of the topic model. If the word lists appeared incoherent, then the number of topics was adjusted upward or downward until the lists made sense.[75] This approach necessarily introduces discretion and opens the door for replication problems. Current techniques involve splitting the corpus into training and testing sets, constructing the topic model across the documents contained within the training set, and then measuring how well the word counts of the test documents align with the word distributions represented by the topics constructed from the training data.[76] This technique measures the "perplexity"

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73. Michael A. Livermore, Allen B. Riddell & Daniel N. Rockmore, *The Supreme Court and the Judicial Genre*, 59 ARIZ. L. REV. 837, 837 (2017).

74. *See, e.g.*, Fagan, *supra* note 65, at 74–77 (describing topic modeling).

75. *See, e.g.*, Macey & Mitts, *supra* note 72, at 151 (providing three-, four-, five-, and six-topic-models of veil-piercing doctrine and asserting that "topics organize more or less along the lines of the three-theory justification that we posit"); Fagan, *supra* note 72, at 411 n.77 (noting that estimates of three-, four-, and five-topic models of successor liability doctrine produced similar results).

76. *See* Jian Tang et al., *"Look Ma, No Hands!" A Parameter-Free Topic Model*, ARXIV:1409.2993V1 [CS.LG], Sep. 10, 2014, at *1. For an explanation with code, see Peter Ellis, *Cross-Validation of Topic Modeling*, FREE RANGE STAT. (Jan. 5, 2017), http://freerangestats.info/blog/2017/01/05/topic-model-cv.

of the topic model. As a numerical value, perplexity does not reveal much, but the technique itself is useful for making relative comparisons between topic models of variable numbers of topics.

When cross-validating, the analyst examines the word counts of a judicial opinion set aside in the test data. If these counts align relatively well with the word distributions identified by the trained topic model, then the trained model is less perplexed. Say, for instance, an opinion from the test set contains the words "fraud" 5 times and "children" 5 times. If fraud and children are weighted equally for the "securities law" and "family law" topics, then the topic model might assign the document to both topics. If the trained topic model had divided "family law" into two distinct topics on "domestic child custody" and "international child custody," then the opinion might have been assigned to the latter group and the model may have been less perplexed. Thus, in this example, cross-validation helps answer whether the word counts of the test data align better with a two-topic model versus a three-topic model, and in general, cross-validation helps answer the question of how many topics is ideal. But note that the number of the topics for the training model must still be selected. In practice, selection consists of arbitrarily selecting various numbers of topics to model across the training set, and then trying them out (or cross-validating them) on the test set for best fit.[77]

Several approaches avoid cross-validation altogether. They analyze the entire dataset for maximum likelihood (or minimum Kullback-Leibler divergence) of the number of topics by examining the number of unique words and other features of

77. Weizhong Zhao et al., *A Heuristic Approach to Determine an Appropriate Number of Topics in Topic Modeling*, 16 (Suppl 13) BMC BIOINFORMATICS *S8 (2015). Zhao et al. explain that "researchers have no recourse beyond an informed guess or time-consuming trial and error evaluation" and that "an iterative approach is typical based on presenting different models with different numbers of topics, normally developed using cross-validation on held-out documents sets, and selecting the number of topics for which the model is least perplexed by the test sets." Still, the authors contend that while "the perplexity-based method may generate meaningful results in some cases, it is not stable and the results vary with the selected seeds even for the same dataset." *Id.*

the corpus.[78] These approaches attempt to find the optimal number of topics "without manually tuning the number of topics" as is done with cross-validation.[79] The tool, "ldatuning," provides a straightforward, but computational-intensive, approach to applying these methods.[80] It estimates the optimal number of topics by using four well-known techniques.[81]

C. *The Recapture Thesis Topic Models*

1. *Full Data Set*

Applied to the full sample of 2,000 judicial opinions, the R package ldatuning and cross-validation suggested a topic model of 160 topics or more. The results of ldatuning are displayed below. As an approximation of goodness of fit, the package textmineR provides a measure of R^2, which can be interpreted as the proportion of variability in the data explained by a given topic model.[82] A 90-topic model measured 0.9562, indicating that most variability could be explained with fewer topics.[83] As a result, 90 topics were chosen to facilitate computational efficiency.

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78. *See, e.g.*, Thomas L. Griffiths & Mark Steyvers, *Finding Scientific Topics*, PROC. NAT'L ACAD. SCI. 5228, 5231–32 (2004) (using maximum likelihood); Juan Cao et al., *A Density-Based Method for Adaptive LDA Model Selection*, 72 NEUROCOMPUTING 1775, 1775 (2009) (using a density-based approach); R. Arun et al., *On Finding the Natural Number of Topics with Latent Dirichlet Analysis: Some Observations*, *in* ADVANCES IN KNOWLEDGE DISCOVERY AND DATA MINING 391, 391 (Padhraic Smyth et al. eds., 2010) (using symmetric Kullback-Leibler divergence of the salient distributions derived from factors of corpus and vocabulary size); Romain Deveaud, Eric SanJuan & Patrice Bellot, *Accurate and Effective Latent Concept Modeling for Ad Hoc Information Retrieval*, 17 DOC. NUMÉRIQUE 61, 63 (2014) (using maximum likelihood).

79. Cao et al., *supra* note 78, at 1775.

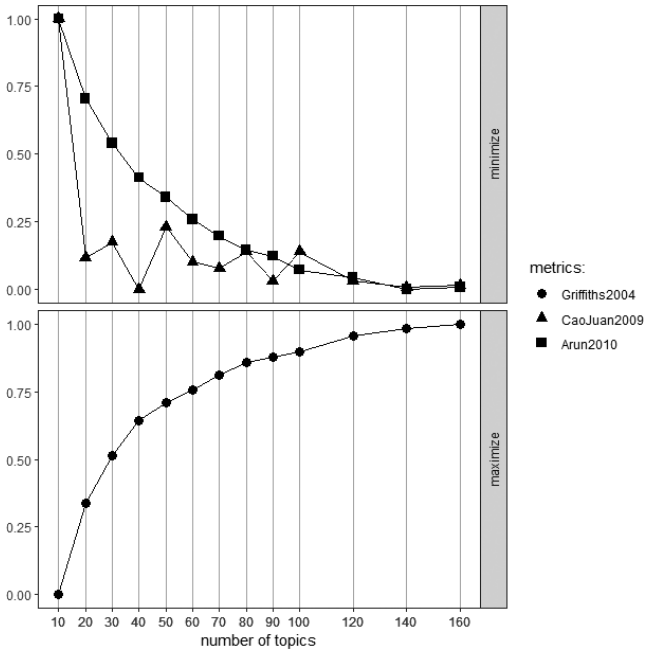
80. *See* Nikita Murzintcev, *LDA Tuning Vignette*, CRAN.R.PROJECT.ORG, https://cran.r-project.org/web/packages/ldatuning/vignettes/topics.html (last updated May 12, 2019).

81. The four techniques are described in each of the articles cited *supra* note 78.

82. For a formal treatment, see Thomas W. Jones, A Coefficient of Determination for Topic Models (unpublished manuscript) (on file with author); s*ee also* Thomas W. Jones, *Topic Modeling*, CRAN.R.PROJECT.ORG, https://cran.r-project.org/web/packages/textmineR/vignettes/c_topic_modeling.html (last updated Apr. 17, 2019).

83. Measures of R^2 for models with fewer topics were markedly reduced, while measures with a greater number of topics were either slightly increased

FIGURE 2: OPTIMAL NUMBER OF TOPICS, CONTRACTUAL GOOD FAITH BIGRAM CORPUS, N = 2000



Recall that if the recapture thesis is widely used by courts, then the text analysis should yield terms such as "failure to perform" or "performance," paired with terms such as "reasonable expectations," "[outside] opportunity," "waiver," and "expected performance."

Of the 90 topics, only six include relative frequent use of terms related to failure to perform a contractual obligation. For instance, Topic 27 includes the terms "faith perform[ance]," "failure[e] [to] perform," and "duty [to] perform" within that topic's list of top thirty most frequent terms. Similarly, Topic 52 includes the terms "oblig[ation] [to] perform" and "failure[e] [to] perform" within its top-thirty list. However, none of those topics include relatively frequent use of terms that would indicate application of the recapture thesis. That is, the topic model does not reveal collocated usage of

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or decreased. For instance, a 20-topic model returned an R^2 of 48%. Models of 70 and 100 topics returned values of 92% and 96% respectively.

failed performance with either disregarding a counter-party's reasonable expectations or pursuing foreclosed opportunities. Just three topics include the term "reason[able] expect[ations]." In two of them, that term appears with "bad faith," suggesting that courts more often describe the disregard of a promisee's reasonable expectations as an act of bad faith.

TABLE 1: PREVALENCE OF TOPICS RELATED TO THE RECAPTURE THESIS[84]

18		33		64	
faith fair	0.146449	calrptrd pd	0.054002	duty good	0.155765
coven[ant] good	0.146028	legal oblig[ation]	0.032401	good faith	0.155057
good faith	0.139351	oblig[ation] pay	0.030853	faith fair	0.128316
impli[ed] coven[ant]	0.123378	id p	0.025396	breach duty	0.077149
breach[ed] impli[ed]	0.084134	calrptr pd	0.024430	fair deal	0.076453
fair deal	0.079722	supra calth	0.020292	fair dealing	0.049676
fair dealing	0.064438	calth calrptrd	0.019918	impli[ed] duty	0.027438
breach coven[ant]	0.031542	ital[ics] added	0.017433	reason[able] basi[s]	0.009371
breach breach	0.007732	object[ive] reason	0.017428	owe duty	0.009254
impli[ed] covenant	0.005925	ins[urance] co	0.017336	contractu[al] relationship	0.009071
violat[ed] impli[ed]	0.005918	insur[ed] duty	0.013730	violat[ed] duty	0.009058
express term	0.005753	duty indemnify	0.013055	bad faith	0.008296
right receiv[ed]	0.005242	id pp	0.012283	materi[al] breach	0.008184
bad faith	0.004730	calth p	0.011866	affirm[ative] defens[e]	0.005436
reason[able] expect[ations]	0.004678	reason[able] expect[ations]	0.010989	breach good	0.005331
set forth	0.003765	policy languag[e]	0.009915	breach impli[ed]	0.004969
injur[y] right	0.003641	th fd	0.009909	deal fair	0.004966
deal impli[ed]	0.003629	supra cald	0.009666	give rise	0.004364
violat[ed] coven[ant]	0.003478	liabil[ity] insur[ance]	0.008713	insur[ance] company	0.004279
breach express	0.003437	insur[ance] compan[y]	0.008443	special relationship	0.004232
constitut[e] breach	0.003279	property damage	0.008068	breach duty	0.003791
give rise	0.003161	becom[e] legal	0.007989	set forth	0.003635
express provis[ion]	0.002761	insur[ance] company	0.007845	count iv	0.003515
contain impli[ed]	0.002664	cost incur	0.006909	basi[s] deni[al]	0.003485
receiv[e] benefit	0.002653	cald calrptr	0.006873	delay payment	0.003435
express[ly] impli[ed]	0.002626	superior calth	0.006855	breach insur[ed]	0.003162
neither anyth[ing]	0.002480	co calth	0.006844	breach breach	0.003137
impli[ed] duty	0.002270	right seek	0.006666	reason[able] expect[ations]	0.002953
express contractu[al]	0.002241	cal rptrd	0.006516	knew known	0.002799
dealing breach	0.002167	chemic[al] corp	0.006369	insur[ance] policy	0.002518
3.2% (2 of 90)		0.3% (87 of 90)		1.7% (13 of 90)	

More intriguing is the relative infrequent use of reasonable expectations throughout the contractual good faith topic model. Table 1 provides a measure of topic prevalence. Each column represents a topic. The figure at the bottom of each column is the average probability that any judicial opinion in

84. The top row indicates the topic number. The second column of each topic indicates the per-topic-per-word probability, sometimes called "beta," which is the probability that the bigram in the first column belongs to the topic. *See* Julia Silge & David Robinson, *Topic Modeling*, TEXT MINING WITH R, https://www.tidytextmining.com/topicmodeling.html (last updated Mar. 7, 2020).

the entire contractual good faith corpus, based upon its bigrams, belongs to that topic.[85] Note that these average probabilities across the three topics which include the term "reason[able] expect[ations]" sum to 6.6%. In other words, the topic model suggests that 6.6% of contractual good faith opinions discuss the reasonable expectations of parties in relative detail.

The implication is clear. While Burton's study can point to a number of cases where courts apply good faith doctrine in order to prohibit promisors from recapturing opportunities, there is no broadly discernible pattern of judicial application of the recapture thesis when those cases are situated within the broader universe of contractual good faith cases. The term "reason[able] expect[ations]" does not appear with "failure[e][to] perform" in a top-thirty list. In fact, it appears alongside of "bad faith." None of the topics includes "opportun[ity]."[86] All of this suggests that the application of the recapture thesis is relatively infrequent, or that judges briefly mention the idea in passing.

Why might recapture terms sparsely populate the contractual good faith corpus? Most obviously, parties contracting within jurisdictions that do not permit waiver of a good faith obligation rely more on community norms to define good faith than jurisdictions which do permit waiver.[87] In non-waiver jurisdictions, the number of mentions of protecting parties' reasonable expectations and recapturing already-contracted opportunities should be fewer. On the other hand, parties contracting within jurisdictions that permit parties to waive the implied covenant rely more on party expectations, and the number of mentions related to the recapture thesis

85. Each judicial opinion in the corpus consists of word counts. The more words that an opinion shares with a topic, the higher the probability that the opinion belongs to that topic. *See id.* The topic model computes the probability that an opinion belongs to a particular topic for each opinion. *See id.* Averaging these probabilities gives an indication of how prevalent the topic is throughout the contractual good faith corpus. *See* Julia Silge, *Training, Evaluating, and Interpreting Topic Models*, JULIASILGE.COM (Sept. 8, 2018), https://juliasilge.com/blog/evaluating-stm/.

86. In addition, "opportun[ity]" does not appear in a single top-thirty list when the topic model is constructed from single-word tokens instead of bigrams. *See infra* Appendix I, Figure 6.

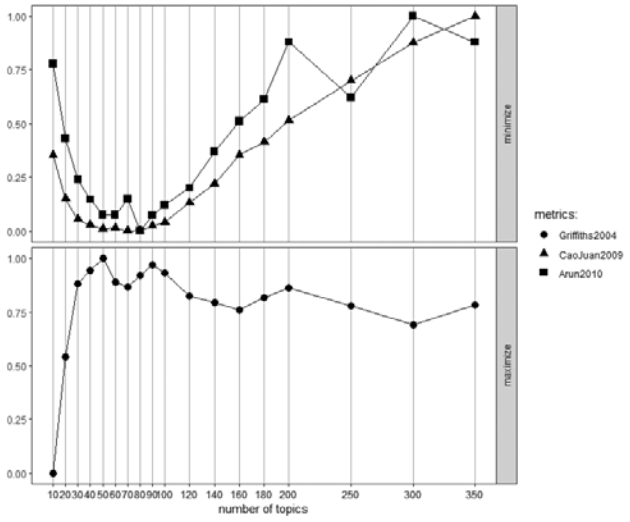
87. Northwest, Inc. v. Ginsberg, 572 U.S. 273, 286 (2014).

should be greater. In the following subsection, non-waiver states are removed.

2. *Waiver States Data Set*

The *Ginsberg* Court lists 3 jurisdictions that permit waiver and 10 that do not.[88] Of the 2,000 randomly sampled cases from the good faith corpus, 91 applied the law of waiver states.[89] Application of ldatuning and textmineR indicated an optimized 40-topic model.[90]

FIGURE 3: OPTIMAL NUMBER OF TOPICS, WAIVER STATE BIGRAM CORPUS, N = 91



Of the 40 topics, none include the term "waiv[er]" as a top-thirty term. This is the first indication that the difference between waiver and non-waiver jurisdictions is trivial. While promisees that waive the application of good faith cannot reasonably expect that a promisor will refrain from recapturing foregone contractual opportunities in order to satisfy a waived covenant, the waiver-state topic model suggests that the num-

88. *Id.* at 286–87 n.2.

89. Most of these cases were decided by state courts, though a number of Californian cases were decided by the Ninth Circuit Court of Appeals.

90. Figure 3 shows some divergence among the three models. Given the results of the textmineR R^2 score, 40 topics were modeled.

ber of instances where parties actually waive the implied covenant may be few. Consider that an Illinois appellate court, in 2015, was "unable to locate, a single Illinois case in which a court upheld an express disavowal of the implied covenant."[91] Further, the court noted that "[p]laintiff's counsel conceded at oral argument that he is aware of no Illinois case in which a party has expressly disavowed the covenant of good faith and fair dealing."[92] Inasmuch as Illinois is indicative of other jurisdictions, it should be unsurprising that waiver fails to appear in the topic models.

If parties are not waiving the implied covenant, even when waiver is permitted, then good faith can still protect a promisee's reasonable expectation that the promisor will refrain from recapturing contractually foreclosed opportunities. Even so, none of the terms associated with the recapture thesis appear within the list of top-ten terms of the topic model constructed from the waiver data set. When examining the top-thirty terms, however, several usages suggestive of recapture appear. First, the term "reason[ ] belief" appears in a topic related to good faith purchase and mortgages. Second, the term "just[ ] reasonable" appears in a topic related to consumer protection and utility rates. As members of a top-thirty list, both score very low in terms of topic-word density.[93] In other words, the topic model relies very little on these terms to identify the topics since they appear so infrequently. No top-thirty list contains a term related to expectations.

It might be expected that waiver states would rarely discuss bad faith since waiver courts care less about state-imposed community standards of good faith and more about the will of the parties. However, the term "bad faith" appears in the top-ten lists of two topics, which account for 5.5% of the waiver opinions in terms of topic prevalence. This suggests that community standards matter to some degree, even in waiver jurisdictions. This point will be discussed further *infra* Section II.A.

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91. Spadoni v. United Airlines, Inc., 2015 IL App (1st) 150458 ¶ 29.

92. *Id.* ¶ 29 n.2.

93. In particular, the topic-word density score, or beta, of "reason[ ] belief" is 0.001288, which is approximately four times as small as the number one word in the topic list, "lis penden[ ]," which scores 0.004121. The topic-word density score of "just[ ] reasonable" is 0.001342, which is approximately twelve times as small as the number three word in the topic list, "nevada power," which scores 0.012614.

D. *The Excluder Thesis Topic Models*

1. *Full Data Set*

Recall that Summers hypothesizes that contractual good faith doctrine is used to exclude instances of bad faith. If the excluder thesis is widely used by courts, then the text analysis should demonstrate usage of the term "bad faith" alongside a variety of factual circumstances.

Of the 90 topics, seven include the term "bad faith." The topics that include that term suggest that bad faith is often described in a variety of factual scenarios including: refusal to pay an insurance claim without reasonable basis (Topic 24), construction work (Topic 61), and unfair and deceptive trade practices (Topic 64).

TABLE 2: PREVALENCE OF TOPICS RELATED TO THE EXCLUDER THESIS

18		24		25		46	
faith fair	0.146449	bad faith	0.411011	new york	0.069139	fd st	0.104068
coven[ant] good	0.146028	act bad	0.041371	neglig misrepresent	0.040567	d fla	0.061627
good faith	0.139351	ins co	0.032288	good faith	0.020801	mass ned	0.045147
impli[ed] coven[ant]	0.123378	good faith	0.023183	illdec ned	0.020474	rhode island	0.021162
breach[ed] impli[ed]	0.084134	refus pay	0.021368	neglig misrepresentation	0.020156	new hampshir	0.019372
fair deal	0.079722	tort bad	0.019532	fd d	0.016779	count ii	0.019353
fair dealing	0.064438	faith refus	0.014835	faith fair	0.016476	co fd	0.016428
breach coven[ant]	0.031542	faith breach	0.014411	independ contractor	0.016047	good faith	0.01529
breach breach	0.007732	punit damages	0.010073	unjust enrich	0.01446	count iii	0.012001
impli[ed] covenant	0.005925	insur bad	0.009887	illappd illdec	0.013641	co d	0.011665
violat[ed] impli[ed]	0.005918	failur pay	0.008265	fiduciari relationship	0.013124	set forth	0.011114
express term	0.005753	breach bad	0.007214	fiduciari duti	0.013108	corp fd	0.009645
right receiv[ed]	0.005242	faith insur	0.007189	promissori estoppel	0.011448	circuit judge	0.008536
bad faith	0.004730	act good	0.006829	fair deal	0.011149	co mass	0.008469
reason[able] expect[ations]	0.004678	constitut bad	0.006784	coven good	0.010219	et al	0.007331
set forth	0.003765	breach insur	0.006683	bad faith	0.008695	term condit	0.007249
injur[y] right	0.003641	delay payment	0.006175	us sct	0.008456	ch âļ	0.00696
deal impli[ed]	0.003629	insur policy	0.006088	set forth	0.008159	ins co	0.006262
violat[ed] coven[ant]	0.003478	farm fire	0.00502	impli coven	0.007977	intent interfer	0.006028
breach express	0.003437	basi deni	0.00502	breach fiduciari	0.007869	interfer contractu	0.005219
constitut[e] breach	0.003279	pay insur	0.004849	breach impli	0.007389	emphasi added	0.004989
give rise	0.003161	recogn tort	0.004572	fd th	0.007043	count iv	0.004874
express provis[ion]	0.002761	duti good	0.004449	fsupp sdny	0.006623	unit d	0.004843
contain impli[ed]	0.002664	cas co	0.004446	place busi	0.006179	reason infer	0.004757
receiv[e] benefit	0.002653	reason basi	0.004439	relationship parties	0.00613	light favor	0.004674
express[ly] impli[ed]	0.002626	benefit due	0.004361	duti good	0.006087	contractu relationship	0.00464
neither anyth[ing]	0.002480	pay benefit	0.004258	supra fd	0.005983	bad faith	0.00447
impli[ed] duty	0.002270	fire ins	0.004254	fiduciari duty	0.005973	emphasi supplied	0.004454
express contractu[al]	0.002241	co d	0.004221	nysd ned	0.00594	citat omitted	0.004316
dealing breach	0.002167	fire amp	0.004029	sct ledd	0.005922	fd n	0.004168
3.2% (2 of 90)		1.5% (18 of 90)		.3% (86 of 90)		.1% (38 of 90)	

60		61		64	
ins co	0.041173	insur code	0.073094	duti good	0.155765
bad faith	0.038835	loss use	0.029653	good faith	0.155057
insur compani	0.037238	texa insur	0.023426	faith fair	0.128316
good faith	0.029761	ins code	0.021371	breach duti	0.077149
polici limit	0.029393	insur polici	0.018329	fair deal	0.076453
insur insur	0.021095	code âļ	0.01588	fair dealing	0.049676
polici limits	0.020561	polici period	0.014574	impli duti	0.027438
insur co	0.018866	refus pay	0.011359	reason basi	0.009371
insur polici	0.014911	swd tex	0.011312	owe duti	0.009254
insur company	0.014136	unfair decept	0.011185	contractu relationship	0.009071
breach duti	0.012611	good faith	0.01093	violat duti	0.009058
insur breach	0.011636	insur compani	0.010666	bad faith	0.008296
settlement offer	0.011084	art âļ	0.010664	materi breach	0.008184
insur duti	0.010925	set asid	0.010173	affirm defens	0.005436
punit damages	0.01037	ins co	0.010098	breach good	0.005331
liabil insur	0.009823	decept act	0.009997	breach impli	0.004969
faith insur	0.009721	punit damages	0.009419	deal fair	0.004966
excess polici	0.008736	bad faith	0.009372	give rise	0.004364
breach insur	0.007951	âļ vernon	0.009299	insur compani	0.004279
duti insur	0.007862	bona fide	0.009255	special relationship	0.004232
casualti co	0.007339	give rise	0.00888	breach duty	0.003791
insur act	0.007022	breach duti	0.008813	set forth	0.003635
fd th	0.006572	faith fair	0.007238	count iv	0.003515
insur fail	0.006558	conduct reason	0.007192	basi deni	0.003485
insur policy	0.00642	deni coverag	0.007106	delay payment	0.003435
reserv right	0.006328	duti good	0.007085	breach insur	0.003162
insur settl	0.006296	answer question	0.007077	breach breach	0.003137
insur bad	0.006288	construct work	0.006593	reason expect	0.002953
automobil insur	0.006279	code ann	0.006589	knew known	0.002799
relationship insur	0.006256	delay payment	0.00638	insur policy	0.002518
1.6% (15 of 90)		.4% (83 of 90)		1.7% (13 of 90)	

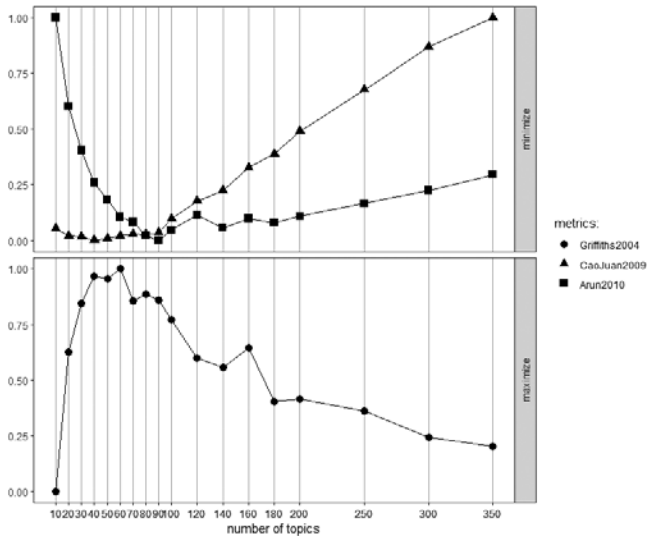
Note that the average probabilities across the seven topics which include the term "bad faith" sum to 8.8%, indicating 25% greater prevalence of its use compared to topics that mention "reason[able] expect[ations]." Consider, too, that if bad faith is described by courts in a variety of circumstances, and the contexts in which bad faith behavior occurs vary greatly, then the topic model would fail to identify clear and repeated themes related to its application. Understood as a product of circumstance, bad faith's domain would naturally

be wide and nuanced, just as Summers had suggested. The data permit this interpretation.

2. *Non-Waiver States Data Set*

Limiting the textual analysis to non-waiver jurisdictions should generate a greater concentration of opinions that rely upon an open-ended bad faith standard. The data demonstrate this tendency. Of the 2,000 randomly sampled opinions, 224 applied the law of the 10 non-waiver states identified by the *Ginsberg* court. As with the waiver-state data, application of ldatuning and textmineR indicated an optimized 40-topic model.[94]

FIGURE 4: OPTIMAL NUMBER OF TOPICS, NON-WAIVER STATE BIGRAM CORPUS, N = 224



Of the 40 topics, 12 include the term "bad faith." Moreover, the term scores highly in terms of per-topic-per-word probability. It is contained within the top-ten lists of 8 topics, and within the top-thirty lists of 4 topics. The average probability that a judicial opinion in the non-waiver sub-sample belongs to 1 of these 12 topics is 25.9%. When excluding

94. The three models in Figure 4 show divergence, and as before 40 topics were selected as a result of the textmineR R^2 score.

the 4 topics in which "bad faith" appears as a top-thirty term, the average probability is reduced to 16.7%. As with the full data set, "bad faith" tends to cluster around a variety of scenarios including bad refusal to pay an insurance claim and construction sub-contracting, and of course, if bad faith is applied circumstantially, then the topic model would not detect every factual scenario inasmuch as topic models do not cluster variety.

E. *Empirical Conclusions*

Empiricists and legal scholars that demand the rigor of contemporary causal inference will, no doubt, be relatively dissatisfied with the suggestive conclusions drawn from contemporary topic modeling and descriptive textual analysis. But it is important to keep in mind that the goal here is to discern the broad contours of contractual good faith doctrine, and whether an exhaustive body of judicial opinions provides evidence that courts tend to apply either of the two leading theories of good faith with regularity. The textual analysis achieves that goal. Terms related to the recapture thesis appear infrequently.[95] Moreover, terms related to failure to perform a contractual obligation do not appear with terms related to reasonable expectations and foregone opportunities with any regularity. This is true even when the judicial opinions are limited to jurisdictions that permit waiver of the implied covenant.[96] Interestingly, the waiver topic model suggests that parties rarely waive good faith obligations.[97] One reason why waiver may fail to appear in the subsample is that parties who waive may do so unequivocally, and waiver may be rarely litigated as a result. Even so, the waiver-state opinions contain the keywords "good faith" and "contract," and the topic word lists indicate that the opinions are indeed related, for the most part,[98] to contractual good faith litigation. Still, none of the waiver-state topics evidence consistent application of the recapture thesis. The topic models do not preclude the possibility that some subsample of cases can be found that evidence some level of recapture thesis application. For instance, each

95. *See* discussion *supra* Section I.C.
96. *See* discussion *supra* Section I.C.2.
97. *Id.*
98. Filtering opinions is discussed *infra* Appendix I.D.2.

of the cases referenced in Burton's study could be used to construct such a subsample. The question of generality remains, however. Just how far can the pattern of recapture extend to the universe of contractual good faith cases? The analysis here suggests not too far.

Summers' approach appears vindicated. On the one hand, an open-ended standard might be easier to discern than a closed-ended rule. After all, an open-ended standard permits variety of factual circumstances in which the good faith doctrine is applied. But the same could be said for rule like recapture. If the rule is applied consistently, then the topic models would have trouble ignoring it since the opinions would tend to cluster around a recapture rationale. Instead, the topic models show a relatively high level of reference to bad faith. Moreover, the topic models show that bad faith is often paired with a number of different factual scenarios as the excluder thesis suggests. Intriguingly, while bad faith appears with greater frequency when examining a subsample of non-waiver states with a prevalence score between 16.7% to 25.9%, bad faith nonetheless appears in a subsample of waiver states with a prevalence score of 5.5%. What might explain this difference? And what might explain the residual use of bad faith in waiver states? There is a need for a better theory.

II.
Two Amendments to the Excluder Thesis

Good faith is a doctrine of circumstance, which means that cases can be preselected to support a particular approach toward describing its parameters. Whether a group of 10, 100, or several thousand cases is sufficient for accurately describing good faith depends upon the variety of circumstances that the doctrine presents.[99] Suppose that good faith is consistently applied to provide relief to promisees when their contractual partners intentionally destroy their rights to receive the fruits of a contract. Here, good faith appears as a rule, and this rule is helpful for describing the doctrine inasmuch as rights de-

99. And whether any number of cases is sufficient for describing the doctrine in terms of a rule depends upon whether a pattern of rule application is discernible and remains within a sufficiently consistent environment over time. *See* Valiant, *supra* note 59.

struction cases limit judges to a narrow use of interpretive discretion.

But now let good faith be applied when a party evades the spirit of a bargain. It makes no difference how much good faith appears as a rule in the rights destruction cases so long as spirit evasion cases permit broad interpretations of breach. Inasmuch as this "rule" is more easily branded by circumstance and nuance than by a consistently narrow fact pattern, good faith, in spirit evasion cases, will always remain more clearly a standard, and straightforward patterns of *stare decisis* will not apply. There will be no refinement or narrowing that, over time, distills a closed-ended principle.

Moreover, new cases that confirm a rule usually increase the posterior probability that the statement of the rule is correct. Good faith cases, however, often involve contractual parties pushing the limits of what is expected, and always appear in normative environments which fluidly define expectations. For instance, in *Market Street Associates*, Judge Posner held that a tenant's failure to remind an owner of contractual terms could be a violation of good faith.[100] The owner, a sophisticated national pension fund, hardly required a reminder on how to apply basic lawyering skills, but the facts demonstrated that the tenant may have been attempting to trick the owner into forcing a sale of the property for less than its market value.[101] The case was remanded to determine the tenant's state of mind.[102] Some commentators explain the breach of good faith in *Market Street Associates* in terms of "'opportunistic behavior' that could not have been contemplated at the time the contract was drafted."[103] This is an inadequate rule or standard. What if the evidence demonstrated that the owner had read the contract, or used a sophisticated contract management software suite to algorithmically identify contractual risk or some other tool which essentially reduces the economic cost of noticing the owner to zero?

Of course additional elements can be added to a rule or standard in order to reach the same result as *Market Street Asso-*

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100. Mkt. St. Assocs. Ltd. P'ship v. Frey, 941 F.2d 588, 595–96 (7th Cir. 1991) (Posner, J.).

101. *Id.* at 596–97.

102. *Id.* at 597.

103. Jeff Ferriell, Understanding Contracts 459 (3d ed. 2014).

ciates, but when parties push the limits of reasonable expectations in fluid normative environments, courts will either need to concatenate a new addition to an old rule or consistently apply a sufficiently broad standard. For instance, *Market Street Associates* was decided in 1990, prior to the rise of contract management software. Today, a pension fund's economic cost of maintaining up-to-date knowledge of its contractual risks is undoubtedly less, which may change one's view of reasonableness. The fluidness of expectations over time can lead to variability in rationale for rule selection even if the rule remains unchanged.[104] For this reason, carving out categories of cases is sometimes helpful, but not always, and in any case, is never sufficient for setting forth an affirmative definition of good faith. Summers' description of good faith as a residual doctrine that functions as a "safety valve,"[105] there to be opened for releasing normative pressure when law is closed, makes sense, especially for the difficult good faith cases. The topic models, in essence, tend to show that good faith claims arise more often in difficult rather than easy cases. This is unsurprising given that both doctrinal and contractual clarity places a downward pressure on claims being brought in the first place.[106]

While Summers has the better of the argument, there remain two puzzles. First, what explains the infrequent use of waiver? Second, what can be said of the "bad faith" cases that appear in waiver states with relative frequency?

A. *Degrees of Waiver and Non-Waiver*

It is tempting, and indeed textually accurate, to think of waiver and non-waiver as a discrete choice. States either permit waiver of the implied covenant or not.[107] Parties contracting

104. If a rule is created on the basis of a set of parameters, and those parameters change, then it is likely that another rule will be superior for that environment. Put differently, if a case introduces new variables, then another rule may be superior. See Fagan & Levmore, *supra* note 19 for further discussion.

105. Summers, *supra* note 39, at 812 (referring to the doctrine as a "kind of 'safety valve' to which judges may turn to fill gaps and qualify or limit rights and duties otherwise arising under rules of law and specific contract language").

106. *See Efficiency of Common Law Hypothesis*, *supra* note 13.

107. *See* Northwest, Inc. v. Ginsberg, 572 U.S. 273, 287 n.2 (2014).

under the laws of California, Idaho, and South Dakota, for instance, can agree to waive an obligation to contract in good faith.[108] What does it mean to waive a standard? If the laws of waiver states clearly forbid rights destruction, then parties can surely destroy each other's contractual rights. Consider, instead, spirit evasion. Imagine again, that a bank cuts off funds from a borrower who has no time to refinance. In order for the bank to benefit from waiver, the court must firstly determine that the bank's behavior constitutes a breach of good faith. If it determines otherwise, say, because the borrower was not in a vulnerable position, then the litigation likely comes to an end absent a residual claim. In either scenario, the borrower is less likely to file suit. Waiver may involve an additional step in the litigation process, but it is effective. Perhaps a waiver-state court may be more likely to find a valid claim with other doctrine, but good faith would be unavailable. If good faith is simply the recapture of foregone opportunities, then waiver only narrowly reduces the obligations of parties. If good faith is a safety valve, then waiver reduces contractual obligations substantially.

Nonetheless, permission to waive is itself a product of community standards inasmuch as law represents the will of the community. Maybe a state believes that only its most cutthroat businesspersons will agree to waive good faith obligations, and is content to leave disparities in bargaining power to competitive market mechanics.[109] Consider that the federal law can preempt contractual good faith claims.[110] Preemption in those instances can be understood as a type of federally mandated waiver based upon a public policy embodied in a given federal statute. Presumably, that public policy comes from the community. Consider, too, that non-waiver states carve out exceptions to permit waiver of good faith obligations, for instance, in employment contracts, in order to prioritize a state policy of at-will employment.[111] The point is that

108. *See id.*

109. *Cf. id.* at 288 (noting that preemption of implied good faith claims does not completely leave consumers who enter into frequent flyer agreements without protection since airlines are subject to free market operations).

110. *See id.*

111. *See, e.g.*, Hunt v. IBM Mid Am. Emps. Fed. Credit Union, 384 N.W.2d 853, 857–58 (Minn. 1986).

waiver may elevate the will of the parties, but only because the community has authorized and cabined their wills. Communities that permit waiver may understand that waiver will rarely be used opportunistically because it will be used between parties with symmetrical bargaining ability and precluded by parties with asymmetrical ability via competitive processes.[112] If so, then waiver will scarcely be litigated. This may explain why waiver does not appear in the topic models, and why the difference between waiver and non-waiver jurisdictions is largely trivial in practice.

B. *Evolving Community Standards*

Given that waiver is only permitted by the consent of the community, differences in state-imposed versus voluntary obligations of good faith are a matter of degree. Taken to the extreme, one could argue that all good faith obligations are community-based, since parties require community acquiescence to waive. Return again to the bank example. Suppose the borrower and bank agree to waive all good faith performance obligations. A month later, the bank immediately cuts off funds, but the borrower has several weeks to secure refinancing. Suppose further that the cost of refinancing is more expensive, and the borrower decides to file a claim for breach under a theory of good faith. The bank pleads that the parties have waived the implied covenant. In either case, the bank wins. If the court decides that cutting off the funds is not a breach of good faith because it follows Easterbrook, for instance, and determines the borrower was not vulnerable, then the borrower loses on the good faith claim. Say the contract were executed in 2020, and by 2030, the economy deteriorates, so that community norms now favor extended protections for borrowers. If the court decides that the borrower was vulnerable, say because, several weeks was insufficient time to secure favorable refinancing terms, then the bank wins on the waiver defense. No matter the scope of the good faith standard, and no matter how it changes over time, its application is waived. Waiver, therefore, permits parties to waive the community standards of both today and tomorrow, and protects parties from unforeseen changes to the community environment in which their contract is situated.

112. *See supra* notes 34–37 and accompanying text.

Parties who waive, nonetheless face the risk of making errors, or miscalculations, about the future evolution of community standards. Presumably, they correctly reject the community standards of today so long as they understand how good faith is applied; otherwise, they would not choose to waive. A borrower who waives today chooses to assume the risk that the bank will abruptly cut off funds and leave little time for refinancing. That same borrower, however, may prefer extended protections in the future, unknown environment. A borrower who fails to anticipate a deep economic downturn over the life of the contract will not benefit from those extended protections granted by a community standard of good faith.

Parties balance the expected costs of waiving beneficial, future community standards against the value of waiving today. If the borrower, for instance, benefits from maintaining wide latitude to engage in potentially unreasonable behavior today, then she may be willing to forego protections in the future. Waiver is also valuable for her inasmuch as an expansive good faith doctrine makes her more fearful that she herself could breach an evolving duty in the future. Fear of future breach can raise drafting costs; when prohibitive, those costs can eliminate bargaining.[113]

If, on the other hand, the value of waiver is low, because parties believe that they will efficiently comply with future community standards, then parties will rarely waive, even in jurisdictions where waiver is permitted. This helps explain why the waiver data set demonstrates broad application of the doctrine with a Summers-like standard of bad faith.[114] Parties continue to rely on good faith doctrine, even when waiver is an option, because its benefits outweigh its costs.

CONCLUSION

The *Northwest* Court presents a contrast between Summer's open-ended standard of good faith, which excludes bad faith performance of contractual obligations, and Burton's closed-ended rule based upon the recapture of contractual opportunities that are sacrificed when entering into bargains. Casting a wide net over contractual good faith cases reveals that Summers has the better of the argument. Courts more

113. *See supra* note 22 and accompanying text.
114. *See* discussion *supra* Section I.C.2.

often deploy good faith doctrine in order to exclude instances of bad faith in a variety of factual circumstances, and in the main, scarcely rely on recapture rationale for their good faith holdings. Contractual good faith performance is about community standards of decency, reasonableness, and fairness.

In addition, the empirical analysis shows that parties rarely litigate waiver. This observation is consistent with anecdotal evidence. While the data may suggest the decline of waiver, the data also suggest that forbidding parties to waive is a mistake. Inasmuch as parties rarely litigate waiver, it generates few costs. Competitive markets discourage strong contractual parties from taking advantage of weak counterparties. In less competitive markets, other regulations control its undesirable use. The relatively few parties that prefer waiver are unconcerned with the various contractual risks protected by the implied covenant; otherwise, they would not waive. Waiver is especially valuable insofar as it mitigates the risks presented by evolving and unknown community norms of tomorrow. For sensitive parties, these risks raise contracting costs. Authorized use of waiver should be expanded.

APPENDIX I

In contrast to the bigram topic models presented above, this Appendix presents a single-word token topic model constructed from the full data set. It demonstrates that the data robustly tracks the factual scenarios one would expect to see in a corpus of contractual good faith performance cases, and therefore serves as further evidence that the data set generated from the keyword search is representative of the doctrine.

A. *Contractual Good Faith's Domain*

For its part, the Restatement (Second) of Contracts distinguishes among good faith purchase, negotiation, and performance.[115] Recall that the corpus is built from a keyword search of "good faith" and "contract!". As a result, the data should be expected to consist of purchase, negotiation, and performance case law. The computational analysis tracks the distinction between purchase and performance, with clear topic distribution over sales of property and negotiable instruments on the one hand, and service agreements on the other.[116] Good faith negotiation is less clearly evident in the data. The term "fraud" appears in a topic, but that topic only represents about 1.20% of the corpus. This may be due to the fact that bad faith negotiation in the absence of agreement can fall within the scope of torts while the corpus focuses only on contract.[117] Even so, the corpus casts a wide net over contract law, and includes cases related to contractual good faith purchase, negotiation, and performance, which goes against the grain of existing contractual good faith scholarship.

The ensuing analysis begins by largely mapping the factual scenarios in which questions of contractual good faith

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115. *See* RESTATEMENT (SECOND) OF CONTRACTS § 205 cmts. (b)–(d) (AM. LAW INST. 1981).

116. *See infra* Appendix I.D.1.

117. *See generally* E. Allan Farnsworth, *Precontractual Liability and Preliminary Agreements: Fair Dealing and Failed Negotiations*, 87 COLUM. L. REV. 217, 239 n.81 (1987) (discussing the trend to treat precontractual liability as sounding in tort); *see also* Phutchaya Numngern, The Concurrent Liability in Contract and Tort Under U.S. and English Law: To What Extent Plaintiff Is Entitled to Recover for Damages Under Tort Claim? 72–73 (Aug. 2017) (unpublished master thesis, Indiana University Maurer School of Law) (on file with author).

arise. It provides a comprehensive overview of case types based on factual as opposed to legal subject matter.

B. *Data*

The data was collected the same way as above. A search of the stemmed term "contract" within ten words of the term "good faith" produced 20,987 judicial opinions from the CourtListener archive. Without preprocessing, the body of 20,987 opinions consists of 1,612,107 unique words. Preprocessing and removal of sparse terms at the 98% level reduced the number of unique words to 5,051.

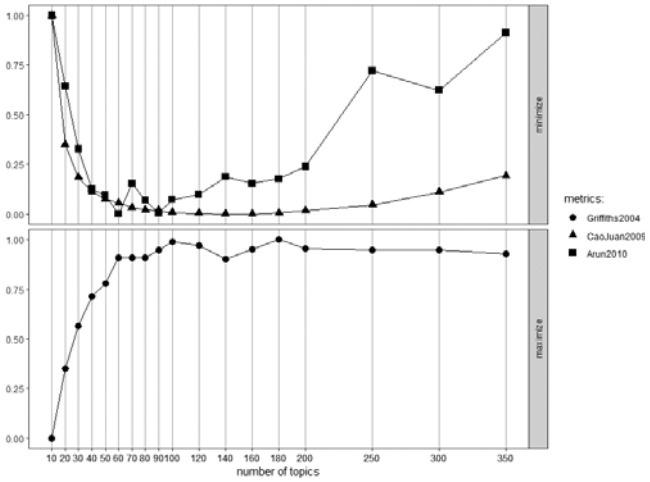
Two thousand opinions were randomly sampled from the corpus. Preprocessing and sparse term removal at the 98% level reduced the number of unique words to 5,070. The minor difference between the number of unique words in the population and sample suggests that the sample sufficiently represents the population.

C. *Number of Topics*

Analysis using three of the four available models provided in ldatuning suggests that the optimal number of topics for the corpus is 90.[118]

118. For a discussion of the models, see *supra* note 68 and accompanying text.

FIGURE 5: OPTIMAL NUMBER OF TOPICS, CONTRACTUAL GOOD FAITH CORPUS, N = 2000



In addition to ldatuning, cross-validation across five "folds," or equal partitions of the sampled opinions,[119] suggests an optimal number of topics between 70 and 100. Specifically, 1,600 opinions were randomly selected to build topic models of 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, and 200 topics. These trained models were then fitted to the remaining 400 documents. Cross-validated perplexity flattens between 70 and 100 topics. Given the results of ldatuning, 90 was the number of topics selected.

D. *A Comprehensive Topic Model of Good Faith*

1. *Topics*

The 90-topic model reveals three broad categories of judicial application of good faith doctrine: (1) obligations established by sales agreements; (2) obligations established by service agreements including insurance; and (3) obligations established by other law.[120]

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119. In this instance, each fold consists of 400 opinions, or one-fifth of the 2,000 sampled opinions.

120. Lists of the common terms for each of the 90 topics are provided *infra* Appendix I, Figures 6–7.

TABLE 3: OBLIGATIONS ESTABLISHED BY SALES AGREEMENTS

23		38		22		44		57	
properti	0.0170874	stock	0.0167886	fee	0.0141532	bank	0.0459842	citibank	0.0095625
land	0.0142132	secur	0.0117186	loan	0.0106883	loan	0.0370137	document	0.0084156
purchas	0.0074575	share	0.0115998	feder	0.0091207	note	0.017235	credit	0.0076582
money	0.0069193	transact	0.0096168	bank	0.0087472	credit	0.0159108	letter	0.0073346
time	0.0068907	option	0.0093349	breach	0.0080058	secur	0.0137594	applic	0.0068168
page	0.0068179	note	0.0090424	requir	0.0071639	interest	0.0114621	bank	0.0061412
deed	0.0067001	insid	0.0084941	charg	0.0060928	mortgag	0.0106728	statement	0.0052869
property	0.006692	purchas	0.006791	capit	0.0056819	financ	0.0076181	petersen	0.0049854
part	0.0062335	sec	0.0066289	provid	0.0056425	payment	0.0074114	issuer	0.0045778
valu	0.0061644	sale	0.006331	fraud	0.0049542	properti	0.0073331	new	0.0045554

Real Property Sales *Securities Sales* *Loans, Generally* *Mortgages* *Negotiable Instruments*

Table 3 lists the top ten most common words for topics that suggest a contractual good faith obligation which arises through a sales and purchase agreement. The topics include sales of real property, securities, general loans, mortgages, and negotiable instruments.[121] Note that a word may appear in multiple topics, just as "bank" appears in topics 22, 44, and 57, here. The topic model allows for lexical overlap given that natural language topics overlap in terms of words. The right-hand column of each topic displays the per-topic-per-word probabilities (often referred to as "beta") from the model.[122] For each topic-word combination, the model calculates the probability

121. Scholarship, doctrine, and uniform codes distinguish between good faith purchase and performance. Good faith purchase probes the buyer's awareness of third-party claims or other defects in title to the object of sale. For example, a person cannot be a holder in due course of a negotiable instrument unless the person purchased it in good faith. *See* U.C.C. § 3-302(a)(2). The classic treatment of the doctrine is given in Grant Gilmore, *The Commercial Doctrine of Good Faith Purchase*, 63 YALE L.J. 1057 (1954). Good faith sales, on the other hand, probes the behavior of buyers and sellers, especially with respect to contractual performance or enforcement. *See* U.C.C. § 1-201(b)(20) ("'Good faith' means honesty in fact and the observance of reasonable commercial standards of fair dealing."). The beginnings of the U.C.C. sales definition of good faith seems to have been influenced by good faith purchase doctrine, especially with respect to good faith purchase of negotiable instruments, since their purchase often probed deeper questions of honesty both subjectively and objectively. *See* Summers, *supra* note 3, at 208 (documenting the early debate between requiring subjective ignorance of third-party rights alone—the so-called "honesty-in-fact" requirement, versus requiring (in addition) an objective showing that the purchaser had no reason to know of any such third-party rights—the so-called "reasonableness" requirement). Summers notes that Llewellyn, the chief draftsperson of the Code, depended heavily upon the good faith purchase context when formulating the early drafts of the U.C.C. sales provisions. *Id.* at 208 n.53.

122. *See* Silge & Robinson, *supra* note 84.

of that word being generated by that topic.[123] For example, the word "bank" has about a 4.6% chance of being generated by the topic *Mortgages*, but a 0.61% chance of being generated by the topic *Negotiable Instruments*.

As expected, property sales and negotiable instruments appear. Topic 38 seems to represent a good faith defense to insider trading. The *Loans* topic includes the term "fraud" suggesting that the topic additionally represents cases related to good faith negotiation. Finally, the *Mortgages* topic represents a number of good faith situations, which can include purchase, negotiation, and performance variants. Admittedly, some of the topics in Table 3 can include aspects of service agreements, such maintaining a foreclosed property in good faith. Separation of topics into sales and services is only meant to facilitate exposition.

Table 4 lists the top ten most common words for topics that suggest a contractual good faith obligation which arises through services agreements, excluding insurance services.

123. *Id.*

TABLE 4: OBLIGATIONS ESTABLISHED BY SERVICE AGREEMENTS (NO INSURANCE)

11		39		60	
time	0.0146427	franchis	0.0121404	sale	0.014998
fee	0.0141967	arco	0.0117053	act	0.0123378
attorney	0.0103463	indemn	0.0075381	purchas	0.0091534
fall	0.0074141	cpc	0.0059398	price	0.0087762
breach	0.0070609	requir	0.0058489	market	0.0063175
condon	0.0067984	contractu	0.0057697	distributor	0.0062931
reason	0.0065207	impli	0.0054527	sell	0.0061589
carpent	0.0062424	good	0.0051812	associ	0.0060626
nwd	0.0059552	supra	0.0051732	time	0.0059075
terrac	0.0059002	servic	0.0051223	section	0.0058812

Attorney Fee Agreements *Franchise Agreements* *Distributor Agreements*

4		27		74	
citi	0.0195779	employ	0.0542983	insur	0.0201929
work	0.0193322	employe	0.0340652	duti	0.0116799
contractor	0.0123667	termin	0.0213184	plan	0.0093389
construct	0.0112795	discharg	0.011453	life	0.008566
perform	0.0108094	good	0.0099082	erisa	0.008256
bond	0.0089174	work	0.0093555	benefit	0.0067945
complet	0.0075206	polici	0.0081875	good	0.0067813
project	0.0074567	reason	0.0076552	breach	0.0066451
amount	0.006463	faith	0.0073189	neglig	0.0065292
sureti	0.0062306	impli	0.0065972	faith	0.0063775

Construction Contracts *Employment Agreements* *ERISA Employee Benefits*

Employment Agreements and ERISA Employee Benefits are included here. Table 5 lists the top words for topics associated with good faith obligations of the insurer and insured.

TABLE 5: OBLIGATIONS ESTABLISHED BY SERVICE AGREEMENTS—INSURANCE

12		2		32		80	
insur	0.1135382	titl	0.0264785	insur	0.0195579	faith	0.0375018
polici	0.0569872	seller	0.0226114	feder	0.0133483	breach	0.028796
coverag	0.0190887	purchas	0.0189352	polici	0.0108382	bad	0.0254445
policy	0.0168753	buyer	0.0128927	loss	0.0085843	tort	0.0202346
ins	0.0134632	insur	0.0104169	duti	0.0076578	insur	0.0137165
liabil	0.0116219	right	0.0091835	powerin	0.0067221	good	0.0112692
loss	0.0101072	breach	0.0068873	coverag	0.0053881	emot	0.008919
compani	0.0097238	condit	0.0067011	flood	0.0050802	distress	0.0083118
cover	0.0078451	duti	0.0064453	breach	0.0046909	ins	0.0081694
insured	0.0073779	sale	0.005931	battl	0.0045794	statut	0.0078133

Insurance, Generally *Purchaser's Insurance, Real Property* *Flood Insurance* *Tort of Bad Faith Dealing with an Insured*

Finally, Table 6 displays the ten most common words for topics associated with good faith obligations that arise through other law. While the corpus was explicitly constructed for contractual good faith, these topics are nonetheless discernible given that their underlying judicial opinions include the keyword term "contract."

TABLE 6: OBLIGATIONS ESTABLISHED BY OTHER LAW

84		78		35	
bid	0.019931	union	0.0312552	director	0.01606
commiss	0.0120239	board	0.0280841	empress	0.0109589
ofted	0.0067706	employe	0.0175735	corpor	0.0097529
price	0.0063882	bargain	0.0133787	mcgowan	0.0097157
bidder	0.0058895	labor	0.0118467	interest	0.009558
mortgag	0.0055858	compani	0.0101372	trust	0.0088953
good	0.0052997	overnit	0.0099527	roosevelt	0.0077644
amount	0.0052911	nlrb	0.009046	board	0.0070326
mca	0.0051998	wage	0.0085345	hti	0.0063446
written	0.0051434	unfair	0.0060763	fiduciari	0.0061865
GFE for Mortgagors		*Collective Bargaining*		*Corporate Law*	

59		68		15	
debtor	0.0475743	leas	0.0529956	arbitr	0.0568275
bankruptci	0.0244124	gas	0.0122336	advanc	0.0098114
fee	0.0085837	lease	0.0121489	bargain	0.0094342
emc	0.0084085	term	0.0110412	arbitration	0.0079365
usc	0.0080789	price	0.0106351	collect	0.0076425
chapter	0.007419	oil	0.0103937	scott	0.0076387
amount	0.0071851	royalti	0.0093911	new	0.0061267
applic	0.0066384	market	0.0089569	author	0.0058559
faa	0.0063792	lessor	0.0081613	disput	0.0052582
payment	0.0061486	sale	0.0077913	ideal	0.0052051
Bankruptcy Law		*Oil & Gas Bad Faith Trespass*		*Arbitration Cooperation*	

2. *Prevalence of Topics*

While the 90-topic model reveals the topics contained within the body of judicial opinions by clustering words (as seen in Tables 2 through 5), it is useful to discern how often those categories appear relative to each other. It is of particular concern that the obligations established by other law, and not explicitly within the scope of contract, might distort the construction and analysis of the contractual good faith topics. As might be expected for a keyword search related to contractual good faith, the topics associated with obligations established by other law are the least prevalent throughout the

corpus, while the topics associated with sales and services are the most prevalent.[124] The prevalence measure of the categories *Good Faith Estimate for Mortgagors*, *Oil & Gas Bad Faith Trespass*, and *Collective Bargaining* are about 1.5% each. *Bankruptcy Law*, *Arbitration Cooperation*, and *Corporate Law* all measure 1% or less each.[125] In total, the expected proportion of topics associated with obligations established by other law contained within the corpus is less than 7%. By contrast, topics associated with obligations established by sales agreements account for 11%, and topics associated with obligations established by service agreements (no insurance), and obligations established by service agreements (insurance), account for 11.9% and 8.3%, respectively. Because only the most salient topics were selected for reporting, the figures do not add to 100%. As such, they should be interpreted relative to each other. To repeat, the most relevant deduction is that the most salient topics associated with obligations established by sales and services agreements outnumber the most salient topics associated with obligations established by other law by more than four times.[126]

124. In addition to computing the probability that a particular word belongs to a given topic, topic models compute the probability that a particular document (or group of words) belongs to a given topic. And just as identical words can belong to many topics, but some are more characteristic to one topic than another, identical documents can belong to many topics, but some documents are more likely to represent Topic 2 than Topic 7. By examining the probability of topic representation given a group of documents, the prevalence (or the distribution of topics across the entire corpus) is given. *See* Silge, *supra* note 85.

125. *See infra* Table 6.

126. The full list of topics and their measures of prevalence is provided *infra* Figure 7.

TABLE 7: TOPIC PREVALENCE, CONTRACTUAL GOOD FAITH CORPUS, N = 2000

Topic	**Prevalence**
Obligations Established by Sales Agreements	
Real Property Sales	0.048
Securities Sales	0.010
Loans, Generally	0.012
Mortgages	0.034
Letters of Credit	0.006
Total	11.0%
Obligations Established by Service Agreements	
Attorney Fee Agreements	0.007
Franchise Agreements	0.009
Distributor Agreements	0.024
Construction Contracts	0.032
Employment Agreements	0.036
ERISA Employee Benefits	0.011
Total	11.9%
Obligations Established by Service Agreements—Insurance	
Insurance, Generally	0.035
Purchaser's Insurance, Real Property	0.015
Flood Insurance	0.011
Tort of Bad Faith Dealing with an Insured	0.022
Total	8.3%
Obligations Established by Other Law	
GFE for Mortgagors	0.016
Collective Bargaining	0.014
Corporate Law	0.007
Bankruptcy Law	0.010
Oil & Gas Bad Faith Trespass	0.016
Arbitration Cooperation	0.007
Total	7.0%

A general overview of the contractual good faith corpus presents no surprises. As expected, good faith purchase, negotiation, and performance are present. The purchase cases focus on property and negotiable instruments. Performance comprises the majority of the topics and focuses on service relationships between attorneys and their clients, franchisors and franchisees, insurers and insureds, and parties to construction contracts. To the performance group, one might add employers and employees.

FIGURE 6: A COMPREHENSIVE TOPIC MODEL OF GOOD FAITH (PANEL A)

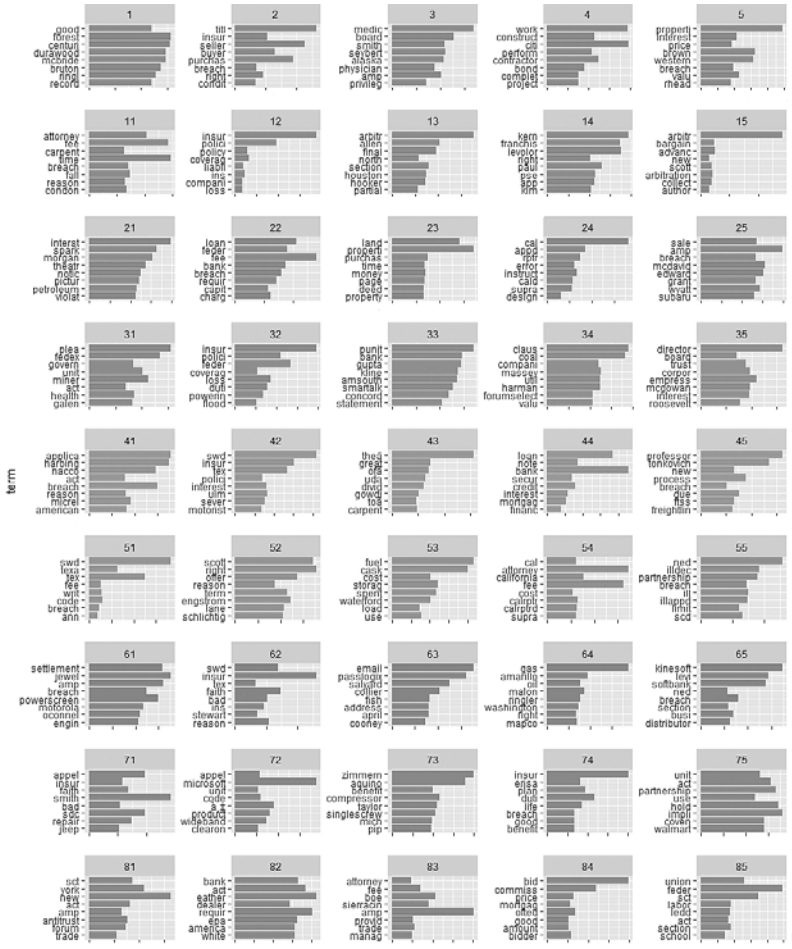
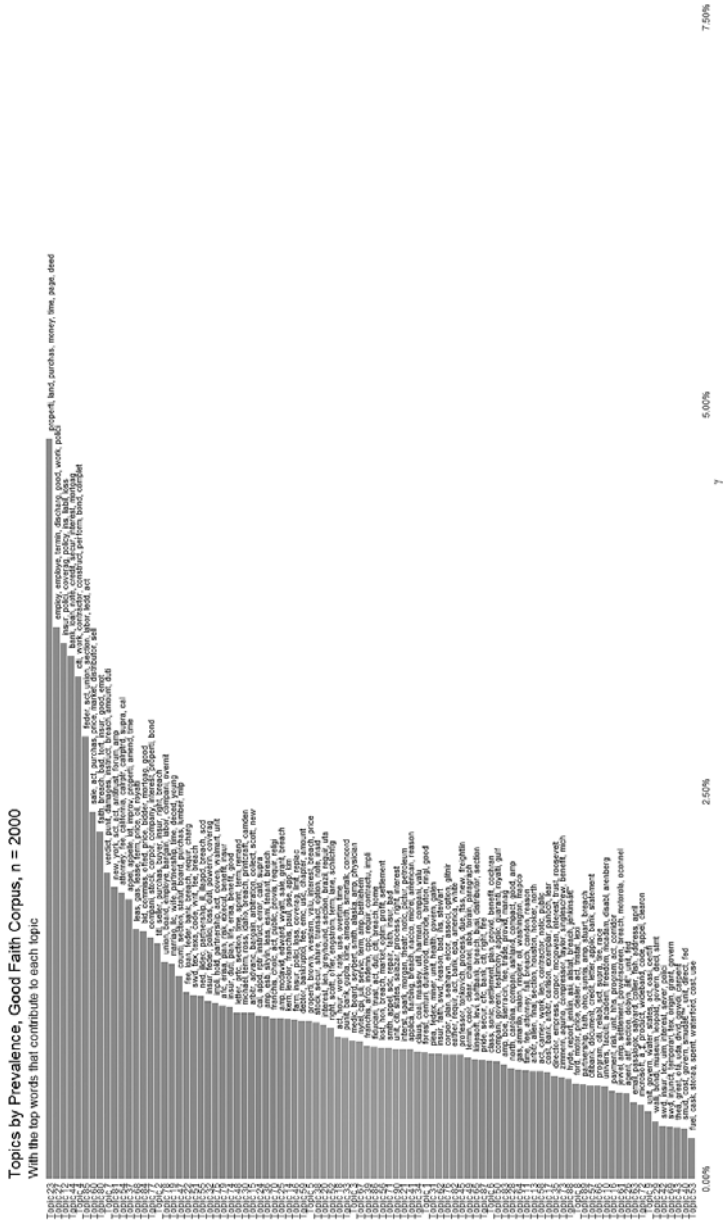


FIGURE 6: A COMPRENSIVE TOPIC MODEL OF GOOD FAITH (PANEL B)

FIGURE 7: A COMPREHENSIVE TOPIC MODEL OF GOOD FAITH (TOPICAL PREVALENCE)



Appendix II

List of Law-related Words Removed from Corpus

action	conclud[]	however	rule
agreement	contract	inc	said
allege	court	issu[]	sct
also	damage	judgment	second
an[i]	decis[]	jur[i]	see
appeal	defend	jurisdict[]	shall
appell[]	den[i]	law	state
appl[i]	determin[]	made	summar[i]
argu[]	dismiss	make	support
assert	district	matter	supreme
award	doe	may	thus
base	enter	motion	trial
because	establish	must	two
befor[]	evid	one	upon
case	fact	onl[i]	us
caus[]	file	order	v
cir	find	parti	whether
cite	first	person	will
civil	follow	plaintiff	within
claim	found	respond	without
complaint	held	result	

Note: It is standard practice for computational linguists to remove words that appear frequently across all texts that convey little, if any, specific meaning about those texts. For instance, computational linguists routinely remove "stop" words, such as articles and helping verbs. In a corpus of contractual good faith judicial opinions, law-related words that generically identify parties, courts, and procedures can be removed with no loss in analytical power of topic model identification of broad categories of contractual good faith doctrine and theory. For further discussion of removal of stop words and law-related words that carry little analytical content, see Fagan, *supra* note 65, at 49 n.129.