



Notre Dame Law Review

Volume 95 | Issue 2

Article 6

12-2019

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Recommended Citation

95 Notre Dame L. Rev. 795 (2019).

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RETHINKING THE EFFICIENCY OF THE COMMON LAW

D. Daniel Sokol*

This Article shows how Posner and other scholars who claimed that common law was efficient misunderstood the structure of common law. If common law was more efficient, there would have been a noticeable push across most, if not all, doctrines to greater efficiency. This has not been the case. Rather, common law, better recast as a “platform,” could, under a certain set of parameters, lead to efficient outcomes. Next, the Article’s analysis suggests that while not every judge thinks about efficiency in decisionmaking, there must be some architectural or governance feature pushing in the direction of efficiency—which exists in some areas of law and not in others. This Article explains two-sided markets, or platforms, generally and applies the modular open-source platform model to judge made law. In doing so, it explores concepts that impact the efficiency of such platforms—platform governance, modularity, and fragmentation. Then, this Article applies the understanding of platforms to several areas of law that might be understood as more prone to economic analysis because the issues addressed in law tend to be more “economic,” such as torts, bankruptcy, patents, and corporations. In these areas, no combination of platform architecture and modularity has allowed for the development of more efficient legal rules as a general matter. Finally, this Article studies antitrust law as the one area of law that suggests that the efficiency of common law is possible and the causal mechanism of necessary conditions that needs to be met. Antitrust law is different than other areas of law because of a singular goal, an architectural governance based on a single federal court (the Supreme Court) with few substantive legislative changes for the past one hundred years, which provides for coherent governance of the platform. This Article concludes by discussing the implications of an efficient platform design for other areas of law.

INTRODUCTION

A fundamental research question in law has been to explain how caselaw develops. Perhaps the most famous formulation of how law works in practice

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in the past half century is Judge Richard Posner's idea on the efficiency of common law. He suggests that the common law, for which he meant judge-made law,¹ can reach economically efficient outcomes.² At its core, Posner's argument was that common-law judicial decisionmaking enjoys a comparative institutional advantage over statutory law because of the evolutionary nature of common law through adjudication and precedent.³ This common-law process in turn leads to more "efficient"⁴ outcomes as good precedents overrule bad precedents.⁵ This idea is powerful, so much so that Posner is yearly on the shortlist for potential Nobel Prize recipients for economics.⁶

Since the time of the publication of Posner's work on the efficiency of common law, there have been numerous extensions of his idea.⁷ Some extensions suggest that the efficiency of common law is a function of litigants looking to reshape legal doctrine.⁸ In economic terms, this is a "demand-

1 Richard A. Posner, *Utilitarianism, Economics, and Legal Theory*, 8 J. LEGAL STUD. 103, 103 n.1 (1979). Posner's common-law view can be contrasted to a different, noneconomic view of judge-made law. See O.W. Holmes, *The Path of the Law*, 10 HARV. L. REV. 457, 466-67 (1897); see also John F. Stinneford, *Punishment Without Culpability*, 102 J. CRIM. L. & CRIMINOLOGY 653, 665-69 (2012) (providing an overview of the literature).

2 RICHARD A. POSNER, *ECONOMIC ANALYSIS OF LAW* 98-99 (1972) ("In searching for a reasonably objective and impartial standard, as the traditions of the bench require him to do, the judge can hardly fail to consider whether the loss was the product of wasteful, uneconomical resource use. In a culture of scarcity, this is an urgent, an inescapable question. And at least an approximation to the answer is in most cases reasonably accessible to intuition and common sense.").

3 Initially, Posner also assumed that judges were motivated by efficiency, at least implicitly, in their decisionmaking. See Richard A. Posner, *What Do Judges and Justices Maximize? (The Same Thing Everybody Else Does)*, 3 SUP. CT. ECON. REV. 1, 39-40 (1993) ("[T]he common law and other areas of judge-made law are on the whole efficiency-enhancing."); Posner, *supra* note 1, at 103. More recently, Posner and his coauthors have a more nuanced understanding of multiple motivations of judicial behavior. See LEE EPSTEIN, WILLIAM M. LANDES & RICHARD A. POSNER, *THE BEHAVIOR OF FEDERAL JUDGES* 5 (2013).

4 Posner meant allocative efficiency. See POSNER, *supra* note 2, at 98-99, 223-30, 329. This Article uses Posner's allocative-efficiency framework even though there are other types of efficiency. For some limitations on efficiency, see Lee Anne Fennell & Richard H. McAdams, *The Distributive Deficit in Law and Economics*, 100 MINN. L. REV. 1051, 1052-53 (2016).

5 While initially Posner presented the efficiency of common law as a positive description, he later embraced the idea of efficiency of the common law as a normative claim. See Richard A. Posner, *The Ethical and Political Basis of the Efficiency Norm in Common Law Adjudication*, 8 HOFSTRA L. REV. 487, 488 (1980) (shifting the focus "from normative to positive"); Posner, *supra* note 1, at 103.

6 See, e.g., Ben Leubsdorf, *Who Will Win the 2017 Nobel Prize in Economics?*, WALL ST. J. (Oct. 3, 2017), <https://blogs.wsj.com/economics/2017/10/03/who-will-win-the-2017-nobel-prize-in-economics/>.

7 This Article notes that efficiency may not always be the optimal normative goal of the system or may not always be one that fully explains how the law works.

8 See Martin J. Bailey & Paul H. Rubin, *A Positive Theory of Legal Change*, 14 INT'L REV. L. & ECON. 467, 468 (1994); George L. Priest, *Selective Characteristics of Litigation*, 9 J. LEGAL STUD. 399, 421 (1980); George L. Priest, *The Common Law Process and the Selection of Efficient Rules*, 6 J. LEGAL STUD. 65, 65 (1977) [hereinafter Priest, *The Common Law Process*]; Paul H.

side” response. Others argue that the efficiency is a function of “supply-side” factors such as institutional factors.⁹ Critiques to the efficiency of common-law hypothesis also have been significant, such as: the motivations of judges,¹⁰ variation over particular common-law or statutory regimes,¹¹ selection effects in decided cases as opposed to settled cases,¹² or that the legislature¹³ or courts¹⁴ may respond to judicial overreach.

As a positive matter, common law generally is not more efficient today than Posner’s observation forty-five years ago. The lack of a general shift across areas of law to more efficient outcomes is perhaps more surprising given greater economic analysis in law school curricula,¹⁵ scholarship,¹⁶ and judicial training in economics.¹⁷ Posner’s most famous insight seems to have been wrong.

This Article makes two contributions. First, it reframes the efficiency-of-common-law thesis by making an original point as to how prior thinkers misunderstood the structure of law and how law could, under a certain set of parameters, lead to efficient outcomes.¹⁸ It shows how Posner and other

Rubin, *Common Law and Statute Law*, 11 J. LEGAL STUD. 205, 206 (1982); Paul H. Rubin, *Why Is the Common Law Efficient?*, 6 J. LEGAL STUD. 51, 51 (1977).

9 See, e.g., Todd J. Zywicki, *The Rise and Fall of Efficiency in the Common Law: A Supply-Side Analysis*, 97 NW. U. L. REV. 1551, 1552–53 (2003).

10 See, e.g., CASS R. SUNSTEIN ET AL., ARE JUDGES POLITICAL? 147 (2006); Harry T. Edwards & Michael A. Livermore, *Pitfalls of Empirical Studies That Attempt to Understand the Factors Affecting Appellate Decisionmaking*, 58 DUKE L.J. 1895, 1899 (2009); Pauline T. Kim, *Deliberation and Strategy on the United States Courts of Appeals: An Empirical Exploration of Panel Effects*, 157 U. PA. L. REV. 1319, 1320 (2009); David F. Levi, *Autocrat of the Armchair*, 58 DUKE L.J. 1791, 1795–96 (2009) (reviewing RICHARD A. POSNER, HOW JUDGES THINK (2008)).

11 See, e.g., Rubin, *Common Law and Statute Law*, *supra* note 8, at 212–13.

12 See, e.g., Gillian K. Hadfield, *Bias in the Evolution of Legal Rules*, 80 GEO. L.J. 583, 612–14 (1992); Robert H. Mnookin & Lewis Kornhauser, *Bargaining in the Shadow of the Law: The Case of Divorce*, 88 YALE L.J. 950, 974 (1979); George L. Priest & Benjamin Klein, *The Selection of Disputes for Litigation*, 13 J. LEGAL STUD. 1, 3 (1984). *But see* Daniel Klerman & Yoon-Ho Alex Lee, *Inferences from Litigated Cases*, 43 J. LEGAL STUD. 209, 209–10 (2014).

13 See, e.g., Mathew D. McCubbins et al., *Administrative Procedures as Instruments of Political Control*, 3 J.L. ECON. & ORG. 243, 244–46 (1987); Mathew D. McCubbins et al., *Structure and Process, Politics and Policy: Administrative Arrangements and the Political Control of Agencies*, 75 VA. L. REV. 431, 445 (1989).

14 See, e.g., Lisa Schultz Bressman, *Procedures as Politics in Administrative Law*, 107 COLUM. L. REV. 1749, 1818–19 (2007).

15 See ANTHONY T. KRONMAN, THE LOST LAWYER 166–67 (6th prtng. 2001) (1993) (“Law and economics is today a permanent, institutionalized feature of American legal education. . . . The law-and-economics movement has transformed the way that teachers . . . think about their subject and present it to their students. . . . This is the single most important change in American legal education in the last twenty-five years . . .”).

16 See, e.g., AM. L. & ECON. ASS’N, <http://www.amlecon.org/> (last visited Sept. 23, 2019).

17 See generally, e.g., Elliott Ash et al., *Ideas Have Consequences: The Impact of Law and Economics on American Justice* 1–5 (Mar. 20, 2019) (unpublished manuscript), <http://elliottash.com/wp-content/uploads/2019/03/ash-chen-naidu-2019-03-20.pdf>.

18 See discussion *infra* Part I.

scholars who claimed that common law was efficient misunderstood the structure of common law. If common law was more efficient, there would have been a noticeable push across most, if not all, doctrines to greater efficiency. This has not been the case. Rather, common law, better understood as a platform, could, under a certain set of parameters, lead to efficient outcomes.¹⁹ Second, this Article’s analysis suggests an institutional design contribution that while not every judge thinks about efficiency in decisionmaking, there must be some architectural or governance feature pushing in the direction of efficiency—which exists in some areas of law and not in others.²⁰

The basis for a better understanding of the circumstances under which the efficiency of common law is possible emerges from the writings of Nobel laureate Jean Tirole²¹ and others who study what is commonly referred to as “two-sided” markets or platforms.²² Professors Rochet and Tirole explain that “many if not most markets with network externalities are characterized by the presence of two distinct sides whose ultimate benefit stems from interacting through a common platform.”²³ Such markets are ubiquitous in life, and their importance was recently recognized by the Supreme Court.²⁴

There are a number of elements to a two-sided market. First, two (or more) sets of agents interact through an intermediary (or platform). Second, each of the actors of each side of the platform make decisions that impact the decisionmaking of the other set(s) of actors on the other sides of the platform.²⁵

Two-sided markets have existed for thousands of years in “low tech” industries. For example, a shopping bazaar in ancient Rome, Jerusalem, or Beijing connected retailers and end consumers. Similarly, in the play *Fiddler on the Roof*, Yente the matchmaker sets up matches between buyers and sellers for matrimonial services. Other markets for which two-sided markets exist

19 See discussion *infra* Part II.

20 See discussion *infra* Part III.

21 For Jean Tirole’s background, see generally *Jean Tirole*, NOBEL PRIZE, <https://www.nobelprize.org/prizes/economic-sciences/2014/tirole/biographical/> (last visited Sept. 27, 2019).

22 Jean-Charles Rochet & Jean Tirole, *Two-Sided Markets: A Progress Report*, 37 RAND J. ECON. 645, 645 (2006) [hereinafter *Rochet & Tirole, Two-Sided Markets*]; Jean-Charles Rochet & Jean Tirole, *Platform Competition in Two-Sided Markets*, 1 J. EUR. ECON. ASS’N 990, 990–94 (2003) [hereinafter *Rochet & Tirole, Platform Competition*]; Bernard Caillaud & Bruno Jullien, *Chicken & Egg: Competition Among Intermediation Service Providers*, 34 RAND J. ECON. 309, 309–11 (2003).

23 Rochet & Tirole, *Platform Competition*, *supra* note 22, at 990.

24 *Ohio v. Am. Express Co.*, 138 S. Ct. 2274, 2280–81, 2285–87 (2018).

25 See Marc Rysman, *The Economics of Two-Sided Markets*, 23 J. ECON. PERSP. 125, 125 (2009) (“[A] two-sided market is one in which (1) two sets of agents interact through an intermediary or platform, and (2) the decisions of each set of agents affects the outcomes of the other set of agents, typically through an externality.”); see also David S. Evans & Richard Schmalensee, *The Antitrust Analysis of Multi-Sided Platform Businesses*, in 1 THE OXFORD HANDBOOK OF INTERNATIONAL ANTITRUST ECONOMICS 404, 408–10 (Roger D. Blair & D. Daniel Sokol eds., 2015) (defining a multisided platform).

include newspapers,²⁶ securities,²⁷ and payment systems.²⁸ In the online world, some of the well-known “high tech” two-sided platforms include companies like Tinder, Uber, Facebook, and Amazon.

This Article explains two-sided markets, or platforms, generally and applies the modular open-source platform model to law. In doing so, it explores concepts that impact the efficiency of such platforms—platform governance, modularity, and fragmentation.²⁹ Then, this Article applies the understanding of platforms to a number of areas of law that might be understood as more prone to economic analysis because the issues addressed in law tend to be more “economic,” such as torts, bankruptcy, corporations, and patents.³⁰ In these areas, no combination of platform architecture and modularity has allowed for the development of more efficient legal rules as a general matter. Finally, this Article studies antitrust law as the one area of law that suggests that the efficiency of common law is possible and explores the causal mechanism of necessary conditions that needs to be met.³¹ Antitrust law is different than other areas of law because of a singular goal, an architectural governance based on a single federal court (the Supreme Court) with few substantive legislative changes in the past one hundred years, which provide for coherent governance of the platform. This Article concludes by discussing the implications of an efficient platform design for other areas of law.

I. EFFICIENCY OF COMMON LAW

Posner argued that the common-law system created a set of incentives to produce efficient behavior by parties both in formal and informal markets.³² This was based on an evolutionary approach to law. Under the evolutionary approach, judges could self-correct inefficient rulings with efficient rulings over time.³³

Others built off of Posner’s idea of the efficiency of the common law. Professor Rubin set up a model in which an increase in the amount of funds

26 Elena Argentesi & Lapo Filistrucchi, *Estimating Market Power in a Two-Sided Market: The Case of Newspapers*, 22 J. APPLIED ECONOMETRICS 1247, 1247 (2007).

27 Yong Chao et al., *Discrete Pricing and Market Fragmentation: A Tale of Two-Sided Markets*, 107 AM. ECON. REV. 196, 196–97 (2017).

28 Özlem Bedre-Defolie & Emilio Calvano, *Pricing Payment Cards*, AM. ECON. J.: MICROECON., Aug. 2013, at 206, 209.

29 See discussion *infra* Part II.

30 See discussion *infra* Sections III.A–D.

31 See discussion *infra* Section III.E. Ironically, antitrust was the area of much of Posner’s earliest work. See, e.g., Richard A. Posner, *Oligopoly and the Antitrust Laws: A Suggested Approach*, 21 STAN. L. REV. 1562 (1969); Richard A. Posner, *The Federal Trade Commission*, 37 U. CHI. L. REV. 47, 47–54, 58, 60–61, 71, 85–89 (1969); Richard A. Posner, *Antitrust Policy and the Consumer Movement*, 15 ANTITRUST BULL. 361 (1970); Richard A. Posner, *A Statistical Study of Antitrust Enforcement*, 13 J.L. & ECON. 365 (1970); Richard A. Posner, *A Program for the Antitrust Division*, 38 U. CHI. L. REV. 500 (1971).

32 See POSNER, *supra* note 2, at 98–99.

33 See *id.* at 320–21.

for a particular case makes parties more willing to create doctrinal change because of the long-term value in the shift in doctrine for future potential cases.³⁴ Rubin's evolutionary theory of how the market shapes efficient rules was that cases with more efficient rules would settle more often than cases of less efficient rules. This would lead to a shift in which litigation would be more likely to overturn inefficient rules.³⁵ This is a bottom-up formulation of common law.

At roughly the same time, Professor Priest argued that the reason for efficiency of the common law was demand based. Priest set up an evolutionary model that was also bottom up in which inefficient legal rules would yield to more efficient rules because there would be more cases in litigation due to the inefficient rules.³⁶ As such rules became more efficient as a result of litigation, they would no longer be challenged, which would lead to maintenance of the more efficient rules. The more inefficient the rule, the greater the stakes for high-stakes litigants to litigate to a decision to change the rule.³⁷ Priest's further work in his Priest-Klein model suggests that the party with the greater stake in the litigation is more likely to prevail.³⁸ This extension would suggest that eventually there would be greater efficiency in common law over time. Professors Cooter and Kornhauser similarly modeled how common law might shift to efficient outcomes even without the assistance of judges.³⁹

The broader claim of the efficiency of the common law has even taken a macro-level implication, that economic growth and property overall are tied specifically to the use of common law.⁴⁰ Such finance work on the efficiency of common law is among the most cited work in the past twenty years.⁴¹

All of these thinkers were only partially correct in their analysis of the efficiency of common law. These approaches only point to the particular mechanism of bottom-up change. They do not address goals of the legal

34 See Rubin, *Why Is the Common Law Efficient?*, *supra* note 8, at 52–55.

35 See *id.* at 61.

36 See Priest, *The Common Law Process*, *supra* note 8, at 65.

37 See *id.* at 67.

38 See Priest & Klein, *supra* note 12, at 28. Katz further extended this to examine litigation expenditures. See Avery Katz, *Judicial Decisionmaking and Litigation Expenditure*, 8 INT'L REV. L. & ECON. 127, 138–39 (1988).

39 Robert Cooter & Lewis Kornhauser, *Can Litigation Improve the Law Without the Help of Judges?*, 9 J. LEGAL STUD. 139, 145–50 (1980).

40 See, e.g., Rafael La Porta et al., *The Quality of Government*, 15 J.L. ECON. & ORG. 222, 232 (1999); Paul G. Mahoney, *The Common Law and Economic Growth: Hayek Might Be Right*, 30 J. LEGAL STUD. 503, 503–06 (2001). Macroeconomic efficiency in the common law has its roots in the work of Hayek, who claimed a bottom-up approach to law to create efficiency. See generally 1 F.A. HAYEK, *LAW, LEGISLATION AND LIBERTY* (1973); F.A. HAYEK, *THE CONSTITUTION OF LIBERTY* (1960). How inefficiency in the market shapes the ways in which even efficient rules are applied is beyond the scope of this Article.

41 Holger Spamann, *The "Antidirector Rights Index" Revisited*, 23 REV. FIN. STUD. 467, 467, 468 (2010) ("[W]ell over a hundred published empirical papers used the original ADRI.").

system from a top-down perspective that shapes the bottom-up development of common law.⁴²

In later work, Posner provided a general analysis of the top-down model of judicial thinking⁴³ that is different from many of the traditional bottom-up models of how the judiciary changes law. The top-down model is a supply-side model of common-law efficiency, in which judges supply the framework for the efficiency of the common law. Posner argued that in top-down law-making, the judge creates a theory about how law works to organize decided cases to make them conform to the theory.⁴⁴ There is nothing to suggest that a legislature would not be equally good at creating a top-down singular goal. However, most enabling statutes have vague goals or multiple goals.

Multiple goals play an important role in inefficient outcomes, as nonefficiency concerns impact judges.⁴⁵ In such circumstances, when presented with certain multiple goals, cases can come out in ways that are inefficient but meet other goals, such as equitable goals. The design structure based on multiple goals may lead to doctrinal incompatibility and legal uncertainty in decisionmaking.

Multiple goals, and nonefficiency goals in particular, explain many case outcomes. Some argue that law is always political.⁴⁶ Under this approach, the idea of the efficiency of common law is nothing other than a highly ideological deregulatory approach to governance. Even the law-and-economics movement, and particularly the public-choice literature, embraces a political economy explanation to law's development. Public choice suggests that common law may be more efficient than statutory-based law because an independent judiciary is better shielded from political pressure than the legislative process.⁴⁷ Further, the costs of inefficient statutory rules are spread out more than those of inefficient judicial rulings such that it is harder to change statute than caselaw.⁴⁸

42 From the standpoint of goals, it is not clear that a statute is any more or less effective than a judicially created goal.

43 Particularly, he targets the work of Dworkin. See RICHARD A. POSNER, *OVERCOMING LAW* 175–88 (1995). For other scholars who offer a top-down approach, see, for example, Richard A. Epstein, *Property, Speech, and the Politics of Distrust*, 59 U. CHI. L. REV. 41, 42 (1992); JOHN HART ELY, *DEMOCRACY AND DISTRUST* 43–72 (1980); 1 BRUCE ACKERMAN, *WE THE PEOPLE: FOUNDATIONS* (1991).

44 See Posner, *supra* note 43, at 172.

45 See Barry Friedman, *The Politics of Judicial Review*, 84 TEX. L. REV. 257, 297 (2005); David F. Levi & Mitu Gulati, *Judging Measures*, 77 UMKC L. REV. 381, 394–95, 404 (2008).

46 See Mark Tushnet, *Critical Legal Studies: A Political History*, 100 YALE L.J. 1515, 1526 (1991) (“Most people in the legal academy agree . . . that law is politics . . .”); see also Tonja Jacobi, *The Judiciary*, in RESEARCH HANDBOOK ON PUBLIC CHOICE AND PUBLIC LAW 234, 252 (Daniel A. Farber & Anne Joseph O’Connell eds., 2010).

47 See POSNER, *supra* note 2, at 328–29; Richard A. Epstein, *The Independence of Judges: The Uses and Limitations of Public Choice Theory*, 1990 BYU L. REV. 827, 850–53.

48 See Michael A. Crew & Charlotte Twight, *On the Efficiency of Law: A Public Choice Perspective*, 66 PUB. CHOICE 15, 25 (1990) (“[I]n most judicial contexts the transaction costs . . . are significantly less than the transaction costs of bringing about a legislative change.”).

Though verification is typically difficult for judge-made law in terms of the motivations of judges, we can verify that antitrust law changed in a way that was more efficient as to both substance and procedure based upon a singular economic-welfare-based goal, as Section III.E explores. Even Posner concedes that this is precisely what happened in antitrust with regard to a “consumer welfare” singular goal of antitrust versus the inefficiency of earlier cases with multiple goals.⁴⁹ Yet, both Rubin and Priest, both of whom wrote and taught in antitrust, would have trouble arguing that most cases from antitrust’s origin to at least the late 1970s exhibited a bottom-up approach that led to efficient outcomes.⁵⁰ Indeed, things got much worse in the 1950s and 1960s in antitrust jurisprudence from an efficiency standpoint before they got better.⁵¹

Changing the overall goal of law (judicial architecture) allows for “modular” changes, described below in Section II.B, across a number of related areas of law. This goal change can push to efficiency but equally push to inefficiency. Basic common-law areas like contracts, torts, and property are uneven in the application of economic analysis both within the United States and across other common-law countries.⁵² State-level law makes fragmentation of legal results for certain doctrines more likely than if there is not a centralized singular decisionmaker such as federal law and the Supreme Court.⁵³

This Article argues that efficiency of the common law from this bottom-up approach is only possible if there is first a top-down response from a centralized authority that creates a singular standard for a common-law subject (assuming that the structures that produce common law themselves do not change over time). The critical insight is that common law can become more efficient only when there is a singular goal of efficiency. This is a necessary but not sufficient condition. This Article applies the combination of top-down and bottom-up approaches that exist in modular-platform design to identify where the efficiency of common law is possible.

49 Richard A. Posner, *Legal Reasoning from the Top Down and from the Bottom Up: The Question of Unenumerated Constitutional Rights*, 59 U. CHI. L. REV. 433, 433–35 (1992).

50 See Priest & Klein, *supra* note 12, at 52–54; Rubin, *Common Law and Statute Law*, *supra* note 8, at 210–11.

51 See Richard A. Posner, *The Chicago School of Antitrust Analysis*, 127 U. PA. L. REV. 925, 928–29 (1979) (“[Antitrust jurisprudence] regularly advanced propositions that contradicted economic theory.”).

52 See Nuno Garoupa & Carlos Gómez Ligüerre, *The Evolution of the Common Law and Efficiency*, 40 GA. J. INT’L & COMP. L. 307, 340 (2012) (explaining that different jurisdictions provide “different legal outcomes”).

53 See Steven G. Calabresi, Essay, *Does Institutional Design Make a Difference?*, 109 Nw. U. L. REV. 577, 581 (2015) (“[S]ubstantive law of contract, property, torts, inheritance, family law, and criminal law are overwhelmingly areas of state law, which is not true in most other federations.”).

II. LAW AS A PLATFORM

We first begin with basic questions: What is a two-sided platform and how does it work? A two-sided platform is unlike a traditional market. In a one-sided market, a buyer deals directly with a seller. For example, a law professor may go to the American Airlines website to purchase a ticket from New York to San Francisco. A two-sided market adds value as an intermediary that connects two sides of a market. For example, an online travel website like Kayak or Expedia connects buyers and sellers. The value of the two-sided market (or platform) is the ability to make matches across both sides of the market.⁵⁴ Two-sided markets are ubiquitous to life, such as with dating apps, stock exchanges, video games, credit cards, social networks, and computer operating systems. Two more in-depth examples illustrate how the platform serves as an intermediary between the two sides of the market that is distinct from a one-sided market.

A two-sided platform may be a newspaper like the *New York Times* or *Wall Street Journal*. The platform appeals to both sides of the market. On one side of the market are readers. On the other side are advertisers.⁵⁵ Though there may be a subscription fee from readers, the vast majority of profit comes from advertising. That is, the price to one side of the market (readers) is below the cost of acquiring and distributing the newspaper content.

In online markets, the differences between costs across the two sides of the market are even more significant. OpenTable is an online platform that connects patrons to restaurants through a mechanism to book restaurant reservations.⁵⁶ Restaurants want greater certainty in terms of how much food to order and how many line chefs and wait staff they need for a particular day and time of day. Patrons want the certainty of reservations so that they do not need to wait for their table to be ready. OpenTable's platform allows this exchange to make both sides better off and indeed the restaurants subsidize the "free" side of the platform (patrons) by offering frequent-eater rewards.⁵⁷

Much of the legal and economics academic work on platforms focuses on issues of pricing and competition.⁵⁸ For our purposes, the pricing dynamics are not important. This Article focuses on the existence of law as a

54 See Rochet & Tirole, *Two-Sided Markets*, *supra* note 22, at 645.

55 See *id.*

56 OPENTABLE, <https://www.opentable.com/> (last visited Sept. 28, 2019).

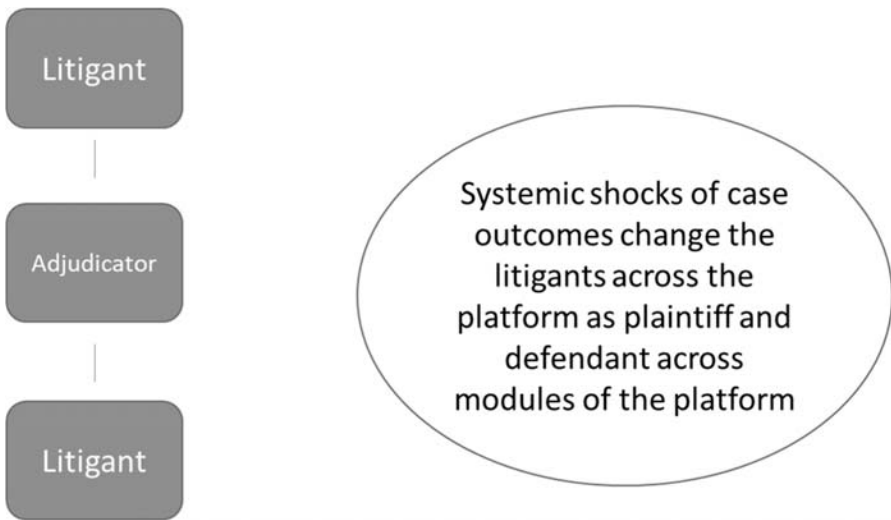
57 *OpenTable Dining Rewards*, OPENTABLE, https://help.opentable.com/s/article/OpenTable-Dining-Rewards?language=en_US (last visited Sept. 28, 2019).

58 See Evans & Schmalensee, *supra* note 25, at 411–13, 415–19 (providing a literature review). There is also a significant literature on platforms in related fields such as information systems, marketing, strategy, operations management, and finance. See generally, e.g., Jennifer Brown & David A. Matsa, *Boarding a Sinking Ship? An Investigation of Job Applications to Distressed Firms*, 71 J. FIN. 507 (2016); Thomas R. Eisenmann et al., *Platform Envelopment*, 32 STRATEGIC MGMT. J. 1270 (2011); Avi Goldfarb & Catherine Tucker, *Online Display Advertising: Targeting and Obtrusiveness*, 30 MARKETING SCI. 389 (2011); Alfred Taudes et al., *Options Analysis of Software Platform Decisions: A Case Study*, 24 MIS Q. 227 (2000) Amrit Tiwana et al., *Platform Evolution: Coevolution of Platform Architecture, Governance, and Environmental Dynamics*, 21 INFO. SYS. RES. 675 (2010).

two-sided market and an issue that emerges for purposes of understanding the architecture and governance of the judge-made law as a platform—how open the platform is with regard to compatibility and integration.

In a sense, there are two conceptualizations of efficiency—the first relates to Posner’s notion of efficiency in terms of the substantive law based on allocative efficiency and the second to optimizing the efficiency of the legal process of the court system itself to produce law. We focus on the first. Figure 1 below identifies how law as a platform works in practice.

FIGURE 1: THE TWO-SIDED MARKET FOR JUDGE-MADE LAW
AS AN OPEN-SOURCE MODULAR SYSTEM



Common law, as the forum/formal legal system, is a platform that connects parties to adjudicators. This is different from a one-sided legal market such as the direct settling of business disputes of two parties via relational contracts.⁵⁹

One can take the analogy of law as a platform even further. There are two types of software platforms—open source and closed. The closed platform purposely reduces compatibility of the operating system.⁶⁰ One well-known example is Apple. Apple has very strong control over the design and manufacture of mobile devices and applications that run on the Apple iOS operating system. For example, a song downloaded on iTunes will not run on a Windows-based player. This may be like certain types of statutory law with significant top-down control over the legal regime. This is not to suggest that a closed platform cannot be efficient. Rather, the focus in this Article is

⁵⁹ See, e.g., ROBERT C. ELLICKSON, *ORDER WITHOUT LAW*, at vii (1991).

⁶⁰ See, e.g., Chris Hoffman, *Android Is “Open” and iOS Is “Closed”—But What Does That Mean to You?*, HOW-TO GEEK, <https://www.howtogeek.com/217593/android-is-open-and-ios-is-closed-but-what-does-that-mean-to-you/> (last updated June 20, 2017).

on open-source platforms because common law looks like an open-source platform, and so the emphasis is on understanding the common-law system.

The other type of operating system is an open operating system such as Linux. The platform is open “to the extent that (1) no restrictions are placed on participation in its development, commercialization, or use; and (2) any restrictions—for example, requirements to conform with technical standards or pay licensing fees—are reasonable and non-discriminatory, that is, they are applied uniformly to all potential platform participants.”⁶¹

The common-law judge-made-law approach to law resembles an open-source platform. Common-law development allows for experimentation in terms of doctrinal developments. Thus, courts create the possibility of efficiency of the common law much the same way that open platforms encourage greater competition within set parameters of the source code than closed platforms.⁶²

In this sense, openness of the platform is an important issue in platform design. To create an open system requires a set of agreements that requires some amount of centralized control but not so much centralized control that it loses the benefits of modularity. To understand law as an open-source modular platform, one must first understand open-source, modularity, and platform architecture and governance, which this Article explores in the next Section.

A. Platform Architecture and Governance

Platform design and governance play important roles in the functioning of the platform.⁶³ A platform requires overall stability for its design architecture, but enough flexibility for modules to be functional in ways that still allow for variety.⁶⁴ A strong platform architecture with a more centralized governance structure is required, as “without some form of strict governance by the [multisided platform], each constituent might fail to take actions or investments that would have positive spillover effects for the [multisided platform] and its other constituents.”⁶⁵ When the system architecture is badly designed, the system will underperform from the standpoint of efficiency.⁶⁶

61 Thomas R. Eisenmann et al., *Opening Platforms: How, When and Why?*, in PLATFORMS, MARKETS AND INNOVATION 131, 131 (Annabelle Gawer ed., 2009).

62 GEOFFREY G. PARKER ET AL., PLATFORM REVOLUTION 212 (2016). (“[P]latforms [must] expand the boundaries of the firm. The shifting horizons of managerial influence now make competition less significant for strategists than collaboration and co-creation The shift from protecting value inside the firm to creating value outside the firm means that the crucial factor is no longer ownership but opportunity, while the chief tool is no longer dictation but persuasion.” (footnote omitted)).

63 See Ron Sanchez & Joseph T. Mahoney, *Modularity, Flexibility, and Knowledge Management in Product Organization and Design*, 17 STRATEGIC MGMT. J. 63, 64 (1996).

64 Tiwana et al., *supra* note 58, at 679.

65 Andrei Hagiu, *Strategic Decisions for Multisided Platforms*, MIT SLOAN MGMT. REV., Winter 2014, at 71, 78; see also PARKER ET AL., *supra* note 62, at 1–15, 35–59, 157–82.

66 See Richard N. Langlois, *Modularity in Technology and Organization*, 49 J. ECON. BEHAV. & ORG. 19, 23–24 (2002).

Efficiency need not be the only value that is maximized in open source. Indeed, there are a number of papers that suggest that a shared sense of community drives some of the dynamics of open source.⁶⁷ However, as a positive matter, an efficient open-source platform bears the closest analogy to common law.

Platform architecture impacts open source, which is akin to common-law development. Open source allows for innovation through allowing users of the platform to add functionality by modifying code so long as the changes to the system work within the standard interface. Professor Arti Rai explains that “[i]n most open-source communities, a small group of individuals (sometimes just one individual) is responsible for distributing an initial set of code or data. The larger community, led at any given time by a core group, then builds upon this code or data.”⁶⁸ Legal precedent works in much the same way in that particular doctrines will be used and modified by subsequent judges tinkering with the doctrine ostensibly to improve it with centralized control by higher courts.

Open-source development allows developers to augment the work of others freely.⁶⁹ Open source creates opportunities for individual programmers to add new functionality to source code and improve the system architecture organically through trial and error.⁷⁰ Because open source is widely available and open to public scrutiny, bugs in programming can be discovered more rapidly.⁷¹ The open nature of source code allows for an interested programmer to add new functionality to the code with a related application or other function based on the prior source code. Open source also allows for significant scale.⁷²

Perhaps the best-known example of open source is the Linux operating system. However, other open-source projects include Tesla’s open source for electric vehicle technology⁷³ and Netflix’s open source for cloud computing technology.⁷⁴

67 See, e.g., Eric von Hippel, Essay, *Innovation by User Communities: Learning from Open-Source Software*, MIT SLOAN MGMT. REV., Summer 2001, at 82.

68 Arti K. Rai, “Open Source” and Private Ordering: A Commentary on Dusollier, 82 CHI-KENT L. REV. 1439, 1440 (2007).

69 Robert W. Gomulkiewicz, *Enforcement of Open Source Software Licenses: The MDY Trio’s Inconvenient Complications*, 14 YALE J.L. & TECH. 106, 112 (2011) (“[O]pen source refers to the software development model that is typically used in the open source community. In that model, a programmer creates software and posts the source code on the Internet, and a community grows up around the software as developers exchange bug fixes and new features.” (citing STEVEN WEBER, *THE SUCCESS OF OPEN SOURCE* (2004))).

70 See WEBER, *supra* note 69, at 2, 11.

71 ERIC S. RAYMOND, *THE CATHEDRAL AND THE BAZAAR* 33–36 (Tim O’Reilly ed., rev. ed. 2001).

72 See Yochai Benkler, *The Wealth of Networks* 67 (2006) (“[T]he open source movement has shown . . . that this simple model can operate on very different scales.”).

73 Elon Musk, *All Our Patent Are Belong to You*, TESLA (June 12, 2014), <https://www.tesla.com/blog/all-our-patent-are-belong-you>.

74 NETFLIX OPEN SOURCE SOFTWARE CENTER, <https://netflix.github.io/> (last visited Sept. 22, 2019).

In spite of the bottom-up approach to open source, effective open-source platforms require some hierarchy. Professor Christopher Yoo notes that the more successful open-source projects all have the same core feature—significant centralization of control.⁷⁵ This perhaps comes as a surprise given the rather collectivist notions often associated with the open-source movement.⁷⁶

Architectural design for platforms bears resemblance to issues of institutional design in law, in which each institutional design is imperfect and yet one needs to have a legal system that works more often than not given various tradeoffs across institutional choices (some of which are independent concerns from the two-sided nature of judge-made law).⁷⁷ This is also related to the literature in law on institutional design and to how law evolves based on factors such as initial endowment, path dependency, public-choice concerns, and various shocks to the legal system.⁷⁸

Change may be easier for a particular doctrine rather than an entire body of law. In an open-source platform, this change is a function of a modular design of a legal system. Without strong governance, it is difficult to make changes to the platform. That is, changing the overall institutional architecture can be costly.⁷⁹ Changing the overall architecture itself is difficult and moves only slowly. This is due to path dependence.⁸⁰ In the legal system, path dependence may occur because every incremental change in terms of caselaw development is of low cost.⁸¹ This may be the case even if another overall approach to the law may be superior.⁸²

75 Christopher S. Yoo, *Open Source, Modular Platforms, and the Challenge of Fragmentation*, 1 CRITERION J. ON INNOVATION 619, 631–32 (2016).

76 E.g., Mark A. Lemley & Ziv Shafir, *Who Chooses Open-Source Software?*, 78 U. CHI. L. REV. 139, 139–41 (2011); Jeffrey A. Roberts et al., *Understanding the Motivations, Participation, and Performance of Open Source Software Developers: A Longitudinal Study of the Apache Projects*, 52 MGMT. SCI. 984, 984 (2006); Eric von Hippel & Georg von Krogh, *Open Source Software and the “Private-Collective” Innovation Model: Issues for Organization Science*, 14 ORG. SCI. 209, 209 (2003).

77 See, e.g., MASAHIKO AOKI, TOWARD A COMPARATIVE INSTITUTIONAL ANALYSIS 1–3 (2001); Eric S. Maskin, *Mechanism Design: How to Implement Social Goals*, 98 AM. ECON. REV. 567, 567 (2008).

78 See Mark J. Roe, Commentary, *Chaos and Evolution in Law and Economics*, 109 HARV. L. REV. 641, 641–43 (1996); see also Nicola Gennaioli & Andrei Shleifer, *The Evolution of Common Law*, 115 J. POL. ECON. 43, 46, 62 (2007); E. Donald Elliott, *The Evolutionary Tradition in Jurisprudence*, 85 COLUM. L. REV. 38, 38 (1985).

79 Eric von Hippel, *Task Partitioning: An Innovation Process Variable*, 19 RES. POL’Y 407, 409 (1990).

80 Christopher S. Yoo, *Modularity Theory and Internet Regulation*, 2016 U. ILL. L. REV. 1, 36, 38.

81 See Oona A. Hathaway, *Path Dependence in the Law: The Course and Pattern of Legal Change in a Common Law System*, 86 IOWA L. REV. 601, 607, 647–650 (2001).

82 See S.J. Liebowitz & Stephen E. Margolis, *Path Dependence, Lock-In, and History*, 11 J.L. ECON. & ORG. 205, 210 (1995). Path dependence is similar to issues of lock-in standards. See, e.g., Michael L. Katz & Carl Shapiro, *Technology Adoption in the Presence of Network Exter-*

B. Modularity

From the standpoint of platform architecture, a platform provides for core functionality based on the modules that interoperate with the platform and the various interfaces in which the platform operates. A module is an add-on component to the platform that connects to the platform for purposes of functionality. For example, if the platform is the Apple iPhone operating system, a module may be an app.⁸³

Modularity reduces complexity through a hierarchical decomposition of a system into various components, like breaking out a legal rule or doctrine into its various elements.⁸⁴ Each of “[t]he components in a modular system interact with one another through a limited number of standardized interfaces.”⁸⁵ The strength of modularity is that it allows multiple people to work on different parts of a system simultaneously by dividing up the system into small parts that an individual or group of individuals can work on at one time.⁸⁶ This allows for “rapid trial-and-error learning,”⁸⁷ since a module that does not work can be modified without changing the entire system.

Companies that utilize modular architecture are able to swap out less efficient modular parts for more efficient ones.⁸⁸ Put differently, it is much easier to adapt a modular component than an entire platform architecture, and this adaptation creates lower costs and greater speed of change. This adaptability allows for increased economic returns based on the division of labor into modular components.⁸⁹ As such, each module operates more or

nalities, 94 J. POL. ECON. 822, 825 (1986); Joseph Farrell & Garth Saloner, *Standardization, Compatibility, and Innovation*, 16 RAND J. ECON. 70, 70–72 (1985).

83 Tiwana et al., *supra* note 58, at 675.

84 See Herbert A. Simon, *The Architecture of Complexity*, 106 PROC. AM. PHIL. SOC’Y 467, 477 (1962) (“The fact . . . that many complex systems have a nearly decomposable, hierarchic structure is a major facilitating factor enabling us to understand, to describe, and even to ‘see’ such systems and their parts.”).

85 Timothy Simcoe, *Modularity and the Evolution of the Internet*, in ECONOMIC ANALYSIS OF THE DIGITAL ECONOMY 21, 23 (Avi Goldfarb et al. eds., 2015).

86 See Joseph Farrell & Philip J. Weiser, *Modularity, Vertical Integration, and Open Access Policies: Towards a Convergence of Antitrust and Regulation in the Internet Age*, 17 HARV. J.L. & TECH. 85, 100 (2003) (“Thus, firms will sometimes opt for modularity as a means of bringing maximum imagination and diversity to the problem of developing applications on a platform, and minimizing the need for complex coordination.”); see also Yoo, *supra* note 75, at 620.

87 Richard N. Langlois & Paul L. Robertson, *Networks and Innovation in a Modular System: Lessons from the Microcomputer and Stereo Component Industries*, 21 RES. POL’Y 297, 301 (1992).

88 See Alan MacCormack et al., *Building the Agile Enterprise: IT Architecture, Modularity and the Cost of IT Change* 12 (Harvard Bus. Sch., Working Paper No. 15-060, 2016).

89 Tiwana et al., *supra* note 58, at 678 (noting that breaking down various components “minimizes interdependence among the evolution processes of components of the ecosystem, supporting change and variation, and it also helps cope with complexity”); see also David J. Teece, *Profiting from Technological Innovation: Implications for Integration, Collaboration, Licensing and Public Policy*, 15 RES. POL’Y 285, 295–98 (1986); Youngjin Yoo et al., *The*

less independently of other modules (although some interactions remain) while they are integrated within the larger system architecture.⁹⁰

Open source complements modularity in some ways, as open source requires individuals or groups to divide up various system subparts into workable units for change.⁹¹ Some areas in which modularity may be applied include platform industries as diverse as healthcare,⁹² financial services,⁹³ software,⁹⁴ and the internet.⁹⁵

There are efficiencies in breaking down products to the modular level. A programmer need only understand the overall design architecture and interactions with adjacent modules to make modular systems easier to implement.⁹⁶

Modular design also allows for swapping out different modules at different speeds in parallel with each other.⁹⁷ In a legal context, modularity allows for courts to work their way through cases by a broader design rule and for common-law jurisprudence to develop in a particular doctrine without disturbing the rest of the system, so long as the overall architecture (the goal of a particular substantive area of law) is maintained.

Professor Smith has used modularity to describe property law and to explain property law's ability to solve multiparty interactions over the use of resources,⁹⁸ while Professor Yoo has used it to describe internet law for areas such as telecommunications network unbundling and network neutrality.⁹⁹ This Article makes the claim that common law more generally is modular, based upon a platform architecture that is open source.

New Organizing Logic of Digital Innovation: An Agenda for Information Systems Research, 21 INFO. SYS. RES. 724, 727–28 (2010).

90 See Simon, *supra* note 84, at 477.

91 See Yoo, *supra* note 75, at 620.

92 Carolien de Blok et al., *The Human Dimension of Modular Care Provision: Opportunities for Personalization and Customization*, 142 INT'L J. PRODUCTION ECON. 16, 17–19 (2013).

93 J.M. Liebenau et al., *Modularity and Network Integration: Emergent Business Models in Banking*, 2014 PROC. 47TH ANN. HAW. INT'L CONF. ON SYS. SCI. 1183, 1186.

94 Alan MacCormack et al., *Exploring the Structure of Complex Software Designs: An Empirical Study of Open Source and Proprietary Code*, 52 MGMT. SCI. 1015, 1015, 1026–29 (2006).

95 Simcoe, *supra* note 85, at 33–41.

96 See Melissa A. Schilling & H. Kevin Steensma, *The Use of Modular Organizational Forms: An Industry-Level Analysis*, 44 ACAD. MGMT. J. 1149, 1161–63 (2001).

97 See Yoo, *supra* note 80, at 22 (“The existence of multiple dimensions along which a design can be improved technologically unlocks the value identified by real option theory. When potential technological improvements arise for systems that consist of a single, interconnected design, the architect only has a single decision: whether to adopt the improvement or not.” (citing 1 CARLISS Y. BALDWIN & KIM B. CLARK, DESIGN RULES 236, 238, 252 (2000))).

98 Henry E. Smith, *On the Economy of Concepts in Property*, 160 U. PA. L. REV. 2097, 2111–18 (2012).

99 Yoo, *supra* note 80, at 39–42, 50.

C. Fragmentation

The value of modularity is of holding together the architectural integrity of a platform by ensuring that programmers do not include interconnections that fall outside of the architectural design.¹⁰⁰ Thus, strict control is necessary to enjoy the benefits of the architectural design. Put differently, modularity helps when the various outcomes are compatible with the system architecture. Where they are not compatible, modularity chills product recombinations that would change the overall system architecture.¹⁰¹

The problem of too much modularity is that if there is not sufficient control regarding the architecture onto each module, the system as a whole will not be efficient.¹⁰² From an efficiency standpoint, the platform architecture needs sufficient control to stimulate innovation in the modules.¹⁰³ Without sufficient control, the lack of coordination across modules will create problems of fragmentation.¹⁰⁴

Fragmentation leads to divergent outcomes as processes break down into different parts that are not compatible with each other. From the perspective of an online platform and governance, fragmentation may occur as a result of forking, where there are different versions of software code that can be used. Forking occurs as a result of a governance structure that is not sufficient to prevent separating into different fragments.¹⁰⁵ Typical proprietary firms control their code to prevent forking. In open source, code “forking” leads to situations in which competing developers work on incompatible versions of software.¹⁰⁶

Open source and modularity also may be in tension as a result of fragmentation.¹⁰⁷ The possibility of fragmentation or forking has been a prob-

100 *Id.* at 10; *see also* David Lorge Parnas et al., *The Modular Structure of Complex Systems*, 1984 PROC. 7TH INT’L CONF. ON SOFTWARE ENGINEERING 408.

101 *See* Yoo, *supra* note 80, at 16–17.

102 *See* Henry W. Chesbrough & David J. Teece, *When Is Virtual Virtuous? Organizing for Innovation*, HARV. BUS. REV., Jan.–Feb. 1996, at 65, 66–69 (“Coordinating a systemic innovation is particularly difficult when industry standards do not exist and must be pioneered. In such instances, virtual organizations are likely to run into strategic problems.”).

103 *See* Geoffrey Parker & Marshall Van Alstyne, *Innovation, Openness, and Platform Control*, 64 MGMT. SCI. 3015, 3018 (2018).

104 This is true not merely in software but in other platforms. *See* Kathryn Judge, *Fragmentation Nodes: A Study in Financial Innovation, Complexity, and Systemic Risk*, 64 STAN. L. REV. 657, 686 (2012) (identifying fragmentation in financial services); Robin S. Lee & Tim Wu, *Subsidizing Creativity Through Network Design: Zero-Pricing and Net Neutrality*, 23 J. ECON. PERSP. 61, 67–68 (2009) (noting fragmentation in the internet).

105 *See generally* Parker & Van Alstyne, *supra* note 103. In some cases, it is possible for the open source to be “hijack[ed]” by commercial vendors. Josh Lerner & Jean Tirole, *The Scope of Open Source Licensing*, 21 J.L. ECON. & ORG. 20, 26, 30 (2005).

106 *See* Linus Nyman & Tommi Mikkonen, *To Fork or Not to Fork: Fork Motivations in SourceForge Projects*, 2011 PROC. 7TH IFIP WG 2.13 INT’L CONF. 259, 259–66 (providing a discussion of the motivations for code forking); Bruce Kogut & Anca Metiu, *Open-Source Software Development and Distributed Innovation*, 17 OXFORD REV. ECON. POL’Y 248, 257 (2001).

107 Yoo, *supra* note 75, at 620–21.

lem in a number of open-source programs. Perhaps the best-known case of forking and fragmentation is found in what is known as the “Unix Wars” of the 1980s and 1990s.

Unix is a well-known operating system, which Professor Timothy Simcoe has described as “one of the most technically and commercially significant operating systems in the history of computing.”¹⁰⁸ The origins of Unix were based on an innovation at the former AT&T Bell Laboratories.¹⁰⁹ Because AT&T was operating under a 1956 antitrust consent decree that required it to license its patents,¹¹⁰ AT&T licensed it to universities on a royalty-free basis but without any promise to fix any bugs.¹¹¹ One leader that used Unix at the university level was Bill Joy, who “released the first Berkeley Software Distribution . . . as an add-on to . . . Unix in 1977.”¹¹² With the breakup of AT&T in 1982, AT&T was able to commercialize Unix as System V.¹¹³ Other companies also created their own versions of Unix and as AT&T sought to control Unix, a rival group of companies created the Open Software Foundation.

The end of the 1980s led to forking and fragmentation of commercial applications of Unix as a result.¹¹⁴ On the commercial side, Unix lost out to Microsoft, and on the open-source side, Unix lost out to Linux.¹¹⁵

The lack of effective centralized governance meant that when faced with fragmentation and potential forking, there was no mechanism to step in to ensure that the system architecture would remain strong. If the value of modularity and open source was to have as many eyeballs as possible fix potential bugs in the system and make improvements to it, the lack of a singular standard meant that Unix was less efficient than it needed to be to remain the appropriate platform for software developers.¹¹⁶

Linux, a more modern open-source architecture, solved the problem of forking through a more centralized authority for its governance. We first begin with a basic description of Linux to explain why its governance over open-source material prevented forking.

108 Timothy Simcoe & Jeremy Watson, *Forking, Fragmentation, and Splintering* 24 (Bos. Univ. Questrom Sch. of Bus., Research Paper No. 2862234, 2018), <https://ssrn.com/abstract=2862234>.

109 See Martin Watzinger et al., *How Antitrust Enforcement Can Spur Innovation: Bell Labs and the 1956 Consent Decree 7* (June 9, 2017) (unpublished manuscript), http://www.martin-watzinger.com/uploads/4/9/4/1/49415675/watzinger_et_al_2017.pdf (“Scientists at Bell are credited with the development of . . . the Unix operating system.”).

110 *Id.* at 1, 5–7 (providing details on the 1956 consent decree).

111 Simcoe & Watson, *supra* note 108.

112 *Id.* at 24; see also Yoo, *supra* note 75, at 634–35.

113 Simcoe & Watson, *supra* note 108.

114 Yoo, *supra* note 75, at 634–36.

115 *Id.* at 635.

116 *Id.* at 635–36.

Linux was developed by Linus Torvalds and programmers in the early 1990s.¹¹⁷ Torvalds had created the “kernel”—the computer code that manages the functions of an operating system¹¹⁸—while still in college.¹¹⁹

The importance of a strong central authority for governance of the architecture is critical to the success of open-source modular design.¹²⁰ The governance of Linux is built around Torvalds.¹²¹ He has what has been described as a “benevolent[]” centralized system of control over the entire system architecture.¹²² Thus, in spite of the possibility that anyone can add to source code, in reality Torvalds (and his lieutenants) approve all changes to the kernel.¹²³ Modules that do not impact the kernel are allowed by Torvalds.¹²⁴ This prevents forking because it creates a common set of design rules for all modules.¹²⁵

III. APPLICATION OF PLATFORM ARCHITECTURE, MODULARITY, AND FRAGMENTATION TO LAW

The literature on platform architecture suggests certain lessons for understanding the efficiency of common law. Multiplicity of goals within substantive areas of law do not allow for sufficient centralization of platform governance of legal doctrine by subject. As a result, the legal system as a platform ends up with a Tiebout model with sorting effects based on different preferences and standards.¹²⁶ This is not efficient, as any substantive area of law lacks a unifying top-down goal for predictability and leads to disparate, and inefficient, outcomes. This insight alone does not require a two-sided market analysis. However, understanding law as a two-sided market explains the open-source-like nature of law with a centralized authority governance structure and modular design.

Fragmentation of the open-source nature of law is going to be more likely when there are multiple decisionmakers in terms of top-down decision-

117 Kogut & Metiu, *supra* note 106, at 252.

118 Christopher Tozzi, *Linux at 25: Why It Flourished While Others Fizzled*, IEEE SPECTRUM (Mar. 29, 2016), <https://spectrum.ieee.org/tech-history/cyberspace/linux-at-25-why-it-flourished-while-others-fizzled>.

119 PAUL S. WANG, *MASTERING LINUX 1–2* (2011).

120 See Josh Lerner & Jean Tirole, *Some Simple Economics of Open Source*, 50 J. INDUS. ECON. 197, 221 (2002) (explaining that an “important determinant of project success” is a “strong centralization of authority”).

121 Kogut & Metiu, *supra* note 106, at 253.

122 *Id.*

123 *Id.*

124 *Id.*

125 See Carliss Y. Baldwin & Kim B. Clark, *The Architecture of Participation: Does Code Architecture Mitigate Free Riding in the Open Source Development Model?*, 52 MGMT. SCI. 1116, 1117 (2006) (“However, the different parts of a modular system must be compatible. Compatibility is ensured by *architectural design rules* that developers obey and can expect others to obey.”).

126 See generally Charles M. Tiebout, *A Pure Theory of Local Expenditures*, 64 J. POL. ECON. 416 (1956).

making, akin to Unix. In law, state law and state courts are more likely to lead to fragmentation of doctrinal outcomes than federal law. Even code-based law is not merely a cut-and-paste as it evolves via judicial interpretation. State courts might interpret the same statute differently and create variation, or a local court might ignore the statute.¹²⁷ In most of federal law, the Supreme Court is the ultimate decisionmaker as to doctrinal development.

Procedural rules intersect with substantive areas of law in significant ways, making efficiency of common law more or less likely based on the weeding out of nonmeritorious cases from the litigation pipeline. Because courts see only a fraction of total disputes, there are limits to the types of cases that judges would see to explicitly create a more efficient legal system.¹²⁸ Similarly, judicial path dependence and asymmetric litigant stakes create dynamic processes of case selection that may lead to doctrinal shifts.¹²⁹ This Article notes this procedural dynamic but focuses Sections III.A–E on particular doctrinal areas of law based on substantive areas.

The next Sections of this Article provide a set of examples across a number of areas of law that demonstrate the importance of both the centralized governance with a singular goal (which requires not merely consensus in law, but some level of academic consensus on the goal) and the importance of modular design that does not permit fragmentation. Without both the open-source modular design and centralized authority, any gains of modularity are erased by significant fragmentation. This prevents the efficiency of common law and explains why most areas of judge-made law overall have not become more efficient.¹³⁰

127 Fragmentation itself is not all bad. Federalism arguments suggest the idea of states as laboratories for experimentation, so we might worry about inefficient lock-in. However, the ability to swap out bad doctrine for good doctrine limits inefficient lock-in, as the efficiency of common law theorists argue.

128 See Peter H. Aranson, *The Common Law as Central Economic Planning*, 3 CONST. POL. ECON. 289, 300–02 (1992).

129 See Vincy Fon & Francesco Parisi, *Litigation and the Evolution of Legal Remedies: A Dynamic Model*, 116 PUB. CHOICE 419, 429–30 (2003) (discussing the consequences of allowing policy views of judges to affect outcomes of cases); Vincy Fon et al., *Litigation, Judicial Path-Dependence, and Legal Change*, 20 EUR. J.L. & ECON. 43, 52–54 (2005).

130 Though this Article focuses on substantive law and its efficiency, concerns of fragmentation also impact procedural issues. Jurisdictions (and fora) might compete with each other for particular types of cases. This may impact litigation outcomes. However, whether or not such jurisdictional competition is efficient depends. See Todd J. Zywicki, *Is Forum Shopping Corrupting America's Bankruptcy Courts?*, 94 GEO. L.J. 1141, 1146 (2006) (book review) (explaining that such competition can be either “good or bad . . . depending on the institutional structure surrounding it and the incentives of the parties partaking in it”); see also Daniel Klerman, *Jurisdictional Competition and the Evolution of the Common Law*, 74 U. CHI. L. REV. 1179, 1182–83 (2007) (finding a proplaintiff bias in premodern England); William M. Landes & Richard A. Posner, *Adjudication as a Private Good*, 8 J. LEGAL STUD. 235, 253–55 (1979) (identifying plaintiff forum shopping). However, such forum selling can self-correct efficiently when there is a singular high-level court that can reduce the incentives to forum shop, as recently happened in patent cases because of Supreme Court intervention. *TC Heartland LLC v. Kraft Foods Grp. Brands LLC*, 137 S.

This Article provides an informal rank ordering based on how strongly the legal architecture of a given substantive area of law pushes in the direction of efficiency. At the top would be antitrust, with a centralized decisionmaker and an academic and judicial appreciation of how antitrust rules affect consumer welfare (a form of efficiency). Next, perhaps, would be corporate law, with very important decisionmakers in the Delaware legislature and Chancery and Delaware Supreme courts, and a focus on maximization of shareholder value. At the bottom would be torts, where there are fifty decisionmakers who appear to focus on questions of ex post fairness as much as they do on efficiency.

A. Tort Law

Tort is a common law that is decided primarily at the state level. Because there are fifty different state supreme courts (fifty different system architectures), fragmentation is possible across each of the fifty systems. This fragmentation occurs in practice, as Restatements have not solved the issue of fragmentation,¹³¹ nor is there a singular goal for tort policy.¹³²

Ideological divergence in legal scholarship also makes orientation to a singular goal difficult. In torts, rights-based approaches vie with economic-based approaches in scholarship.¹³³ Without a clear vision as to what approach law should take as a policy matter as the centralizing feature to governance of law, modular design has competing goals for judges to utilize when framing their decisions. These competing goals lead to inefficient modular solutions because competing governance structures based on different goals make convergence toward more efficient law more difficult.

In spite of normative work to try to shape tort law to a more economic approach by law-and-economics scholars,¹³⁴ a recent article by Professor

Ct. 1514, 1516–17 (2017). *But see* Paul R. Gugliuzza & Megan M. La Belle, *The Patently Unexceptional Venue Statute*, 66 AM. U. L. REV. 1027, 1030–31 (2017) (arguing that *TC Heartland* may result in increased doctrinal fragmentation and increase litigation costs). In other settings, corporate law is an area where jurisdictional competition has led to more efficient legal rules designed to maximize the value of firms and ultimately impact allocative efficiency. ROBERTA ROMANO, *THE GENIUS OF AMERICAN CORPORATE LAW* 148 (1993).

131 *See generally* RESTATEMENT (THIRD) OF TORTS: LIAB. FOR PHYSICAL AND EMOTIONAL HARM (AM. LAW INST. 2012); RESTATEMENT (THIRD) OF TORTS: APPORTIONMENT OF LIAB. (AM. LAW INST. 2000); RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB. (AM. LAW INST. 1998).

132 *See* A. Mitchell Polinsky & Steven Shavell, *The Uneasy Case for Product Liability*, 123 HARV. L. REV. 1437, 1491–92 (2010) (providing a law-and-economic analysis of tort law for product liability). *But see* John C.P. Goldberg & Benjamin C. Zipursky, *The Easy Case for Products Liability Law: A Response to Professors Polinsky and Shavell*, 123 HARV. L. REV. 1919, 1942–43 (2010) (offering a critical view to the traditional law-and-economics model).

133 *See, e.g.*, RONALD DWORKIN, *TAKING RIGHTS SERIOUSLY* 193–94 (1977); Gregory C. Keating, *A Social Contract Conception of the Tort Law of Accidents*, in *PHILOSOPHY AND THE LAW OF TORTS* 22, 22, 33–34 (Gerald J. Postema ed., 2001); Richard W. Wright, *Justice and Reasonable Care in Negligence Law*, 47 AM. J. JURIS. 143, 145 (2002).

134 *See* WILLIAM M. LANDES & RICHARD A. POSNER, *THE ECONOMIC STRUCTURE OF TORT LAW* 312–16 (1987) (providing descriptive and normative arguments for the use of eco-

Noah surveys a series of basic issues including: parental negligence, prenatal injury claims, contributory negligence defense, waivers of liability, negligent entrustment claims, dram shop liability, and landowner duties to trespassers (among others).¹³⁵ He finds often that there are more than two approaches to such questions among state courts in the United States.¹³⁶ Other work suggests that at times courts within a state may take internally inconsistent positions,¹³⁷ only adding to the forking problem.

B. Bankruptcy Law

Unlike common-law systems, statutes do not have a discrete evolutionary aspect to them. As a result, they are not bound by *stare decisis* and there can be significant shifts in statutory treatment. However, the cost of changing a statute, rather than not changing based on a new legislature's preference, may be costly.¹³⁸

Bankruptcy law is primarily federal once a debtor or creditor seeks bankruptcy relief. This idea was enshrined originally in the Constitution.¹³⁹ Though the bankruptcy code has made certain important changes to particular statutory provisions and caselaw development, core elements remain because of the cost of completely revamping the bankruptcy system.

Within bankruptcy law there are multiple goals. The basis for the competing goals comes from the code itself. In bankruptcy, there are two potential competing goals—protection of labor and efficiency. The legislative history reflects this duality. In 1977, the House Judiciary Committee wrote in its report on Chapter 11 that:

The purpose of a business reorganization case . . . is to restructure a business's finances so that it may continue to operate, provide its employees with jobs, pay its creditors, and produce a return for its stockholders. . . . It is more economically efficient to reorganize than to liquidate, because it preserves jobs and assets.¹⁴⁰

conomic analysis for tort law); *see also* LOUIS KAPLOW & STEVEN SHAVELL, *FAIRNESS VERSUS WELFARE* 85–154 (2002) (advocating that tort liability rules should be based on economic welfare, often to minimize the total cost of accidents).

135 *See generally* Lars Noah, “Go Sue Yourself!” *Imagining Intrapersonal Liability for Negligently Self-Inflicted Harms*, 70 *FLA. L. REV.* 649 (2018).

136 *Id.* at 689–90, 690 nn.187–88.

137 *See* Lars Noah, *An Inventory of Mathematical Blunders in Applying the Loss-of-a-Chance Doctrine*, 24 *REV. LITIG.* 369, 392–93, 393 n.80 (2005).

138 *See* Giacomo A.M. Ponzetto & Patricio A. Fernandez, *Case Law Versus Statute Law: An Evolutionary Comparison*, 37 *J. LEGAL STUD.* 379, 394–95 (2008).

139 U.S. CONST. art. I, § 8. Whether or not the bankruptcy system should be de-federalized is a different issue. *See, e.g.*, Thomas H. Jackson, *The Fresh-Start Policy in Bankruptcy Law*, 98 *HARV. L. REV.* 1393, 1437–38 (1985); David A. Skeel, Jr., *Rethinking the Line Between Corporate Law and Corporate Bankruptcy*, 72 *TEX. L. REV.* 471, 512–44 (1994).

140 H.R. REP. NO. 95-595, at 220 (1977).

The misuse of resources for creditors and protection of jobs are potentially different goals.¹⁴¹ This language, which promotes both jobs and assets, has been noted by the Supreme Court to offer support for the proposition that “[t]he fundamental purpose of reorganization is to prevent a debtor from going into liquidation, with an attendant loss of jobs and possible misuse of economic resources.”¹⁴² In this sense the goals remain muddled.

There is also divergence within academic thought. The traditional law-and-economics approach to bankruptcy, offered by Professor Baird suggests that bankruptcy has a singular efficiency goal, that of maximizing the return to creditors.¹⁴³ This literature has long rejected that reorganization should be promoted for its own sake.¹⁴⁴ The usual efficiency focus in the literature is minimizing the cost of credit.

There is an alternative approach to the traditional law-and-economics approach. Senator (and former professor) Warren argues that the bankruptcy system must engage with broader distributive concerns.¹⁴⁵ For her, on a more macro level, employment should be preserved when bankruptcy is a more effective tool to maintain jobs than government support in cases of unemployment.¹⁴⁶ Recent work by Professor Liscow suggests that microefficiency matters, but that at a more macro level, employment should be preserved when bankruptcy is a more effective tool to maintain jobs than government support in cases of unemployment.¹⁴⁷ Without a consistent academic approach that dominates the discourse, judges can pick and choose approaches to shape how they view bankruptcy law.

In bankruptcy caselaw and statute, a number of inefficient aspects of the code have been reduced or eliminated since 1978, such as emergency orders¹⁴⁸ or debt collection solutions.¹⁴⁹ This is not to suggest that in other cases, bankruptcy law has not remained inefficient.¹⁵⁰ These include, among

141 There is also an equity norm, although David Skeel notes that this norm seems to be disappearing. David A. Skeel, Jr., *The Empty Idea of “Equality of Creditors,”* 166 U. PA. L. REV. 699, 700–01 (2017).

142 *NLRB v. Bildisco & Bildisco*, 465 U.S. 513, 528 (1984).

143 Douglas G. Baird, *Loss Distribution, Forum Shopping, and Bankruptcy: A Reply to Warren*, 54 U. CHI. L. REV. 815, 822–28 (1987).

144 See Philippe Aghion et al., *The Economics of Bankruptcy Reform*, 8 J.L. ECON. & ORG. 523, 533 (1992); Douglas G. Baird & Edward R. Morrison, *Bankruptcy Decision Making*, 17 J.L. ECON. & ORG. 356, 356–58 (2001); Lucian Arye Bebchuk, *A New Approach to Corporate Reorganizations*, 101 HARV. L. REV. 775, 775–77 (1988); Richard M. Hynes, *Optimal Bankruptcy in a Non-Optimal World*, 44 B.C. L. REV. 1, 45–62 (2002).

145 See Elizabeth Warren, *Bankruptcy Policy*, 54 U. CHI. L. REV. 775, 788–93 (1987).

146 *Id.* at 787–88.

147 Zachary Liscow, *Counter-Cyclical Bankruptcy Law: An Efficiency Argument for Employment-Preserving Bankruptcy Rules*, 116 COLUM. L. REV. 1461, 1483–95 (2016).

148 See Elizabeth Warren, Essay, *Bankruptcy Policymaking in an Imperfect World*, 92 MICH. L. REV. 336, 348 (1993).

149 See THOMAS H. JACKSON, *THE LOGIC AND LIMITS OF BANKRUPTCY LAW* 151–90 (1986).

150 See, e.g., Alan Schwartz, Essay, *A Contract Theory Approach to Business Bankruptcy*, 107 YALE L.J. 1807, 1809 (1998). But see Lynn M. LoPucki, Essay, *Contract Bankruptcy: A Reply to Alan Schwartz*, 109 YALE. L.J. 317, 318–20 (1999).

others, the ipso facto clauses regarding excusing the solvent party from a contract where the other contracting party becomes insolvent.¹⁵¹

Bankruptcy law teaches that even when there are specialized courts, particular contexts—such as bankruptcies of large financial institutions—may present a different set of facts for which the specific bankruptcy adjudicator may have less competence than might otherwise be required.¹⁵² This concern goes to the institutional competencies even of specialized courts.

Overall, the example of bankruptcy law suggests that the lack of a singular economic goal—and a lack of academic consensus as to how to reach goals—limits the ability to create a more efficient system as a matter of architectural governance. These factors prevent the benefits of modularity to swap out inefficient doctrines for more efficient ones and explain uneven outcomes in terms of efficiency in bankruptcy law.

C. Corporate Law

Corporate law is largely common law created at the state level. The basic divide is between the Delaware General Corporation Law (DGCL) and statutes based on the Model Business Corporation Act (MBCA).¹⁵³ Delaware also has a chancery court that has developed specialization in corporate law and corporate governance matters.¹⁵⁴ Members of the Delaware Supreme Court, such as Chief Justice Strine, have served in the chancery court and are familiar, on appeal, with many corporate law issues.¹⁵⁵ Whether or not such specialization in Delaware business law leads to higher¹⁵⁶ or lower quality¹⁵⁷ remains an open question.

151 See Yeon-Koo Che & Alan Schwartz, *Section 365, Mandatory Bankruptcy Rules and Inefficient Continuance*, 15 J.L. ECON. & ORG. 441, 462 (1999).

152 See Thomas H. Jackson & David A. Skeel, Jr., *Bankruptcy, Banks and Non-Bank Financial Institutions*, 2 HARV. BUS. L. REV. 435, 450 (2012) (discussing limitations of bankruptcy judges); see also Paulette J. Delk, *Special Masters in Bankruptcy: The Case Against Bankruptcy Rule 9031*, 67 MO. L. REV. 29, 36–37 (2002).

153 See STEPHEN M. BAINBRIDGE, *CORPORATE LAW* 10 (3d ed. 2015).

154 Marcel Kahan & Ehud Kamar, *Price Discrimination in the Market for Corporate Law*, 86 CORNELL L. REV. 1205, 1212 (2001) (“[D]elaware boasts a well-developed corporate case law. Because many corporate disputes arise under Delaware law, Delaware’s case law is more developed than the case law of other states.”).

155 See *Litigation in the Delaware Court of Chancery and the Delaware Supreme Court*, DELAWARE.GOV, <https://corplaw.delaware.gov/delaware-court-chancery-supreme-court/> (last visited Oct. 25, 2019).

156 See Stephen M. Bainbridge, *Dodd-Frank: Quack Federal Corporate Governance Round II*, 95 MINN. L. REV. 1779, 1789–93 (2011); Robert Daines, *Does Delaware Law Improve Firm Value?*, 62 J. FIN. ECON. 525, 553–56 (2001).

157 See William J. Carney et al., *Lawyers, Ignorance, and the Dominance of Delaware Corporate Law*, 2 HARV. BUS. L. REV. 123, 125 (2012) (“Delaware is chosen because of the ignorance of investors. Because so many corporations are incorporated in Delaware—especially most large ones—many investors are familiar only with Delaware corporate law and with businesses that are incorporated there. Even if other states’ laws are superior, investors prefer incorporation in familiar Delaware.”).

Wealth maximization is the framing for efficiency in the corporate law context. Both DGCL and MBCA are silent on this issue as far as explicit statutory provisions are concerned. Both contain only provisions stating that the corporation may pursue any lawful purpose.¹⁵⁸ Further, most corporate charters track the statute and make no reference to profit maximization.¹⁵⁹

The silence of DGCL and MBCA (as to specific statutory provisions) is distinguished from American Law Institute (ALI) Principles of Corporate Governance. Section 2.01 provides: “[A] corporation . . . should have as its objective the conduct of business activities with a view to enhancing corporate profit and shareholder gain.”¹⁶⁰ However, none of these provisions explicitly mandate *maximization* of profit. From an efficiency perspective, it would be wealth maximization that would lead to more efficient outcomes rather than wealth enhancement.¹⁶¹

In caselaw and academic circles, wealth maximization follows from the idea of shareholder primacy. Yet, what is meant by shareholder primacy (and if it should be the goal) remains somewhat contested in legal academic circles.¹⁶² Further, even within shareholder primacy, the meaning of shareholder value remains contested. While Professors Hansmann and Kraakman famously declared in 2001 that “[t]here is no longer any serious competitor to the view that corporate law should principally strive to increase long-term shareholder value,”¹⁶³ in fact, academic scholarship has been contentious as to short-term versus long-term shareholder value in more recent years.¹⁶⁴

158 See DEL. CODE ANN. tit. 8, § 101(b) (2019); MODEL BUS. CORP. ACT § 3.01(a) (AM. BAR ASS’N 2016).

159 See, e.g., Facebook, Inc., Restated Certificate of Incorporation, art. III (May 22, 2012), http://yahoo.brand.edgar-online.com/efxapi/EFX_dll/EDGARpro.dll?FetchFilingHtmlSection1?SectionID=8742426-272341-306277&SessionID=boy7ejaYAmhg577.

160 PRINCIPLES OF CORP. GOVERNANCE § 2.01 (AM. LAW. INST. 1994).

161 However, there is a growing literature that firms also seek to maximize their environmental, social, and corporate governance (ESG) profile for firm investments. For articles on the growing importance of ESG, see, for example, Benjamin R. Auer, *Do Socially Responsible Investment Policies Add or Destroy European Stock Portfolio Value?*, 135 J. BUS. ETHICS 381 (2016); Gerhard Halbritter & Gregor Dorfleitner, *The Wages of Social Responsibility—Where Are They? A Critical Review of ESG Investing*, 26 REV. FIN. ECON. 25 (2015); Caroline Flammer, *Corporate Social Responsibility and Shareholder Reaction: The Environmental Awareness of Investors*, 56 ACAD. MGMT. J. 758 (2013).

162 See, e.g., LYNN STOUT, *THE SHAREHOLDER VALUE MYTH* 2–4 (2012); William W. Bratton & Michael L. Wachter, *The Case Against Shareholder Empowerment*, 158 U. PA. L. REV. 653, 655–62 (2010); Jill E. Fisch, *Measuring Efficiency in Corporate Law: The Role of Shareholder Primacy*, 31 J. CORP. L. 637, 638 (2006). But see REINIER KRAAKMAN ET AL., *THE ANATOMY OF CORPORATE LAW* 28 & n.79 (2d ed. 2009) (advocating Kaldor-Hicks efficiency as the sole criterion for corporate law); Stephen M. Bainbridge, Response, *Director Primacy and Shareholder Disempowerment*, 119 HARV. L. REV. 1735, 1735–36 (2006).

163 Henry Hansmann & Reinier Kraakman, Essay, *The End of History for Corporate Law*, 89 GEO. L.J. 439, 439 (2001).

164 See, e.g., Claire A. Hill & Brett H. McDonnell, *Short- and Long-Term Investors (and Other Stakeholders Too): Must (and Do) Their Interests Conflict?*, in RESEARCH HANDBOOK ON MERGERS AND ACQUISITIONS 396 (Claire A. Hill & Steven Davidoff Solomon eds., 2016) (providing a literature review); Lucian A. Bebchuk, Essay, *The Myth That Insulating Boards*

Caselaw generally favors long-term over short-term value. For example, in *Gantler v. Stephens*, the Supreme Court of Delaware recognized that “enhancing the corporation’s long term share value” is a “distinctively corporate concern[].”¹⁶⁵ In other cases, the duty to long-term shareholders is not as clear. In *Air Products & Chemicals v. Airgas*, the Court of Chancery of Delaware described that “[d]irectors of a corporation still owe fiduciary duties to *all stockholders*—this undoubtedly includes short-term as well as long-term holders.”¹⁶⁶ Perhaps the best case for short-termism is *Revlon v. MacAndrews & Forbes Holdings, Inc.*¹⁶⁷ itself, where getting the best price is indeed what a board is required to do,¹⁶⁸ even though further cases provide wiggle room as to what exactly a board must do to ensure that it gets the best price.

On fundamental questions of system architecture, the shift to shareholder primacy and to an economic approach as a matter of law has been pronounced in the past thirty years in Delaware. Undertaking an analysis of the use of shareholder-centric concepts in caselaw, Professor Rhee finds an explosion of cases that focus in the area, starting with the 1980s and the *Revlon* decision.¹⁶⁹ He notes the spread of such discussion beyond the *Revlon* context for change-of-control transactions to other doctrines (such as corporate charters, shareholder voting rights, derivative suits, and shareholder inspection rights),¹⁷⁰ such that shareholder wealth maximization has been discussed in eighty-eight *Revlon* cases and fifty-one non-*Revlon* cases by Delaware courts to date.¹⁷¹ He concludes that though the courts are not always clear as to the goal, the basis for Delaware law is director primacy.¹⁷² What his study makes clear is that over time, the basis for decisions with such language of director primacy and wealth maximization have been recognized as a positive matter, and as the organizing framework for Delaware corporate law across a number of doctrines.¹⁷³

There has not been as pronounced a shift in cases under the MBCA jurisdictions to wealth maximization, no doubt in part because with so many

Serves Long-Term Value, 113 COLUM. L. REV. 1637, 1643 (2013); K.J. Martijn Cremers & Simone M. Sepe, *The Shareholder Value of Empowered Boards*, 68 STAN. L. REV. 67, 79–84 (2016); Jesse M. Fried, *The Uneasy Case for Favoring Long-Term Shareholders*, 124 YALE L.J. 1554, 1574 (2015); Leo E. Strine, Jr., *One Fundamental Corporate Governance Question We Face: Can Corporations Be Managed for the Long Term Unless Their Powerful Electorates Also Act and Think Long Term?*, 66 BUS. LAW. 1, 26 (2010).

165 *Gantler v. Stephens*, 965 A.2d 695, 706 (Del. 2009) (en banc).

166 *Air Prods. & Chems., Inc. v. Airgas, Inc.*, 16 A.3d 48, 129 (Del. Ch. 2011).

167 506 A.2d 173 (Del. 1986).

168 *Id.* at 182.

169 Robert J. Rhee, *A Legal Theory of Shareholder Primacy*, 102 MINN. L. REV. 1951, 1984–90 (2018).

170 *Id.* at 1990–2001.

171 *Id.* at 1984–87.

172 *Id.* at 1967; see also *Lyondell Chem. Co. v. Ryan*, 970 A.2d 235, 242 (Del. 2009) (“No court can tell directors exactly how to accomplish that goal, because they will be facing a unique combination of circumstances, many of which will be outside their control.”).

173 Rhee, *supra* note 169, at 1951–56. He does not measure short- versus long-term shareholder value.

MBCA states, it is more difficult for the norm to crystalize as law under so many different state laws, as contrasted to Delaware, with its specialized Court of Chancery.

Overall, though corporate law has some elements that push towards greater efficiency of common law, a number of problems remain. One is endogeneity. Courts respond to federal-level changes in corporate governance, as Sarbanes-Oxley, Dodd-Frank, and other legislative intervention (and the fear thereof) shape court decisions where Delaware may become more aggressive because of the shadow of federal encroachment into corporate governance. Second, there is fragmentation as between different courts across jurisdictions. MBCA courts are more likely to have indeterminate goals and results. This is not surprising given that there are many such courts and fragmentation is more likely as a result. In Delaware, it is increasingly clear in the caselaw that firms are run for shareholders and profit maximization is the norm.¹⁷⁴ Fragmentation is less of a problem in corporate law since so many public companies have migrated to Delaware—but even there, case outcomes are at times about positioning Delaware vis-à-vis other states, rather than efficient outcome of cases.¹⁷⁵ Further, even in Delaware while shareholder wealth maximization has taken hold not merely as a norm, but potentially as law, the exact idea of whose wealth is being maximized (short-term versus long-term shareholders) remains an open question both within the academic literature and caselaw.¹⁷⁶ Thus, efficiency of common law in corporate law remains somewhat elusive as there is both lack of a singular goal for architectural governance of the system and fragmentation across multiple state courts.

D. Patent Law

In patent law, there are specialized courts and the applicable law is federal. This specialization leads to more or less exclusive jurisdiction over the initial appeal of patent cases.¹⁷⁷ Starting in 1982, the Federal Circuit has been granted the authority to hear all appeals from district courts for cases “arising under[] any Act of Congress relating to patents.”¹⁷⁸ Further, Con-

174 See *eBay Domestic Holdings, Inc. v. Newmark*, 16 A.3d 1, 34 (Del. Ch. 2010); Leo E. Strine, Jr., *The Dangers of Denial: The Need for a Clear-Eyed Understanding of the Power and Accountability Structure Established by the Delaware General Corporation Law*, 50 WAKE FOREST L. REV. 761, 768 (2015).

175 See Stephen M. Bainbridge, *Fee Shifting: Delaware’s Self-Inflicted Wound*, 40 DEL. J. CORP. L. 851, 875–76 (2016); Matthew D. Cain et al., Essay, *The Shifting Tides of Merger Litigation*, 71 VAND. L. REV. 603, 639–40 (2018).

176 See *supra* notes 162–68 and accompanying text.

177 Among the exceptions are the *Walker Process* cases. See Leon Greenfield & Mark Ford, *Walker Process and Sham Litigation*, in THE CAMBRIDGE HANDBOOK OF ANTITRUST, INTELLECTUAL PROPERTY, AND HIGH TECH 271, 271–73 (Roger D. Blair & D. Daniel Sokol eds., 2017) (explaining that usually a patent suit is the only claim one can make, but in exceptional cases, an antitrust suit may be available). Another results from *Gunn v. Minton*, 568 U.S. 251, 264–65 (2013).

178 28 U.S.C. § 1295(a)(1) (2012); see also *id.* § 1338(a).

gress granted the Federal Circuit exclusive jurisdiction for appeals that arise from the decisions of the Patent Trial and Appeal Board of the U.S. Patent and Trademark Office¹⁷⁹ and from the U.S. International Trade Commission.¹⁸⁰ This subject-matter mandate provides the Federal Circuit with a near monopoly on patent-related appeals with only occasional intervention by the Supreme Court.¹⁸¹ Though patent law focuses on promotion of innovation, what exactly that means and how strong the patent right should be remains contested in the academic literature.¹⁸²

In practice, there are two rival architectures for the setup of patent law. One is the Federal Circuit and the other is the Supreme Court. For the early part of the Federal Circuit's existence—when the Supreme Court did not regularly take patent cases—the Federal Circuit was held as “the de facto supreme court of patents.”¹⁸³ The Supreme Court has become more active in patent cases, no longer ceding such cases solely to the authority of the Federal Circuit.¹⁸⁴ However, in terms of architecture, both the Federal Circuit and Supreme Court continue to battle as to how to shape the contours of patent law.¹⁸⁵ As a normative matter, some view the decisionmaking by the Federal Circuit as misguided.¹⁸⁶ Professors Nard and Duffy suggest that it is centralization of intellectual property in the Federal Circuit that has led to problems with innovation policy in the courts.¹⁸⁷

The goals of patent law beyond encouraging innovation remain somewhat unclear as well. On economic questions, the Supreme Court and Federal Circuit are sometimes at odds. For example, Professors Lemley and McKenna view patent exhaustion and first-sale doctrines in a procompetitive light, noting that their doctrinal value is that they are a “powerful tool for

179 *Id.* § 1295(a)(4)(A).

180 *Id.* § 1295(a)(6) (granting exclusive jurisdiction for appeals “relating to unfair practices in import trade” pursuant to the Tariff Act of 1930).

181 See John M. Golden, *The Supreme Court as “Prime Percolator”: A Prescription for Appellate Review of Questions in Patent Law*, 56 UCLA L. REV. 657, 664 (2009).

182 See Jonathan M. Barnett, *The Anti-Commons Revisited*, 29 HARV. J.L. & TECH. 127, 128–30 (2015); Michael A. Heller & Rebecca S. Eisenberg, *Can Patents Deter Innovation? The Anticommons in Biomedical Research*, 280 SCIENCE 698, 698 (1998); Ryan Lampe & Petra Moser, *Patent Pools, Competition, and Innovation—Evidence from 20 US Industries Under the New Deal*, 32 J.L. ECON. & ORG. 1, 32–33 (2015); Mark A. Lemley & Carl Shapiro, *Patent Holdup and Royalty Stacking*, 85 TEX. L. REV. 1991, 1992–93 (2007); Robert Merges, *Intellectual Property Rights and Bargaining Breakdown: The Case of Blocking Patents*, 62 TENN. L. REV. 75, 76 (1994).

183 Mark D. Janis, *Patent Law in the Age of the Invisible Supreme Court*, 2001 U. ILL. L. REV. 387, 387.

184 Timothy R. Holbrook, *Explaining the Supreme Court's Interest in Patent Law*, 3 IP THEORY 62, 63–64 (2013).

185 See *id.* at 69–70.

186 See *e.g.*, CHRISTINA BOHANNAN & HERBERT HOVENKAMP, *CREATION WITHOUT RESTRAINT* 1–15, 61–97 (2012); Rochelle Cooper Dreyfuss, *The Federal Circuit: A Case Study in Specialized Courts*, 64 N.Y.U. L. REV. 1, 3–5 (1989); Craig Allen Nard & John F. Duffy, *Rethinking Patent Law's Uniformity Principle*, 101 NW. U. L. REV. 1619, 1627–37 (2007).

187 Nard & Duffy, *supra* note 186, at 1627–37.

reducing the market power of an IP owner.”¹⁸⁸ However, the economic basis of such claims of efficiency in patent law are disputed by those who take a strong IP stance, such as Professor Epstein, who argues that these doctrines are an attack on the “alienability of intellectual property licenses.”¹⁸⁹ Others argue for a more economic-based approach based on importing an antitrust-style-efficiency framework.¹⁹⁰

The analytical framework used is not always clear, even in Supreme Court cases.¹⁹¹ In more recent years, the Supreme Court has been more active in patent cases.¹⁹² Professor Gugliuzza, however, suggests that most foundational patent-law issues (e.g., novelty, disclosure, nonobviousness, and patent eligibility) have not been addressed much by the recent activity of the Supreme Court.¹⁹³ Instead, recent Supreme Court cases have fallen into one of three categories: first, issues that arise in federal cases more generally, such as jurisdiction, procedure, and remedies; second, issues that present questions that could potentially harmonize patent law with other areas of substantive law; and third, cases involving discrete provisions of patent law.¹⁹⁴ Gugliuzza suggests, “The typical setup of a Supreme Court patent case is that the Court overturns a rigid Federal Circuit rule that appears inconsistent with doctrine in another area of the law or with clear statutory language. The Court then replaces that rule with a more context-sensitive standard.”¹⁹⁵

Patent law is federal law, and so the possibility of fragmentation is lower than for a state common-law area such as torts. However, with two courts battling to shape patent law (the Federal Circuit hears lots of cases while the Supreme Court only intervenes occasionally),¹⁹⁶ patent law lacks a coherent singular goal in its architecture to lead to efficient outcomes generally. The

188 Mark A. Lemley & Mark P. McKenna, *Is Pepsi Really a Substitute for Coke? Market Definition in Antitrust and IP*, 100 GEO. L.J. 2055, 2115 (2012); see also Molly Shaffer Van Houweling, *The New Servitudes*, 96 GEO. L.J. 885, 917–21 (2008) (suggesting that patent exhaustion leads to more efficient outcomes because it reduces information costs).

189 Richard A. Epstein, *The Disintegration of Intellectual Property? A Classical Liberal Response to a Premature Obituary*, 62 STAN. L. REV. 455, 502 (2010).

190 See Herbert Hovenkamp, Response, *Markets in IP and Antitrust*, 100 GEO. L.J. 2133, 2155 (2012).

191 See Peter Lee, *Patent Law and the Two Cultures*, 120 YALE L.J. 2, 71 (2010) (offering potential solutions to nonexpert judges).

192 Golden, *supra* note 181, at 658.

193 Paul R. Gugliuzza, *How Much Has the Supreme Court Changed Patent Law?*, 16 CHI.-KENT J. INTELL. PROP. 330, 331, 338 (2017).

194 *Id.* at 334–38; see also Rebecca S. Eisenberg, *The Supreme Court and the Federal Circuit: Visitation and Custody of Patent Law*, 106 MICH. L. REV. FIRST IMPRESSIONS 28, 29–30 (2007) (providing an alternative schema for patent cases before the Supreme Court).

195 Gugliuzza, *supra* note 193, at 344.

196 The Federal Circuit and the Supreme Court have consistent views of the goals of patents, though vehemently disagree on how to strike the right balance. The Supreme Court has broader goals in mind when it views patent law as merely part of the tapestry of law and not something exceptional. See Holbrook, *supra* note 184, at 64–65.

particular economic approach often remains unclear.¹⁹⁷ Further, Congress has intervened in patent law in significant ways. The America Invents Act made important changes such as to shift patent rights from a first-to-invent to the first-to-file regime among other changes.¹⁹⁸ These statutory interventions changed the trajectory of the efficiency of common law.

E. Antitrust Law

1. Antitrust as Common Law

Antitrust is primarily federal law. However, antitrust common law functions somewhat differently than other fields. It is antitrust's enabling legislation that allows for common-law-like development.¹⁹⁹ Professor Hovenkamp explains that common law in the antitrust context typically "refers to the power of the courts to devise specific rules that interpret a broadly worded statute. The phrase is not generally used to suggest that federal antitrust law today follows the common law of restraints on trade."²⁰⁰ In practice, statutes such as the Sherman Act enjoy a certain rank akin to a constitutional common law.²⁰¹

The Supreme Court offered an early articulation of this constitution-like principle to the Sherman Act in *Appalachian Coals, Inc. v. United States*.²⁰² There, the Court stated:

197 Some scholars suggest that patent rights should be weak. See, e.g., JAMES BESSEN & MICHAEL J. MEURER, *PATENT FAILURE* 216 (2008); Michele Boldrin & David K. Levine, *The Case Against Patents*, 27 J. ECON. PERSP. 3, 3–4 (2013); see also DAN L. BURK & MARK A. LEMLEY, *THE PATENT CRISIS AND HOW THE COURTS CAN SOLVE IT* 167–70 (2009); Joseph Farrell & Carl Shapiro, *How Strong Are Weak Patents?*, 98 AM. ECON. REV. 1347, 1362 (2008). Other scholars extol the value of strong patent protection. See, e.g., Petra Moser, *How Do Patent Laws Influence Innovation? Evidence from Nineteenth-Century World's Fairs*, 95 AM. ECON. REV. 1214, 1214 (2005); Yi Qian, *Do National Patent Laws Stimulate Domestic Innovation in a Global Patenting Environment? A Cross-Country Analysis of Pharmaceutical Patent Protection, 1978–2002*, 89 REV. ECON. & STAT. 436, 436 (2007); Mariko Sakakibara & Lee Branstetter, *Do Stronger Patents Induce More Innovation? Evidence from the 1988 Japanese Patent Law Reforms*, 32 RAND J. ECON. 77 (2001); Mark A. Thompson & Francis W. Rushing, *An Empirical Analysis of the Impact of Patent Protection on Economic Growth: An Extension*, 24 J. ECON. DEV. 67 (1999).

198 Jason Rantanen & Lee Petherbridge, Opening Statement, *The America Invents Act Jeopardizes American Innovation*, 160 U. PA. L. REV. PENNUMBRA 229, 230 (2012).

199 See Hans B. Thorelli, *The Federal Antitrust Policy* 228–29 (1955) ("[I]n adopting the standard of the common law Congress expected the courts not only to apply a set of somewhat vague doctrines but also in doing so to make use of that 'certain technique of judicial reasoning' characteristic of common law courts." (quoting ALBERT M. KALES, *CONTRACTS AND COMBINATIONS IN RESTRAINT OF TRADE* 106 (1918))).

200 Herbert Hovenkamp, *Antitrust Policy After Chicago*, 84 MICH. L. REV. 213, 214 n.7 (1985) (emphasis omitted).

201 See Lars Noah, *Interpreting Agency Enabling Acts: Misplaced Metaphors in Administrative Law*, 41 WM. & MARY L. REV. 1463, 1473 (2000).

202 288 U.S. 344 (1933).

As a charter of [economic] freedom, the [Sherman] Act has a generality and adaptability comparable to that found to be desirable in constitutional provisions. It does not go into detailed definitions which might either work injury to legitimate enterprise or through particularization defeat its purposes by providing loopholes for escape.²⁰³

This framework changes how the Supreme Court views antitrust jurisprudence. Traditional *stare decisis* typically means that the Supreme Court is reluctant to overrule its precedent.²⁰⁴ Antitrust works differently.

Unlike other areas of law, economic advances shape the rethinking of antitrust rules. Since the 1970s, the Supreme Court has stepped in to revise antitrust law based on the current understanding of economics to narrow or overrule precedents.²⁰⁵ As such, *stare decisis* does not have the same meaning in antitrust as it does in other fields.

The view that antitrust should be less beholden to precedent than other fields because of the centrality of economic analysis has been identified by the Supreme Court. For example, in *State Oil Co. v. Khan* the Court explained:

[T]he general presumption that legislative changes should be left to Congress has less force with respect to the Sherman Act in light of the accepted view that Congress “expected the courts to give shape to the statute’s broad mandate by drawing on common-law tradition.” . . . [The] Court . . . reconsider[s] its decisions construing the Sherman Act when the theoretical underpinnings of those decisions are called into serious question.²⁰⁶

This view of antitrust as a variation of common law has taken hold even in the most recent cases.

The fundamental shift, which this Section will explore in greater detail, is an explicit recognition by the Supreme Court of a common-law approach to antitrust based in economic analysis. As the Court stated most recently in 2015 in *Kimble v. Marvel Entertainment*, “We have therefore felt relatively free

203 *Id.* at 359–60. *But see* Thomas C. Arthur, *Farewell to the Sea of Doubt: Jettisoning the Constitutional Sherman Act*, 74 CALIF. L. REV. 263, 292, 322–28 (1986) (criticizing this conceptualization).

204 *Burnet v. Coronado Oil & Gas Co.*, 285 U.S. 393, 405–07 (1932) (“*Stare decisis* is not . . . [an] inexorable command. . . . *Stare decisis* is usually the wise policy, because in most matters it is more important that the applicable rule of law be settled than that it be settled right. . . . [E]ven where the error is a matter of serious concern, *provided* correction can be had by legislation. But in cases involving the Federal Constitution, where correction through legislative action is practically impossible, this Court has often overruled its earlier decisions.” (Brandeis, J., dissenting) (emphasis added) (footnotes omitted)).

205 *See* Barak Orbach, *Antitrust Stare Decisis*, ANTITRUST SOURCE, Oct. 2015, at 1, 5; *see also* *Verizon Commc’ns Inc. v. Law Offices of Curtis V. Trinko, LLP*, 540 U.S. 398, 408–10 (2004) (significantly qualifying though not overruling unilateral refusals to deal under *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*, 472 U.S. 585 (1985)); *Brooke Grp. Ltd. v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209, 243 (1993) (not striking down the Robinson-Patman statute as economically unjustified and inimical to antitrust law).

206 *State Oil Co. v. Khan*, 522 U.S. 3, 20–21 (1997) (quoting Nat’l Soc’y of Prof’l Eng’rs v. United States, 435 U.S. 679, 688 (1978)).

to revise our legal analysis as economic understanding evolves and . . . to reverse antitrust precedents that misperceived a practice's competitive consequences."²⁰⁷ This explicit emphasis of economic analysis in antitrust common law makes it unique among major substantive areas of law that fit within the two-sided market modular design for efficient outcomes. Unlike corporate law and patent law, there has not been a significant statutory reworking of antitrust since 1950, even as caselaw has shifted significantly since that time.²⁰⁸ This allows for an efficiency of common law to develop under certain conditions based on economic consensus in antitrust.

2. Antitrust and Goals

In its pre-1970s antitrust jurisprudence, the Supreme Court offered multiple goals for antitrust. This included the protection of small businesses and inefficient competitors.²⁰⁹ Some of the most famous formulations of noneconomic goals include statements such as *Trans-Missouri's* regarding "small dealers and worthy men whose lives had been spent [in a business setting],"²¹⁰ *Alcoa's* "one of [antitrust's] purposes was to perpetuate and preserve, for its own sake and in spite of possible cost, an organization of industry in small units which can effectively compete with each other,"²¹¹ and *Brown Shoe's* "we cannot fail to recognize Congress' desire to promote competition through the protection of viable, small, locally owned businesses. Congress appreciated that occasional higher costs and prices might result from the maintenance of fragmented industries and markets."²¹² As a result, until the late 1970s, by today's standards, the Supreme Court and lower courts often got antitrust cases wrong as a matter of economic analysis. Professor Turner termed the jurisprudence of the 1950s and 1960s as antitrust's "inhospitality tradition."²¹³

207 *Kimble v. Marvel Entm't, LLC*, 135 S. Ct. 2401, 2412–13 (2015).

208 Indeed, the Supreme Court treats antitrust differently with regard to statutory changes relative to other areas of law. See *State Oil*, 522 U.S. at 20 (noting "the general presumption that legislative changes should be left to Congress has less force with respect to the Sherman Act").

209 See, e.g., *Brown Shoe Co. v. United States*, 370 U.S. 294, 344 (1962); Herbert Hovenkamp, *Antitrust's Protected Classes*, 88 MICH. L. REV. 1, 28–29 (1989).

210 *United States v. Trans-Mo. Freight Ass'n*, 166 U.S. 290, 323 (1897).

211 *United States v. Aluminum Co. of Am.*, 148 F.2d 416, 429 (2d Cir. 1945).

212 *Brown Shoe Co.*, 370 U.S. at 344.

213 Alan J. Meese, *The Market Power Model of Contract Formation: How Outmoded Economic Theory Still Distorts Antitrust Doctrine*, 88 NOTRE DAME L. REV. 1291, 1322 n.124 (2013); Oliver E. Williamson, *Mergers, Acquisitions, and Leveraged Buyouts: An Efficiency Assessment*, in CORPORATE LAW AND ECONOMIC ANALYSIS 1, 21 n.24 (Lucian Arye Bebchuk ed., 1990) (citing N.Y. STATE BAR ASSOCIATION ANTITRUST LAW SYMPOSIUM 27, 29 (Trade Regulation Reports ed. 1968)).

Inhospitality meant that that judges created inefficient doctrine in a number of areas: competitor effects were taken into account in mergers,²¹⁴ merger efficiencies were ignored if not considered outright unlawful,²¹⁵ vertical price and nonprice restraints were per se illegal,²¹⁶ unilateral refusals to deal were significantly limited,²¹⁷ intellectual property was not respected and subject to the Antitrust Division's "nine no-nos" of patent licensing,²¹⁸ horizontal restraints were unnecessarily applied when there might be procompetitive justification,²¹⁹ and rules against efficient price discrimination were aggressively enforced.²²⁰ These case outcomes based upon noneconomic goals are not part of modern antitrust.²²¹

Areas of antitrust that were economically unsound and created under a common-law approach suggest that antitrust law was inefficient and that the thinking was not causally based on an economic effects-based approach. Antitrust, the area most economic in its approach, is the prime example of the limitations on traditional thinking of the efficiency of common law.

It cannot be that the same judges that for two generations created inefficient rules simply woke up one day and decided to switch to efficient rules based on repeat litigants pushing caselaw from the bottom up. How then can

214 See *Brown Shoe Co.*, 370 U.S. at 345–46; *Aluminum Co. of Am.*, 148 F.2d at 428 (“[G]reat industrial consolidations are inherently undesirable, regardless of their economic results.”).

215 See *FTC v. Procter & Gamble Co.*, 386 U.S. 568, 580 (1967) (“Possible economies cannot be used as a defense to illegality. Congress was aware that some mergers which lessen competition may also result in economies but it struck the balance in favor of protecting competition.”).

216 *Albrecht v. Herald Co.*, 390 U.S. 145, 151–54 (1968); *United States v. Arnold, Schwinn & Co.*, 388 U.S. 365, 373 (1967); *Dr. Miles Med. Co. v. John D. Park & Sons Co.*, 220 U.S. 373, 408 (1911).

217 See *Klor's, Inc. v. Broadway-Hale Stores, Inc.*, 359 U.S. 207, 212–13 (1959).

218 See Bruce B. Wilson, *Patent and Know-How License Agreements: Field of Use, Territorial, Price and Quantity Restrictions*, in ANTITRUST PRIMER 11, 11–14 (Sara-Ann Sanders ed., 1970).

219 See *United States v. Topco Assocs., Inc.*, 405 U.S. 596, 611 (1972).

220 See *Utah Pie Co. v. Cont'l Baking Co.*, 386 U.S. 685, 690 (1967); *FTC v. Morton Salt Co.*, 334 U.S. 37, 44 (1948).

221 Roger D. Blair & D. Daniel Sokol, *Welfare Standards in U.S. and E.U. Antitrust Enforcement*, 81 *FORDHAM L. REV.* 2497, 2506–07 (2013); William E. Kovacic & Carl Shapiro, *Antitrust Policy: A Century of Economic and Legal Thinking*, 14 *J. ECON. PERSP.* 43, 57 (2000); *Acting Assistant Attorney General Andrew Finch Delivers Remarks at Global Antitrust Enforcement Symposium*, U.S. DEP'T JUSTICE (Sept. 12, 2017), <https://www.justice.gov/opa/speech/acting-assistant-attorney-general-andrew-finch-delivers-remarks-global-antitrust> (“Economics has played, and will continue to play, a fundamental role in antitrust enforcement.”). *But see* HERBERT HOVENKAMP, *ENTERPRISE AND AMERICAN LAW 1836–1937*, at 268 (1991) (“One of the great myths about American antitrust policy is that courts began to adopt an ‘economic approach’ to antitrust problems only in the 1970’s. At most, this ‘revolution’ in antitrust policy represented a change in economic models. Antitrust policy has been forged by economic ideology since its inception.”).

one explain that inefficient antitrust rulings *increased* rather than decreased in the 1950s and 1960s if in fact common law was efficient?²²²

Traditional theories of the efficiency of common law suggest just that—the economic analysis should have led to more efficient outcomes. Professor Priest even claims that efficient rules will develop even when the judiciary shows hostility to efficient outcomes.²²³ Certainly, antitrust jurisprudential history does not bear this out. Rather, the Supreme Court needed to act as a centralizing authority to credit the importance—indeed, sole importance—of some version of economic efficiency in antitrust common law (top-down platform architecture) to affect change toward more efficient outcomes in doctrines (bottom-up modular design) starting in the late 1970s.

3. Doctrinal Shift

The watershed case in antitrust that signaled the system-wide shift to greater economic analysis was *Continental T.V., Inc. v. GTE Sylvania Inc.*²²⁴ In *Sylvania*, the Court moved territorial nonprice restrictions from per se illegality to a rule-of-reason standard.²²⁵ *Sylvania* was a paradigm shift because of the explicit language that economics should guide which standard to use. The Court explained that:

Such [nonprice] restrictions, in varying forms, are widely used in our free market economy. As indicated above, there is substantial scholarly and judicial authority supporting their economic utility. . . . [W]e do make clear that departure from the rule-of-reason standard must be based upon demonstrable economic effect rather than . . . formalistic line drawing.²²⁶

Posner correctly noted that the logic of *Sylvania*, if applied across all antitrust vertical restraints, would be sweeping.²²⁷ As a positive matter, Posner was correct—in nearly every substantive area, vertical restraints have been transformed from per se illegality to one of rule of reason based on a presumption that economic effects of potential efficiencies may outweigh anticompetitive concerns.²²⁸ This included a number of particular doctrines, such as mini-

222 Indeed, Posner concedes that antitrust law was inefficient. See RICHARD A. POSNER, *THE FEDERAL COURTS: CRISIS AND REFORM* 301 (1985) (“But at another level the inclusion of antitrust [as a common law field] may seem simply to demonstrate the fatuity of my enterprise of associating federal common law with economic efficiency.”).

223 Priest, *The Common Law Process*, *supra* note 8, at 66.

224 433 U.S. 36 (1977).

225 See Andrew I. Gavil, *Moving Beyond Caricature and Characterization: The Modern Rule of Reason in Practice*, 85 S. CAL. L. REV. 733, 744–51 (2012).

226 *Sylvania*, 433 U.S. at 57–59.

227 Richard A. Posner, *The Rule of Reason and the Economic Approach: Reflections on the Sylvania Decision*, 45 U. CHI. L. REV. 1, 5–13 (1977).

228 D. Daniel Sokol, *The Transformation of Vertical Restraints: Per Se Illegality, the Rule of Reason, and Per Se Legality*, 79 ANTITRUST L.J. 1003, 1006, 1015–16 (2014). As a normative matter, Chicago school thinkers pushed for per se legality of vertical restraints. Robert H. Bork, *The Rule of Reason and the Per Se Concept: Price Fixing and Market Division* (pt. 2), 75 YALE L.J. 373, 391 (1966); Posner, *supra* note 227, at 6.

imum resale price maintenance,²²⁹ maximum resale price maintenance,²³⁰ and Robinson-Patman primary²³¹ and secondary-line cases.²³²

In *Reiter*, decided two years after *Sylvania*, the Court cemented its reliance on efficiency as the basis for antitrust jurisprudence.²³³ It explained that the congressional “floor debates . . . suggest that Congress designed the Sherman Act as a ‘consumer welfare prescription.’”²³⁴ Similarly, *Board of Regents* discussed that “[a] restraint that has the effect of reducing the importance of consumer preference in setting price and output is not consistent with this *fundamental* goal of antitrust law.”²³⁵

Where the economic models and academic discourse have some amount of consensus, the caselaw has moved in the direction of the economic consensus for modular change to overturn established doctrines.²³⁶ Where there remains some conflict as to the appropriate economic tests, such as in discounts, antitrust has not created an effective approach that the Supreme Court has recognized.²³⁷ Procedural rules likewise have changed in antitrust to comport with a more economic-based approach such that the procedural screens have been tightened to prevent many nonmeritorious cases from being heard by judges on the substance.²³⁸

While these practices pose some anticompetitive risk (which would lead to inefficient outcomes), the rule of reason opens up these general theories to fact-specific inquiry in cases to address the potential benefits and harms of certain conduct. This allows for antitrust to evolve the substantive law in particular doctrines based upon new knowledge so that theory which aligns with

229 See *Leegin Creative Leather Prods., Inc. v. PSKS, Inc.*, 551 U.S. 877, 885, 898, 907 (2007).

230 See *State Oil Co. v. Khan*, 522 U.S. 3, 7 (1997).

231 See *Brooke Grp. Ltd. v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209, 220–22, 229–30 (1993).

232 See *Volvo Trucks N. Am., Inc. v. Reeder-Simco GMC, Inc.*, 546 U.S. 164, 176–80 (2006).

233 *Reiter v. Sonotone Corp.*, 442 U.S. 330 (1979).

234 *Id.* at 343 (quoting ROBERT H. BORK, *THE ANTITRUST PARADOX* 66 (1978)).

235 *NCAA v. Bd. of Regents of the Univ. of Okla.*, 468 U.S. 85, 107 (1984) (emphasis added).

236 See *Kovacic & Shapiro*, *supra* note 221, at 58 (“Today, the links between economics and law have been institutionalized with increasing presence of an economic perspective in law schools, extensive and explicit judicial reliance on economic theory, and with the substantial presence of economists in the government antitrust agencies.”).

237 See *Collins Inkjet Corp. v. Eastman Kodak Co.*, 781 F.3d 264, 274 (6th Cir. 2015); *ZF Meritor, LLC v. Eaton Corp.*, 696 F.3d 254, 303 (3d Cir. 2012); *Cascade Health Sols. v. PeaceHealth*, 515 F.3d 883, 906 (9th Cir. 2008); *LePage’s Inc. v. 3M*, 324 F.3d 141, 177 (3d Cir. 2003) (Greenberg, J., dissenting).

238 See *Bell Atl. Corp. v. Twombly*, 550 U.S. 544, 555–58 (2007); *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 587–90 (1986); *Cargill, Inc. v. Monfort of Colo., Inc.*, 479 U.S. 104, 111 (1986); *Brunswick Corp. v. Pueblo Bowl-O-Mat, Inc.*, 429 U.S. 477, 486–87 (1977); see also William H. Page, *The Chicago School and the Evolution of Antitrust: Characterization, Antitrust Injury, and Evidentiary Sufficiency*, 75 VA. L. REV. 1221, 1271–94 (1989).

the dominant intellectual system will be more likely to be accepted.²³⁹ This approximates modular design based on a Linux-like open-source centralized governance structure.

In practice, the singular goal of efficiency has dealt with questions of equity in antitrust (such as income redistribution or job creation) since 1977 by explicitly not dealing directly with these issues.²⁴⁰ Sometimes there is overlap in antitrust of this larger view of “macro efficiency,” but other times it is in tension. In the traditional case, equity can be served when antitrust battles against price-fixing cartels such as for school milk, which is provided to students from low-income families.²⁴¹ In such a case, a price-fixing cartel that illegally raises the price of milk above the competitive level also hurts low-income consumers disproportionately. However, one can imagine a situation in which the victims of the price fixing are wealthy, such as the price-fixing cartel between Christie’s and Sotheby’s.²⁴² In that case, the enforcement against the cartel creates increased economic inequality by favoring the wealthy. Overall, an economic-based approach removed the political discretion of multiple goals.²⁴³ Antitrust has expressly abandoned equity concerns as part of its analysis for an application of economic analysis.

4. Academic Shift

Academic debates as to antitrust’s goals shaped the move in the courts to a singular efficiency-based view. The justification for the singular goal was made on both economic grounds as well as legal process grounds in the academic literature. This was the major contribution of Bork, who explained that antitrust needed a clear goal.²⁴⁴ This goal was efficiency.

239 See generally THOMAS S. KUHN, *THE STRUCTURE OF SCIENTIFIC REVOLUTIONS* (4th ed. 2012) (explaining paradigms and paradigm shifts).

240 See 1 PHILLIP E. AREEDA & HERBERT HOVENKAMP, *ANTITRUST LAW* ¶ 110, at 98–99 (3d ed. 2006); Carl Shapiro, *Antitrust in a Time of Populism*, 61 *INT’L J. INDUS. ORG.* 714, 717 (2018).

241 See Robert H. Porter & J. Douglas Zona, *Ohio School Milk Markets: An Analysis of Bidding*, 30 *RAND J. ECON.* 263, 263 (1999).

242 See Christopher R. Leslie, *Judgment-Sharing Agreements*, 58 *DUKE L.J.* 747, 775–76 (2009).

243 See Frank H. Easterbrook, *Workable Antitrust Policy*, 84 *MICH. L. REV.* 1696, 1703–04 (1986) (“Goals based on something other than efficiency (or its close proxy consumers’ welfare) really call on judges to redistribute income.”); see also Daniel A. Crane, *Technocracy and Antitrust*, 86 *TEX. L. REV.* 1159, 1160 (2008).

244 ROBERT H. BORK, *THE ANTITRUST PARADOX* 50 (2d ed. 1993). But see Louis Kaplow, *Antitrust, Law & Economics, and the Courts*, 50 *LAW & CONTEMP. PROBS.*, Autumn 1987, at 181, 182, 184–87 (arguing that the Supreme Court did not actively pursue a Chicago school approach to antitrust in its actual jurisprudence in many cases even as it grappled with the economics of its time). There were a number of missed opportunities along the way to overturn *Dr. Miles*. This suggests that antitrust law was not efficient, even into the early period of the singular goal period. Sequencing of cases also mattered across doctrines with easier doctrines being overturned earlier. See *Bus. Elecs. Corp. v. Sharp Elecs. Corp.*, 485 U.S. 717, 733 (1988); *Monsanto Co. v. Spray-Rite Serv. Corp.*, 465 U.S. 752, 761,

In a series of papers and a book, Bork argued that antitrust always had a singular goal.²⁴⁵ In a 1966 article, Bork reviewed the legislative history of the Sherman Act. He made the case that economic efficiency (he called it “consumer welfare,” though he seemed to have meant “total welfare”) was, since the beginning of the Sherman Act, the sole guiding principle of antitrust.²⁴⁶

Bork’s reframing of antitrust to a consumer-welfare approach was not in line with prior legislative history, cases, or scholarship, but Bork recast these cases as fitting within his approach.²⁴⁷ Subsequent Supreme Court and lower court cases have supported the framing of a “consumer welfare” approach, and more recent cases support that “consumer welfare” actually seems to mean consumer welfare rather than a total welfare standard.²⁴⁸

Perhaps more importantly, Bork explained that from the standpoint of legal process and predictability, a singular economic-based goal would lead to greater predictability and would help consumers.²⁴⁹ This singular economic goal was embraced by many law-and-economics professors, beyond what loosely can be described as the Chicago school.²⁵⁰

Professors Kovacic and Hovenkamp suggest that the shift was evolutionary and combined both Chicago and Harvard approaches.²⁵¹ Chicago

769 (1984); *United States v. Gen. Elec. Co.*, 272 U.S. 476, 487–88 (1926); *United States v. Colgate & Co.*, 250 U.S. 300, 306–08 (1919).

245 See, e.g., Robert H. Bork, *Legislative Intent and the Policy of the Sherman Act*, 9 J.L. & ECON. 7, 10 (1966).

246 See *id.* Bork then argued that as a normative matter, efficiency should be the sole goal. See Robert H. Bork, *Antitrust and Monopoly: The Goals of Antitrust Policy*, 57 AM. ECON. REV. 242, 242 (1967).

247 See Thomas J. DiLorenzo, *The Origins of Antitrust: An Interest-Group Perspective*, 5 INT’L REV. L. & ECON. 73, 75 (1985); Thomas W. Hazlett, *The Legislative History of the Sherman Act Re-examined*, 30 ECON. INQUIRY 263, 273–74 (1992); Richard Hofstadter, *What Happened to the Antitrust Movement?*, in *THE PARANOID STYLE IN AMERICAN POLITICS AND OTHER ESSAYS* 188 (1st ed. 1965), as reprinted in *THE POLITICAL ECONOMY OF THE SHERMAN ACT: THE FIRST ONE HUNDRED YEARS* 20, 23–24 (E. Thomas Sullivan ed., 1991); Hovenkamp, *supra* note 209, at 29 (“The principal victims of the trust movement of the 1880s—certainly of the trusts that appeared most frequently on Congress’ hit list—were inefficient small firms, rather than consumers. Competitors were the principal protected class of the Sherman Act.”); George J. Stigler, *The Origin of the Sherman Act*, 14 J. LEGAL STUD. 1, 4–5 (1985).

248 See, e.g., *Weyerhaeuser Co. v. Ross-Simmons Hardwood Lumber Co.*, 549 U.S. 312, 324 (2007); *Leegin Creative Leather Prods., Inc. v. PSKS, Inc.*, 551 U.S. 877, 902 (2007).

249 BORK, *supra* note 244, at 66, 97 (arguing for a “consumer welfare” standard for illegality, although equating this standard with “total welfare,” as that term is understood in economics).

250 See Herbert Hovenkamp, *Implementing Antitrust’s Welfare Goals*, 81 FORDHAM L. REV. 2471, 2471 (2013) (“The dominant view of antitrust policy in the United States is that it should promote some version of economic welfare.”); see also Dennis W. Carlton, *Does Antitrust Need to Be Modernized?*, 21 J. ECON. PERSP. 155, 157 (2007).

251 Herbert Hovenkamp, *Harvard, Chicago, and Transaction Cost Economics in Antitrust Analysis*, 55 ANTITRUST BULL. 613, 617–18 (2010) (“Since the 1970s both the old Harvard and the traditional Chicago positions have moved from opposite directions toward the center, partly as a result of the influence of transaction cost analysis. Today their differences on many issues are not all that considerable.”); William E. Kovacic, *The Intellectual*

school scholars generally identified explanations of procompetitive behavior where the prior characterization for this practice had been monopolistic.²⁵² “Chicago school” has become a shorthand for economic analysis in antitrust law even when the analysis was not based on what might be thought of as actual Chicago school, but as a basis of a broader economic analysis.²⁵³ Harvard school antitrust brought greater administrability to the “Chicago” enterprise.²⁵⁴ By administrability, one means the administrability of the legal rules of antitrust by its institutions.²⁵⁵

This Article suggests that antitrust administrability created a greater functionality to the system architecture by making it easier to switch out doctrinal modules that were less efficient for more efficient ones. The overwhelming academic literature has supported some form of efficiency as the goal of antitrust since that time.²⁵⁶ Between courts and academic literature, the singular efficiency goal of antitrust is not questioned.²⁵⁷

DNA of Modern U.S. Competition Law for Dominant Firm Conduct: The Chicago/Harvard Double Helix, 2007 COLUM. BUS. L. REV. 1, 35; see also Donald F. Turner, *The Durability, Relevance, and Future of American Antitrust Policy*, 75 CALIF. L. REV. 797, 798 (1987) (“[Non-economic goals] would broaden antitrust’s proscriptions to cover business conduct that has no significant anticompetitive effects, would increase vagueness in the law, and would discourage conduct that promotes efficiencies not easily recognized or proved.”).

252 See, e.g., Ward S. Bowman, Jr., *Tying Arrangements and the Leverage Problem*, 67 YALE L.J. 19, 20 (1957); John S. McGee, *Predatory Price Cutting: The Standard Oil (N.J.) Case*, 1 J.L. & ECON. 137, 168–69 (1958); Lester G. Telser, *Why Should Manufacturers Want Fair Trade?*, 3 J.L. & ECON. 86, 88 (1960).

253 See, e.g., Jonathan B. Baker, *Competition Policy as a Political Bargain*, 73 ANTITRUST L.J. 483, 512 n.109 (2006) (“Post-Chicago criticisms of current antitrust doctrine largely accept the economic approach, and call for modifications to existing rules based upon the application of game theoretic tools and new empirical economic methods.”); Malcolm B. Coate & Jeffrey H. Fischer, *Can Post-Chicago Economics Survive Daubert?*, 34 AKRON L. REV. 795, 813 (2001) (“[Post-Chicago school economic models] start with the Chicago school’s proposition that economics controls antitrust, but then they add complexity to the microeconomic analysis that seeks to generate a collection of special case results.”); Richard A. Posner, *Keynote Address: Vertical Restrictions and “Fragile” Monopoly*, 50 ANTITRUST BULL. 499, 500 (2005).

254 Chicago school antitrust was not unaware of administrability concerns. Robert Bork thought about such concerns in the context of Chicago antitrust. See Sokol, *supra* note 228, at 1007.

255 See Kovacic, *supra* note 251, at 12–14, 37–42.

256 See Jonathan B. Baker, *Economics and Politics: Perspectives on the Goals and Future of Antitrust*, 81 FORDHAM L. REV. 2175, 2181 (2013); Carlton, *supra* note 250, at 157; Kenneth G. Elzinga, *The Goals of Antitrust: Other than Competition and Efficiency, What Else Counts?*, 125 U. PA. L. REV. 1191, 1191 n.1 (1977); Hovenkamp, *supra* note 250, at 2471; Alan J. Meese, *Debunking the Purchaser Welfare Account of Section 2 of the Sherman Act: How Harvard Brought Us a Total Welfare Standard and Why We Should Keep It*, 85 N.Y.U. L. REV. 659, 736 (2010).

257 By the second edition of his Antitrust Law casebook in 2001, Posner could accurately claim:

Almost everyone professionally involved in antitrust today—whether as litigator, prosecutor, judge, academic, or informed observer—not only agrees that the only goal of the antitrust laws should be to promote economic welfare, but also agrees

This singular goal created an architectural governance shift not to merely a singular goal, but to an entire system of an error-cost framework for antitrust that provides the broader architecture that shapes the overall design, changing each of the modules from per se analysis to the rule of reason.²⁵⁸ Antitrust, once in the mode of consumer-welfare maximization, has been evolutionary.²⁵⁹

In practice, antitrust's welfare goal is "efficiency" based in a very narrow sense. It is a simplistic approximation of the optimization of output.²⁶⁰ That is, often low prices act as a proxy for a competitive market, and so that behavior tends to lead to lower prices long term.²⁶¹ This approach has limits particularly for nonprice competition, where courts sometimes have struggled to address quality competition,²⁶² although nonprice competition has been a hallmark of antitrust analysis for more than a century.²⁶³ However, in spite of the weaknesses of the current approach, it is easier to administer than alternative tests.²⁶⁴

5. Robinson-Patman

The Robinson-Patman Act provides the best example of how antitrust court-based law has moved toward greater doctrinal efficiency. There was no goal other than inefficiency in the Act's enabling legislation. During the modern era of an efficiency-goal-based antitrust, Robinson-Patman has been

on the essential tenets of economic theory that should be used to determine the consistency of specific business practices with that goal.

RICHARD A. POSNER, *ANTITRUST LAW*, at ix (2d ed. 2001).

258 See, e.g., Frank H. Easterbrook, *The Limits of Antitrust*, 63 *TEX. L. REV.* 1, 29 (1984); David S. Evans & A. Jorge Padilla, *Designing Antitrust Rules for Assessing Unilateral Practices: A Neo-Chicago Approach*, 72 *U. CHI. L. REV.* 73, 74–75, 75 n.8 (2005).

259 See Page, *supra* note 238, at 1221–22.

260 See Barak Y. Orbach, *The Antitrust Consumer Welfare Paradox*, 7 *J. COMPETITION L. & ECON.* 133, 141 (2010); see also A. Douglas Melamed, *Antitrust Law Is Not That Complicated*, 130 *HARV. L. REV. F.* 163, 164–65 (2017) (explaining antitrust's administrability).

261 See Leegin Creative Leather Prods., Inc. v. PSKS, Inc., 551 U.S. 877, 909 (2007) (Breyer, J., dissenting) ("The Sherman Act seeks to maintain a marketplace free of anticompetitive practices The law assumes that such a marketplace . . . will tend to bring about the lower prices, better products, and more efficient production processes that consumers typically desire."). The emphasis on price as the basis (though not exclusive basis) as the simplification for economic analysis in modern Supreme Court antitrust jurisprudence can be traced back at least to *National Society of Professional Engineers v. United States*, 435 U.S. 679, 695 (1978).

262 Roger D. Blair & D. Daniel Sokol, *Quality-Enhancing Merger Efficiencies*, 100 *IOWA L. REV.* 1969, 1995 (2015).

263 See *Ill. Tool Works Inc. v. Indep. Ink, Inc.*, 547 U.S. 28, 44–45 (2006); *Eastman Kodak Co. v. Image Tech. Servs., Inc.*, 504 U.S. 451, 483–85 (1992); *United States v. Am. Tel. & Tel. Co.*, 552 F. Supp. 131, 150, 166–70 (D.D.C. 1982); *United States v. Am. Can Co.*, 230 F. 859, 901–04 (D. Md. 1916).

264 See Hovenkamp, *supra* note 250, at 2496 ("When one considers both efficiency and administrability, consumer welfare emerges as the most practical goal of antitrust enforcement.").

reformulated doctrinally over time to embrace efficiency, even as the law itself has not been expressly overruled.

The origin of the Robinson-Patman Act²⁶⁵ was based on protection of small retailers from larger, more efficient competitors (large buyers).²⁶⁶ Originally titled the “Wholesale Grocer’s Protection Act,”²⁶⁷ there were no multiple purposes to the Act akin to the Sherman Act, such that one could reasonably claim any sort of efficiency basis for Robinson-Patman. As the Supreme Court noted:

The legislative history of the Robinson-Patman Act makes it abundantly clear that Congress considered it to be an evil that a large buyer could secure a competitive advantage over a small buyer solely because of the large buyer’s quantity purchasing ability. The Robinson-Patman Act was passed to deprive a large buyer of such advantages²⁶⁸

From an economic standpoint, much price discrimination is in practice a good thing—e.g., different pricing for matinee versus evening showings of movies or discounts for senior citizens. The types of economic concerns regarding price discrimination therefore are different than the purpose of Robinson-Patman.²⁶⁹

Robinson-Patman prevents price differences of “commodities of like grade and quality.”²⁷⁰ The Act creates two particular areas of antitrust liability—primary- and secondary-line price discrimination. In the case of a primary-line injury, the economic “injury” results from competitor sellers harmed as a result of the price-discrimination discount offered by a seller.²⁷¹ In the case of a secondary-line injury, the “injury” results to disfavored customers of the seller, relative to customers that the seller favors.²⁷² Unlike the Sherman Act, Robinson-Patman does not require that the defendant hold market power for there to be an injury. As a result, small competitors can bring cases against other small competitors.

Once the shift to economic analysis came about in the 1970s, efficiency in the common law of Robinson-Patman liability was perhaps inevitable. After all, there had been near uniform academic and practitioner discontent

265 15 U.S.C. §§ 13–13b, 21a (2012).

266 Earl W. Kintner & Joseph P. Bauer, *The Robinson-Patman Act: A Look Backwards, a View Forward*, 31 ANTITRUST BULL. 571, 571–72 (1986); D. Daniel Sokol, *Analyzing Robinson-Patman*, 83 GEO. WASH. L. REV. 2064, 2069 (2015).

267 Spencer Weber Waller, *Antitrust as Consumer Choice: Comments on the New Paradigm*, 62 U. PITT. L. REV. 535, 542 n.39 (2001).

268 FTC v. Morton Salt Co., 334 U.S. 37, 43 (1948).

269 Hal R. Varian, *Price Discrimination*, in 1 HANDBOOK OF INDUSTRIAL ORGANIZATION, 598, 646 (Richard Schmalensee & Robert D. Willig eds., 1989).

270 15 U.S.C. § 13(a).

271 See *Volvo Trucks N. Am., Inc. v. Reeder-Simco GMC, Inc.*, 546 U.S. 164, 176 (2006) (“Primary-line cases entail conduct—most conspicuously, predatory pricing—that injures competition at the level of the discriminating seller and its direct competitors.”).

272 See *id.* (“Secondary-line cases . . . involve price discrimination that injures competition among the discriminating seller’s customers . . . ; cases in this category typically refer to ‘favored’ and ‘disfavored’ purchasers.”).

with how the Act, which did not require a showing of market power, hurt consumers. This included criticism and evaluation by high-profile practitioner reports such as the 1955 report on antitrust,²⁷³ the 1968 “Neal Report,”²⁷⁴ the Department of Justice report of 1977,²⁷⁵ and the American Bar Association report of 1980.²⁷⁶

Academic discourse was just as critical of Robinson-Patman and led to its demise in the courts. Indeed, Bork referred to Robinson-Patman as “the misshapen progeny of intolerable draftsmanship coupled to wholly mistaken economic theory.”²⁷⁷ Robinson-Patman was so uneconomic at its core that Bork described it as “antitrust’s least glorious hour.”²⁷⁸ Other scholars have attacked the Act for hurting consumers.²⁷⁹

The Supreme Court began a shift in its approach in 1979 by reasoning that the Robinson-Patman Act was based on the same efficiency consideration as the Sherman Act.²⁸⁰ Similarly, with regard to antitrust injury, the Court applied the same reasoning as it did to the Sherman Act. These decisions had the effect of narrowing the number and types of cases that would find a violation of the Robinson-Patman Act.²⁸¹

The major change in substantive primary-line Robinson-Patman cases was the Court’s opinion in *Brooke Group Ltd. v. Brown & Williamson Tobacco Corp.*²⁸² In *Brooke Group*, the Court required that a plaintiff must demonstrate that the price discrimination was below some economic measurement of the cost of its production and that the defendant was able, or was likely able, to recoup the losses.²⁸³ Meeting this test has proved to be nearly impossible for plaintiffs. Thus, the Supreme Court effectively killed off Robinson-Patman primary-line cases.²⁸⁴

273 REPORT OF THE ATTORNEY GENERAL’S NATIONAL COMMITTEE TO STUDY THE ANTITRUST LAWS 131 (1955).

274 Phil C. Neal et al., *Report of the White House Task Force on Antitrust Policy*, ANTITRUST L. & ECON. REV., Winter 1968–69, at 11, 13.

275 U.S. DEP’T OF JUSTICE, REPORT ON THE ROBINSON-PATMAN ACT 37–100 (1977).

276 I SECTION OF ANTITRUST LAW, AM. BAR ASS’N, THE ROBINSON-PATMAN ACT: POLICY AND LAW (1980).

277 BORK, *supra* note 244, at 382.

278 *Id.*

279 See, e.g., RICHARD A. POSNER, THE ROBINSON-PATMAN ACT 41, 49 (1976); Kenneth G. Elzinga & Thomas F. Hogarty, *Utah Pie and the Consequences of Robinson-Patman*, 21 J.L. & ECON. 427 (1978) (higher cost to business ultimately gets passed on to consumers in the form of higher price); Herbert Hovenkamp, *The Robinson-Patman Act and Competition: Unfinished Business*, 68 ANTITRUST L.J. 125, 129–30 (2000).

280 *Great Atl. & Pac. Tea Co. v. FTC*, 440 U.S. 69, 80 n.13 (1979) (“[T]he Robinson-Patman Act should be construed consistently with broader policies of the antitrust laws.”).

281 See *J. Truett Payne Co. v. Chrysler Motors Corp.*, 451 U.S. 557, 562 (1981).

282 509 U.S. 209 (1993).

283 *Id.* at 222–24.

284 Sokol, *supra* note 266, at 2094.

6. Antitrust as Common-Law Efficient Modular Open-Source Platform

Antitrust did not become more predictable in a way that, from an economic perspective, improved outcomes based on an efficiency framework merely because it was part of a legal platform. Rather, antitrust became more efficient, and other fields of law did not. Antitrust figured out the right formula for success—design rules and a platform architecture that allowed for a singular goal to develop and to replace doctrines that did not fit within these design rules one at a time through modularity that did not suffer from fragmentation.

Robinson-Patman cases and scholarship reflect this transformation even in the case where the underlying statute was entirely inefficient. Over time, cases shifted to more efficient outcomes as caselaw changed to reflect economic thinking based on a Supreme Court that had a singular goal of efficiency that explicitly read in efficiency arguments, even when not required to do so.²⁸⁵

CONCLUSION

This Article explains the limits of the traditional approach to the efficiency-of-common-law hypothesis. It also reframes where such efficiency is possible as a two-sided open-source modular platform. It is under this framework that antitrust stands out across areas of law as the one area of doctrine in which the efficiency of common law occurred. This unique outcome was a result of antitrust's singular economic-based goal (based on federal law) working in tandem with (more or less) academic consensus that the singular goal should serve as the basis for antitrust law across antitrust's various doctrines.

For law to become more efficient in other substantive areas of judge-made law, courts must recognize a singular economic goal where the economics are not in dispute and where there is no legislative pushback to a singular economic-based goal. Traditional state-level common-law subjects are not ripe for a transformation based on the efficiency of common law because of fragmentation and multiple goals. Certain other areas of federal regulation are potentially ripe for a shift to an efficiency-of-common-law approach, but the Supreme Court has to be careful in pushing back against doctrines that it expressly overturns, rather than limits, because of legislative or administrative pushback.

Whether or not economic analysis should be the normative basis for all of common law is beyond the scope for this Article. However, as a framing mechanism, understanding the two-sided nature of legal markets—that is open source and modular—explains why judge-made law as a positive matter

285 See Stephen Calkins, *The October 1992 Supreme Court Term and Antitrust: More Objectivity than Ever*, 62 ANTITRUST L.J. 327, 377–83 (1994) (providing a backstory on *Brooke Group*); see generally Kenneth G. Elzinga & David E. Mills, *Antitrust Predation and The Antitrust Paradox*, 57 J.L. & ECON. S181 (providing context of the economic arguments made before the Supreme Court).

has not become more efficient over time in nearly every field. It also helps to explain why efficiency of the common law has not been uniform across different common-law systems around the world, as well as the differences that occur across countries and substantive areas of law.