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Robin C. Feldman and Mark A. Lemley, Atomistic Antitrust, 63 Wm. & Mary L. Rev. 1869 (2022), https://scholarship.law.wm.edu/wmlr/vol63/iss6/3

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ATOMISTIC ANTITRUST†

ROBIN C. FELDMAN* & MARK A. LEMLEY**

ABSTRACT

Antitrust is atomistic: deliberately focused on trees, not forests. It pays attention to the consequences of individual acts alleged to be anticompetitive.

That focus is misplaced. Companies and markets don’t focus on one particular act to the exclusion of all else. Business strategy emphasizes holistic, integrated planning. And market outcomes aren’t determined by a single act, but by the result of multiple acts by multiple parties in the overall context of the structure and characteristics of the market.

The atomistic nature of modern antitrust law causes it to miss two important classes of potential competitive harms. First, the focus on individual acts, coupled with the preponderance of the evidence standard for proving a violation, means that antitrust can’t effectively deal with what we might call probabilistic competitive harm: multiple acts, any one of which might or might not harm competition. Second, atomistic antitrust tends to miss synergistic competitive harm: acts which are lawful when taken individually but which combine together in an anticompetitive way.

Unfortunately, modern antitrust law has strayed too far down the atomistic pathway. Courts and agencies too often take a narrow, narrow path.

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transaction-specific focus to challenged conduct. Instead of asking “is the overall behavior of this company reducing competition in the market,” they focus on a particular merger or challenged monopolistic practice in isolation. Courts and agencies need to move beyond atomistic antitrust and take a more holistic look at the circumstances and effects of an overall pattern of conduct. Our goal in this Article is to set out a framework for integrated antitrust, in which individual actions can be understood not just on their own but also as part of a comprehensive whole. Only by doing so can the legal system both return antitrust to its roots and bring antitrust into the modern context of the business decisions that courts must analyze today.
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INTRODUCTION

A fundamental premise of modern antitrust law is that monopoly itself is not illegal. Monopolies can exist—and charge monopoly prices—without fear of antitrust liability. Big is not bad if a company’s strength is earned through legitimate competition. Only specific anticompetitive acts of monopolization or certain agreements with rivals are forbidden by the antitrust laws. Antitrust enforcement therefore focuses its primary attention on particular acts claimed to be unlawful, albeit in the context of market power or other competitive harm. And consistent with the normal rules of evidence and procedure, showing an antitrust violation generally requires proving by a preponderance of the evidence that the particular challenged act harmed competition. And it has become even harder to meet that burden in recent years as courts imposed new, antitrust-specific barriers and burdens of proof in an effort to reduce the risk of false positives. Antitrust, in short, is atomistic: deliberately focused on trees, not forests.

That focus is misplaced. Companies and markets don’t focus on one particular act to the exclusion of all else. Business strategy emphasizes holistic, integrated planning. And market outcomes aren’t
determined by a single act, but by the result of multiple acts by multiple parties in the overall context of the structure and characteristics of the market.

The atomistic nature of modern antitrust law causes it to miss two important classes of potential competitive harms. First, the focus on individual acts, coupled with the preponderance of the evidence standard for proving a violation, means that antitrust can't effectively deal with what we might call *probabilistic competitive harm*: multiple acts, any one of which might or might not harm competition. A monopolist might, for instance, buy a startup that could potentially turn into a competitor. At the time of the merger, there is no way to know for sure whether the startup would have matured into a competitive threat. And the probability that any particular startup would have displaced the monopolist might be small—say 10 percent. Atomistic antitrust says there is no violation here because that particular merger is not more likely than not to restrict competition. But statistically, a monopolist that buys one hundred such startups has almost certainly restrained competition, even though antitrust treats no one purchase as illegal and even though we don't know which startups would have succeeded.

Second, atomistic antitrust tends to miss *synergistic competitive harm*: acts that are lawful when taken individually but combine to produce anticompetitive effects. A pharmaceutical company, for instance, might take many acts to delay generic competition—from filing lawsuits, to acquiring follow-on patents, to filing citizen petitions at the FDA, to denying generic companies access to samples of the drug, to repeatedly changing the formulation of the drug. Some of these acts might themselves be unlawful, but often the law views them, in isolation, as permitted, even constitutionally protected, activity. But in the context of pharmaceutical regulation, they work together to prevent competition that would otherwise have occurred, not because of a genuine effort to persuade the

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4. See Microsoft, 253 F.3d at 79.

government or the courts, but because of the combined effect of multiple obstacles to generic competition.  

Synergistic effects also can arise from the interactions of multiple markets. Patent aggregators that amass vast portfolios can force rational companies to pay for a license simply by the threat of the combined power of the portfolio. The aggregator may not hold sufficient patents in a traditional product market to constitute a monopoly. Rather, the aggregator’s power comes from the synergistic effects of lower levels of power in multiple intellectual property (IP) markets. An atomistic lens cannot capture these types of effects.

Unfortunately, modern antitrust law has strayed too far down the atomistic pathway. Courts and agencies too often take a narrow, transaction-specific focus to challenged conduct. Instead of asking “is the overall behavior of this company reducing competition in the market,” they focus on a particular merger or challenged monopolistic practice in isolation. They also create rules of thumb that allow them to turn away antitrust cases early on. Those rules of thumb are easier to administer, and they provide a sense of comfort for companies. The problem is not that everything involved in a particular rule of thumb is wrong or that the notion of developing a proxy itself is wrong; the danger lies in allowing the proxy to take on a life of its own, disembodied from the underlying concepts. Modern antitrust law has reached that dangerous domain.

Courts and agencies need to move beyond atomistic antitrust and take a more holistic look at the circumstances and effects of an overall pattern of conduct. Doing so doesn’t require new legislation. Existing antitrust doctrine permits a broader focus, and indeed that was part of the original purpose of antitrust law. Section 7 of the Clayton Act, for instance, allows the government to stop monopoly

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6. See id. at 687.
7. For a discussion of how patent aggregators impact markets, see infra notes 208-12 and accompanying text.
“in its incipiency” by blocking mergers whose effect “may be substantially to lessen competition, or to tend to create a monopoly.” That is rather less than a requirement that a plaintiff prove a merger will create or preserve a monopoly. Similarly, the law on the books permits the aggregation of conduct by monopolists accused of an overall scheme to monopolize. Courts just haven’t been enforcing that law. And because antitrust rules are almost entirely created by courts, courts have the power to change those rules to better protect competition.

Our goal in this Article is to set out a framework for integrated antitrust in which individual actions can be understood not just on their own but also as part of a comprehensive whole. Only by doing so can the legal system both return antitrust to its roots and bring antitrust into the modern context of the business decisions that courts must analyze today. It is a rare moment in legal theory when one can accomplish both at the same time.

In Part I, we show how antitrust law over the last fifty years has become increasingly atomistic, trading a broad focus on the structure of markets for a narrow approach anchored in atomistic ends. In Part II, we argue that this atomistic focus misses important modern harms to competition, including those related to large tech companies buying startups, employers imposing noncompete clauses, pharmaceutical company behaviors blocking generics, and patent aggregators asserting large portfolios. Finally, in Part III, we argue for a return to an integrated analysis, one that focuses on competitive effects as a whole.

We also set out a framework for specific improvements—ranging from more comprehensive reforms requiring congressional action to more narrow reforms appropriate for judicial implementation—that could help avoid the shortsightedness of atomistic antitrust. Among other things, we suggest creating a presumption of anticompetitive harm from mergers by monopolists, allowing antitrust law to punish

11. See Anaheim v. S. Cal. Edison Co., 955 F.2d 1373, 1376 (9th Cir. 1992) (“It would not be proper to focus on specific individual acts of an accused monopolist while refusing to consider their overall combined effect.”); see also Cont’l Ore Co. v. Union Carbide & Carbon Corp., 370 U.S. 690, 698-99 (1962) (considering the aggregation of defendant’s actions as opposed to viewing each act independently).
a pattern of conduct that harms competition even if no one act in that pattern is itself provably anticompetitive, and encouraging courts that do find an antitrust violation to impose remedies sufficient to undo the competitive harm rather than just limiting themselves to stopping an ongoing violation. More important than the particular solutions, however, is replacing today's atomistic antitrust with a broader focus.

I. ANTITRUST’S FOCUS ON THE TREES

Antitrust law was conceived broadly, as the “Magna Carta of free enterprise.”12 When the first antitrust law, the Sherman Antitrust Act, was passed in 1890, it condemned two basic types of conduct—monopolization (an effort by a dominant firm to acquire or maintain control of a market) and cartels (agreements among competitors to fix prices or otherwise restrict competition).13 The statutes are written in sweeping fashion to cover a wide variety of conduct that threatens competition.

Despite the breadth of the statutes, antitrust law has become increasingly atomistic. Over the last fifty years in particular, a number of procedural rules and substantive doctrines have pushed antitrust into narrow corners, leaving it ill-equipped to manage a comprehensive analysis of competitive effects as a whole. In this Part, we discuss a range of these doctrines.

A. Standards of Proof

Antitrust law requires plaintiffs to prove causation and injury with more detail and particularity than other bodies of law.14 That is particularly important because integral aspects of antitrust law rely much more on predictions of future harm than other areas of law.15 Most law is backward-looking, asking whether a defendant

breached a contract, committed a tort, infringed a patent, and the like. At most, remedies may require some effort to predict the future. But important parts of antitrust law—in many ways the most important parts—are designed not to identify past illegal acts but to prevent future ones. Assessing a merger, a regulatory filing, a change in prices, or an exclusive dealing arrangement requires courts to compare what would happen with and without the conduct in question. Indeed, the very definition of markets and market power that is at the heart of most antitrust cases requires predictions about both how consumers will behave in response to a small but significant nontransitory increase in price (SSNIP) and whether potential competitors will enter the market in response to the defendant’s behavior.

Law as a whole struggles with these predictive tasks. Courts are most comfortable looking backwards to precedent. They are hesitant to change the operation of the market by relying on their predictions of what will happen rather than waiting to see what actually happens. But sometimes they have no choice, as when a tort suit alleges that a particular chemical increases the plaintiff’s risk of cancer.

The ordinary rules of evidence and procedure make it hard for plaintiffs to win a case based on prediction. A plaintiff must generally show that it is “more likely than not” that the defendant injured it. That can be hard to do when the real answer is “maybe, but no one knows for sure.” But it is even harder in antitrust

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22. See, e.g., Amchem, 521 U.S. at 624-25 (denying class certification in an asbestos exposure case in part because of the wide variety of exposures and injuries, particularly among “exposure-only plaintiffs”). See generally Steve C. Gold, When Certainty Dissolves into
cases. The Supreme Court has set up special procedural hurdles that weed out cases with uncertain harm not just at trial, but on summary judgment or even on a motion to dismiss. It is even harder at that early procedural stage to develop the evidence that might give a court confidence in making a prediction about the effects of defendant’s alleged conduct. And that is particularly true because, as Christopher Leslie has shown, courts treat circumstantial evidence with more and more disdain in antitrust cases.

Those rules combine with other special procedural doctrines that make effective antitrust challenges unlikely. Antitrust plaintiffs must pass a tougher standing hurdle than almost any other type of federal court plaintiff, demonstrating not just injury but “antitrust injury”: “injury of the type the antitrust laws were intended to prevent and that flows from that which makes defendants’ acts unlawful.” Many plaintiffs injured by an antitrust violation are excluded because they aren’t the right type of plaintiffs. Moreover, showing antitrust injury generally requires evidence of a past injury, but many anticompetitive harms are not felt until well after the anticompetitive conduct. Even plaintiffs who do suffer the right sort of injury are excluded from relief unless they purchased goods directly from the defendant. And those direct purchasers who do


23. See, e.g., Matsushita Elec. Indus. Co. v. Zenith Radio Corp., 475 U.S. 574, 598 (1986) (reversing grant of summary judgment to petitioners due to evidentiary defects); Bell Atl. Corp. v. Twombly, 550 U.S. 544, 556 (2007) (holding that stating a valid claim of anticompetitive conduct under section 1 of the Sherman Act “requires a complaint with enough factual matter (taken as true) to suggest that an agreement was made”).


25. The one possible exception exists in the “next friend” standing principle on which most habeas corpus petitions rely. Whitmore v. Arkansas, 495 U.S. 149, 163 (1990) (outlining the requirements needed to find next friend standing); see 20 AM. JUR. TRIALS § 7 (2021).


qualify under both the antitrust injury and Illinois Brick doctrines are frequently subject to arbitration clauses that forbid them from bringing antitrust claims in federal court, arbitrating as a class, or obtaining the remedies antitrust law mandates. 29

B. Mergers and Future Harm

The original Sherman Act prohibited monopolization and agreements to restrict competition, but it didn’t expressly prevent merging with competitors. 30 Businesses that were accustomed to operating in interlocking “trusts” responded by merging their separate companies into a single firm, avoiding the harsher punishment the law afforded cartels. 31 Indeed, the two decades after the passage of the Sherman Act led to the largest number of mergers in U.S. history. 32

In 1914, Congress passed the Clayton Act in an effort to stop these efforts to evade the reach of the Sherman Act. 33 While the Sherman Act focused on stopping existing anticompetitive practices, the Clayton Act was more forward-looking, aiming to prevent mergers and other conduct that might create a monopoly or establish the conditions for a successful cartel. 34 It targeted not just behavior by monopolists but conduct that “may ... substantially ... lessen competition, or ... tend to create a monopoly.” 35 And the stated purpose of the statute was to stop threats to competition “in their incipiency,” 36 precluding mergers or exclusive dealing arrangements that might unduly concentrate markets even though those markets were currently competitive. 37

32. See id. at 111 (discussing the trend).
33. See V. Vivaudou, Inc. v. FTC, 54 F.2d 273, 275 (2d Cir. 1931).
35. Id.
37. See Peter C. Carstensen & Robert H. Lande, The Merger Incipiency Doctrine and the
For many years, the courts and antitrust agencies used this power to target not just mergers to monopoly or misbehavior by monopolists but potentially anticompetitive conduct even in relatively unconcentrated markets. But a large part of the Chicago School antitrust movement beginning in the 1970s was designed to make it harder to prove antitrust cases, and the incipiency standard was a particular target. The Chicago revolution has been successful—in fact, that it is now virtually impossible to make out an antitrust claim based on the possibility of future harm to competition or the risk that a market will grow too concentrated.

Substantive antitrust rules, too, set higher hurdles for plaintiffs predicting the future than for their non-antitrust counterparts. Plaintiffs alleging attempted monopolization, for instance, need to show not only that the defendant attempted to monopolize and took steps to further that goal but that the attempt had a “dangerous probability” of succeeding. That is a requirement absent from attempt cases outside antitrust, even criminal cases. Plaintiffs alleging a conspiracy to monopolize must show that each defendant deliberately chose to conspire with all others, a requirement

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38. See Robert H. McGuckin, Merger Enforcement: Out of the Courtroom After 75 Years, 35 ANTITRUST BULL. 677, 681 (1990) (discussing how antitrust enforcers and courts would stop “almost any merger where an argument could be made that a competitor might be hurt” after the passage of Cellar-Kefauver amendment to the Clayton Act in 1950).


43. See Richards v. Neilsen Freight Lines, 810 F.2d 898, 904 (9th Cir. 1987) (requiring evidence of interdependence to infer an overarching conspiracy from a series of bilateral
absent from criminal conspiracy cases, which require only a commitment to the common enterprise. Proof of predatory pricing requires not just proof that it happened, but that the plaintiff demonstrate that the predatory strategy will pay off for the defendant in the long run. And the very requirement that defendants be shown to dominate an existing market effectively forecloses the possibility of showing harm to future markets.

Nowhere is modern antitrust's resistance to predictions of harm more evident than in merger law, the very place where the incipiency standard was supposed to open it up. The point of a merger challenge is predictive. Unlike an antitrust case based on monopolization or a cartel, in which the government can point to existing anticompetitive conduct, a merger challenge is necessarily a judgment about likely future effects. And the statute was written to allow the government to block mergers that may lessen competition or tend to create a monopoly, an explicit recognition of that uncertainty.

agreements). A complaint for conspiracy "must allege that each individual defendant joined the conspiracy and played some role in it because, at the heart of an antitrust conspiracy is an agreement and a conscious decision by each defendant to join it." In re Capacitors Antitrust Litig., 106 F. Supp. 3d 1051, 1066 (N.D. Cal. 2015) (quoting In re TFT-LCD (Flat Panel) Antitrust Litig., 586 F. Supp. 2d 1109, 1117 (N.D. Cal. 2008)). Every defendant must be specifically connected to the alleged conspiracy. See, e.g., Staley v. Gilead Sci., Inc., 446 F. Supp. 3d 578, 593 (N.D. Cal. 2020); Brennan v. Concord EFS, Inc., 369 F. Supp. 2d 1127, 1136-37 (N.D. Cal. 2005) (granting defendants' motion to dismiss where the complaint contained no allegations "specifically connecting" them to the alleged conspiracy). Full disclosure: one of us (Lemley) represents the plaintiffs in Staley.

44. See United States v. Andolschek, 142 F.2d 503, 507 (2d Cir. 1944) ("It is true that a party to a conspiracy need not know the identity, or even the number, of his confederates; when he embarks upon a criminal venture of indefinite outline, he takes his chances as to its content and membership, so be it that they fall within the common purposes as he understands them.").


46. In the 1990s, the antitrust agencies tried to deal with this problem by developing the concepts of innovation and technology markets. See, e.g., U.S. DEP'T OF JUST. & FED. TRADE COMM'N, ANTITRUST GUIDELINES FOR THE LICENSING OF INTELLECTUAL PROPERTY 4-5, 8-11 (1995). But those concepts have not been put to significant use by the courts in the last twenty-five years. See Richard J. Gilbert & Hillary Greene, Merging Innovation into Antitrust Agency Enforcement of the Clayton Act, 83 GEO. WASH. L. REV. 1919, 1940-42 (2015).
Nonetheless, modern merger cases require the same standard of proof as in any other civil case: the plaintiff must prove it is more likely than not that the merger will harm competition. The district court in United States v. AT&T Inc. wrote:

By using “the words 'may be substantially to lessen competition’” in Section 7, Congress indicated “that its concern was with probabilities, not certainties.” Although certainty of harm is not necessary to prove a Section 7 violation, neither is the “mere possibility” of harm sufficient. Rather, to grant injunctive relief under the Clayton Act, the Court must conclude that the Government has introduced evidence sufficient to show that the challenged “transaction is likely to lessen competition substantially.” As part of satisfying that burden, Section 7 “demand[s] that a plaintiff demonstrate that the substantial lessening of competition will be 'sufficiently probable and imminent' to warrant relief.”

The court (and the court of appeals) rejected the government’s challenge to AT&T’s purchase of Time Warner under this standard, crediting the merging parties’ claims about how the merged company would behave. Despite its promises, the merged company started restricting competition almost immediately after the merger was approved. Other examples include the court’s rejection of the

47. Herbert Hovenkamp, Prophylactic Merger Policy, 70 HASTINGS L.J. 45, 48-50 (2018) (“Today, most mergers are challenged before they occur. As a result, the feared post-merger conduct has not occurred either and ... [the] evidence [pertains to] predicted rather than actual effects. This ... makes it important to place some limits on merger law’s prophylactic reach. First, the language of section 7 requires causation ... [which] requires a showing that the merger is what is likely to facilitate the feared anticompetitive conduct. Second, we need to be satisfied that this conduct, if it should occur, will be both anticompetitive and difficult to reach through direct application of the antitrust laws. Third, the merger must raise a significant risk that the conduct will occur.... Finally, as with all merger cases, there must not be offsetting gains that serve to justify the merger notwithstanding these threats to competition.... [T]he assumption that many mergers produce efficiencies is built into our prima facie case to begin with. As a result, we do not want to condemn a merger based on mere speculation that it might lead to some anticompetitive outcome.” (footnotes omitted)).


49. See id. at 182-83, 219.

government’s challenge to the Oracle-PeopleSoft merger, which led to some of the very consequences the government predicted. 51

The requirement that the government prove that the defendant’s conduct will more likely than not cause imminent harm is not limited to merger cases. Courts impose strict causation requirements in other antitrust cases, too. The most notorious example is Rambus, Inc. v. FTC, in which the D.C. Circuit reversed a finding by the Federal Trade Commission (FTC) on the grounds that the agency had not proven that Rambus’s anticompetitive conduct caused a particular identified harm. 52 The FTC had shown that but for Rambus’s deception of a standard-setting organization, the organization would have taken one of two different actions, either of which would have been better for competition than giving Rambus an unfettered monopoly, but that it could not prove which one would have happened. 53 The D.C. Circuit held that, because the FTC couldn’t prove with certainty which of the alternative scenarios would have happened, the entire case had to be thrown out for failure to show that Rambus’s conduct caused a particular anticompetitive harm. 54 Other causation cases have permitted anticompetitive conduct by pharmaceutical patent owners because the plaintiffs could not prove that generic companies would have been ready, willing, and able to enter the market if that conduct hadn’t happened. 55


53. See Rambus, 522 F.3d at 466-67.

54. See id. at 459.

55. See, e.g., Andrx Pharms., Inc. v. Friedman, 83 F. Supp. 2d 179, 186 (D.D.C. 2000), aff’d in part, rev’d in part sub nom. Andrx Pharms., Inc. v. Biovail Corp. Int’l, 256 F.3d 799 (D.C. Cir. 2001) (“The primary injury alleged here by Biovail—delay in sales—is speculative because there is no evidence that absent the Andrx-HMRI agreement, Biovail would be marketing its generic drug.”); In re Wellbutrin XL Antitrust Litig., 868 F.3d 132, 165 (3d Cir. 2017); In re Nexium (Esomeprazole) Antitrust Litig., 842 F.3d 34, 63 (1st Cir. 2017); see also Hecht v. Pro-Football, Inc., 570 F.2d 982, 994 (D.C. Cir. 1977) (“[T]he courts have held that a potential competitor cannot achieve standing merely by demonstrating his intention to enter a field; he must also demonstrate his preparedness to do so.” (emphasis added)).
C. Petitioning Agencies and Courts

Incumbents regularly use legal rules and lawsuits to try to prevent disruptive competition. But plaintiffs face particular challenges in alleging that a defendant restrained competition by filing lawsuits or regulatory challenges to try to interfere with a competitor’s business.

The difficulties begin with a series of Supreme Court cases from the 1960s and 1970s expounding on the notion that citizens have rights under the First Amendment to petition the government for the redress of grievances. Known collectively as the Noerr-Pennington doctrine, the cases operate to curtail antitrust law, motivated by a concern that the threat of antitrust damages might cast a pall over First Amendment liberties. As the Justices noted in Eastern Railroad Presidents Conference v. Noerr Motor Freight, Inc., the first in the series of cases:

[A] representative democracy such as this ... depends upon the ability of the people to make their wishes known to their representatives. To hold that the government retains the power to act in this representative capacity and yet hold, at the same time, that the people cannot freely inform the government of their wishes would impute to the Sherman Act a purpose to regulate, not business activity, but political activity.

56. See Lemley & McKenna, supra note 19.
57. See U.S. Const. amend. I (“Congress shall make no law ... abridging the freedom of speech ... or the right of the people peaceably to assemble, and to petition the Government for a redress of grievances.”).
Thus, the Supreme Court seemed to view a pattern of baseless, repetitive claims as potentially more problematic than an individual suit.60

But the Court still focused on baseless suits. What if a pattern of lawsuits or agency petitions is filed in order to harass a competitor but not all those suits are baseless? In those circumstances, some courts have looked at behavior as a whole. These decisions have found that, when dealing with a series of lawsuits or administrative actions, the entire set of activities may constitute sham behavior even if some individual filings are ultimately successful and therefore not objectively baseless.61 For example, the Ninth Circuit in USS-POSCO Industries v. Contra Costa County Building & Construction Trades Council explained the following:

When dealing with a series of lawsuits, the question is not whether any one of them has merit—some may turn out to, just as a matter of chance—but whether they are brought pursuant to a policy of starting legal proceedings without regard to the merits and for the purpose of injuring a market rival.62

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60. See, e.g., In re Humira (Adalimumab) Antitrust Litig., 465 F. Supp. 3d 811, 828 (N.D. Ill. 2020) (“[Antitrust liability has long attached wherever there was a 'pattern of baseless, repetitive claims' that shows the 'administrative and judicial processes have been abused.'” (quoting Cal. Motor Transp. Co. v. Trucking Unlimited, 404 U.S. 508, 513 (1972))); Pro. Real Estate Invs., Inc. v. Columbia Pictures Indus., 508 U.S. 49, 58 (1993) (“Nothing in California Motor Transport retreated from these principles ... we recognized that recourse to agencies and courts should not be condemned as sham until a reviewing court has 'discern[ed] and draw[n]' the 'difficult line' separating objectively reasonable claims from 'a pattern of baseless, repetitive claims ... which leads the factfinder to conclude that the administrative and judicial processes have been abused.'” (quoting Cal. Motor Transp., 404 U.S. at 513)); Venda Co. v. Lektro-Vend Corp., 433 U.S. 623, 644-45 (1977) (Blackmun, J., concurring) (juxtaposing a “genuine attempt[] to use the ... adjudicative process legitimately” against a “pattern of baseless, repetitive claims”); see also Otter Tail Power Co. v. United States, 410 U.S. 366, 380 (1973) (citing Cal. Motor Transp., 404 U.S. at 513) (describing sham litigation as “evidenced by repetitive lawsuits carrying the hallmark of insubstantial claims” (emphasis added)).


62. 31 F.3d at 811.
In the memorable words of the court, “even a broken clock is right twice a day.”

The Second Circuit followed similar logic in *Primetime 24 Joint Venture v. National Broadcasting Co.*, which involved a series of challenges by the major television networks against a satellite operator under the Satellite Home Viewer Act related to signal strength. The court found that the behavior was brought “without regard to the merits,” and therefore the major television networks could not claim Noerr immunity from antitrust.

In the same vein, a Louisiana district court in *Livingston Downs Racing Ass’n v. Jefferson Downs Corp.* rejected what it called a “sequential analysis” for a group of lawsuits. The court held that “the pertinent question is not whether any one of the lawsuits has merit,” but rather whether the entire enterprise followed “a policy of instituting legal proceedings without regard to the merits and for the purpose of injuring a market rival.” The FTC has also adopted this posture in bringing enforcement actions against pharmaceutical companies related to patterns of activities that block potential rivals.

In contrast, district courts in New Jersey, Michigan, Illinois, and Ohio have ignored or declined to follow the Ninth Circuit’s lead.

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64. 219 F.3d at 95, 101.

65. See id. at 101 (finding that the lower court erred in granting the major television networks’ motion to dismiss because the satellite operator adequately alleged that the networks’ coordinated challenges were brought without regard to the merits and for the purpose of injuring a competitor, and thus not protected under the Noerr-Pennington doctrine).


67. Id. at 538 (citing Pro. Real Est. Invs., Inc. v. Columbia Pictures Indus., Inc., 508 U.S. 49, 58 (1993)).

68. See, e.g., *In re Bristol-Myers Squibb Co.*, 135 F.T.C. 444 (2003) (consent decree related to an action alleging pattern of anticompetitive practices to delay generic entry); *FTC v. Shire Viropharma, Inc.*, 917 F.3d 147, 152, 161 (3d Cir. 2019) (FTC action against Shire Pharmaceutical related to filing of forty-three citizen petitions dismissed on grounds that the behavior had ceased).

69. See Christian Mem’l Cultural Ctr., Inc. v. Mich. FuneralDirs. Ass’n, 998 F. Supp. 772, 777 & n.2 (E.D. Mich. 1998) (acknowledging but declining to follow the Ninth Circuit); *RoMax Int’l v. Realty One, Inc.*, 900 F. Supp. 132, 160-61 (N.D. Ohio 1995) (applying Professional Real Estate without mentioning the Ninth Circuit approach distinguishing between single action and pattern cases), aff’d, 173 F.3d 995 (6th Cir. 1999); see also *In re Humira (Adalimumab) Antitrust Litig.*, 465 F. Supp. 3d 811, 830 (N.D. Ill. 2020) (dodging the issue by noting that “[e]ven in circuits that apply the type of more flexible test plaintiffs say should be applied here, a batting average of .534 would be too high to plausibly allege sham
These courts have concluded that each action in a series must be evaluated separately and each must be found objectively baseless. 70

Even when courts consider the group of actions as a whole, they tend to focus on percentages, as if one can divine the answer by identifying a magic number. An example of the percentage approach appears in the district court of Illinois’ 2020 In re Humira (Adalimumab) Antitrust Litigation decision. 71 Plaintiffs alleged a variety of activities related to the blockbuster rheumatoid-arthritis drug, Humira. 72 As part of that claim, the court considered the company’s patenting behavior. 73 Ducking the question of whether to follow the more flexible approach when a plaintiff files multiple petitions, the Humira court concluded that the plaintiffs failed to satisfy either standard. 74 Specifically, the court noted that the

petitioning as a matter of law”). One can understand the hesitation of some courts to follow the Ninth Circuit’s formulation. The Supreme Court’s decision in Professional Real Estate emphasized both objective and subjective analysis. 508 U.S. at 58-59. The Ninth Circuit’s test arguably blurs the distinction between objectivity and subjectivity in framing the question as whether the activities were brought “pursuant to a policy of starting legal proceedings without regard to the merits and for the purpose of injuring a market rival.” USS-POSCO Indus. v. Contra Costa Cnty. Bldg. & Constr. Trades Council, 31 F.3d 800, 811 (9th Cir. 1994). Nevertheless, the Ninth Circuit’s language is not the only possible approach. Lower courts could establish a formulation that hews more closely to the Supreme Court’s desire for objectivity, despite the fact that the desire was expressed in a case related to a single action. The Supreme Court could also clarify that different tests apply to pattern cases and single action cases, such as Professional Real Estate. See 508 U.S. at 58-59 (establishing that for a single lawsuit to constitute sham behavior, the behavior must be both objectively and subjectively baseless). Patterns of behavior need to be considered as a whole, rather than in atomistic fashion.

70. See Christian Mem’t Cultural Ctr., 998 F. Supp. at 777-78; Re/Max Int’l, 900 F. Supp. at 160-61. Of course, some filings can succeed and still be objectively baseless. Consider petitions filed with the FDA urging it to deny approval of a generic drug. Brand companies have filed these so-called citizen petitions demanding, among other things, that the agency require of a generic company what is already required of generic companies under agency rules. The filing delays the generic’s approval for months. The request has no merit—in that it was unnecessary—yet the agency technically must approve that portion of the petition. Citizen petitions, however, are likely to be an outlying case rather than the rule, given the idiosyncratic nature of the process. See generally Robin Feldman, Ending Patent Exceptionalism and Structuring the Rule of Reason: The Supreme Court Opens the Door for Both, 15 MINN. J.L. SCI. & TECH. 61 (2014); Michael A. Carrier & Daryl Wander, Citizen Petitions: An Empirical Study, 34 CARDOZO L. REV. 249 (2012); Michael A. Carrier & Carl Minniti, Citizen Petitions: Long, Late Filed, and At-Last Denied, 66 AM. U. L. REV. 305 (2016).

71. See 465 F. Supp. 3d at 830.

72. Id. at 819.

73. See id. at 819, 830.

74. Id.
company filed a total of 247 patent applications and obtained 132 patents—with 90 percent of them issuing more than twelve years after the drug was first marketed. In support of its conclusion, the court listed the percentages of successful petitions in other pattern of petition cases, as if merely counting up the number of petitions that were approved versus the number that failed could provide a concrete answer to the question of whether the behavior as a whole constitutes a sham. Although the counting approach may reflect an effort to look for something supposedly objective, it entirely misses the point of synergistic behavior. One cannot understand the power of a symphony by counting the notes.

The effect of Noerr-Pennington is that it is very hard to win an antitrust case where the anticompetitive conduct is the filing of lawsuits or regulatory challenges. While some courts are willing to consider a pattern of lawsuits to present a greater problem, many others aren't.

75. Id. at 822.
76. Id. at 822, 830-31.
77. Id. at 830-31 (citing Waugh Chapel S., LLC v. United Food & Com. Workers Union Loc. 27, 728 F.3d 354, 365 (4th Cir. 2013)) (success rate of 7 percent, one in fourteen “suggests a sham”); Kaiser Found. Health Plan, Inc. v. Abbott Lab’ys, Inc., 552 F.3d 1033, 1046-47 (9th Cir. 2009) (success rate of 41 percent, seven out of seventeen lawsuits and where the company had plausible arguments in the remaining ten = no sham); USS-POSCO Indus. v. Contra CostaCnty. Bldg. & Constr. Trades Council, 31 F.3d 800, 811 (9th Cir. 1999) (success rate of 52 percent, fifteen in twenty-nine lawsuits = no sham); Twin City Bakery Workers & Welfare Fund v. Astra Aktiebolag, 207 F. Supp. 2d 221, 224 (S.D.N.Y. 2002) (infringement claims for four of six asserted patents proceeded beyond summary judgment and two of the four proceeded through trial = no sham). In applying this logic, the district court in Humira followed a Seventh Circuit case, outside of the pharmaceutical arena, concluding that in examining Noerr immunity, one should first separate immunized from nonimmunized conduct. See In re Humira, 465 F. Supp. 3d at 828 (citing Mercatus Grp. LLC v. Lake Forest Hosp., 641 F.3d 834, 839 (7th Cir. 2011)).


D. Market or Markets?

Outside of a narrow group of behaviors deemed illegal per se under antitrust law, every form of antitrust analysis begins with proof that the party accused of engaging in anticompetitive activity holds or will obtain power in the relevant market.\(^8^0\) Market power serves as a proxy for ensuring that a firm can raise prices and limit supply, thereby creating the type of harm that antitrust law recognizes.\(^8^1\) And proving market power usually requires a fairly elaborate effort to define “the market” (both product and geographic) in which the anticompetitive conduct occurs.\(^8^2\)

In the context of anticompetitive behavior involving IP, modern competition authorities examine three types of markets.\(^8^3\) The first two coincide with more traditional views of markets—specifically, the market for the relevant good or service and the market for the IP rights in that good or service.\(^8^4\) In addition to these two markets, competition authorities have on occasion paid attention

\(^8^0\). See, e.g., Jefferson Par. Hosp. Dist. No. 2 v. Hyde, 466 U.S. 2, 15 n.25 (1984) (“The rationale for per se rules in part is to avoid a burdensome inquiry into actual market conditions in situations where the likelihood of anticompetitive conduct is so great as to render unjustified the costs of determining whether the particular case at bar involves anticompetitive conduct.”); see also Arizona v. Maricopa Cnty. Med. Soc’y, 457 U.S. 332, 346-47 (1982) (holding that horizontal and fixed maximum prices fall within the per se rule against price-fixing agreements).


\(^8^2\). For a persuasive argument that that effort is fruitless, see Louis Kaplow, Why (Ever) Define Markets?, 124 Harv. L. Rev. 437 (2010). A federal court dismissed the FTC’s antitrust complaint against Facebook, in part, on the grounds that the FTC did not plead facts specific enough to establish that Facebook has market dominance. The court even recognized the difficulty of calculating market power in the market for personal social media. It used this difficulty to justify imposing a higher standard for alleging market dominance in this hard-to-define market than in markets for ordinary goods. In this way, the challenge of distilling certain markets’ conditions into concrete measurements of “market power” has, ironically, compelled judges to raise the bar even higher to take on powerful incumbents. FTC v. Facebook, Inc., No. CV 20-3590, 2021 WL 2643627 (D.D.C. June 28, 2021). The FTC was ultimately able to successfully meet this higher standard and plead market power, however, in part because it had been very artful in defining the market in the first place. FTC v. Facebook, Inc., No. CV 20-3590, 2022 WL 103908, at *8 (D.D.C. Jan. 11, 2022).


\(^8^4\). See id.
to companies that do not directly compete but might do so in the future: so-called nascent competitors.85 The government prevailed on such a claim in its 1990s case against Microsoft for the company’s attempts to squash competition in the computer browser market in order to protect its operating system monopoly.86

But the concept of nascency is broader than just new competitors. Companies may also contest new or evolving markets. Markets, too, can be nascent. The law should prevent monopolists from eliminating competition from an emerging technology or a splinter market before the new market develops in a way that could threaten a monopoly stronghold.87 As the court noted in Microsoft, “it would be inimical to the purpose of the Sherman Act to allow monopolists free reign to squash nascent, albeit unproven, competitors at will.”88

But anticompetitive conduct doesn’t always map to an antitrust market. In part, that’s because market definition is arbitrary, as Louis Kaplow has argued.89 In part it is because, as we describe below, conduct by defendants such as patent aggregators can affect competition even when the relevant actor lacks power in the products, services, or IP rights in a single relevant market.90 In those cases, the hunt for power in any of these three types of markets—products or services, IP, and nascent markets—would be in vain.


87. See id. (using the cradle imagery in discussing the concept).

88. 253 F.3d 34, 79 (D.C. Cir. 2001); accord ANTITRUST LICENSING GUIDELINES, supra note 83, at 10-11; LePage’s Inc. v. 3M, 324 F.3d 141, 159 (3d Cir. 2003) (finding in a bundled pricing case that “[w]hen a monopolist’s actions are designed to prevent one or more new or potential competitors from gaining a foothold in the market by exclusionary, i.e. predatory, conduct, its success in that goal is not only injurious to the potential competitor but also to competition in general”).


90. See infra notes 92-96 and accompanying text.
The focus on the market to exclude real competitive harm from antitrust’s scope is getting worse as a result of two troubling recent decisions. In *Ohio v. American Express Co.*, the Supreme Court made it much more difficult to assert an antitrust claim against technology platforms, holding that restricting competition in only one side of a “two-sided” market wasn’t illegal.91 In other words, it didn’t matter whether American Express restrained competition in the market for providing credit card services to merchants unless it also restrained competition in the consumer-facing market, and vice versa. The decision has been roundly criticized by antitrust scholars.92 And in *FTC v. Qualcomm Inc.*, the Ninth Circuit abandoned decades of precedent to conclude that antitrust law didn’t protect consumers because they, unlike competitors, weren’t in the same market as the defendant.93 This decision, too, has been criticized.94 It is exactly the opposite of the point of antitrust, which is precisely to protect consumers,95 and hopefully it won’t survive. But like *AmEx, Qualcomm* makes it very difficult to bring any antitrust case that doesn’t fit neatly within an established market box.96

93. See 969 F.3d 974, 982, 1005 (9th Cir. 2020).
94. See 1 HERBERT HOVENKAMP ET AL., supra note 79, § 35.05[b] (“The Ninth Circuit ignored the district court's detailed factual findings on this issue, in part because it wrongly concluded that competitive harm to downstream purchasers didn’t count for antitrust purposes but also in part because it found that reallocating prices to “squeeze” competitors wasn’t illegal ... unless Qualcomm charged predatory prices.”); Carl Shapiro, *Antitrust: What Went Wrong and How to Fix It*, ANTITRUST MAG., Summer 2021, at 40 (“Something is deeply wrong with antitrust law when the facts show that a monopolist has engaged in conduct that excludes competitors by raising their costs and harms consumers by raising prices, yet an appellate court does not see an antitrust violation.”).
95. See Hovenkamp, supra note 92, at 46.
96. See Qualcomm Inc., 969 F.3d at 1005; Harrison, supra note 92.
Antitrust law was designed to allow integrated analyses that focus on competitive effects as a whole. Over the last fifty years, courts and agencies have become fixated on atomistic analyses, leaving them unable to manage emerging challenges to the competitive landscape.

The result of all of this is that antitrust law imposes significant obstacles to cases based on predictive harm, obstacles greater than we see in other areas of law. To be sure, some of those obstacles exist for good reason. Many of these antitrust doctrines developed in response to a more permissive—arguably too permissive—prior era of antitrust law. Courts were right to pull back from doctrines that viewed companies with a 3 percent market share as posing a dangerous probability of monopolization, for instance.\(^97\) And people often file antitrust suits because they are upset at losing a market competition. It is helpful for courts to have a tool like the antitrust injury doctrine to weed out implausible theories of anticompetitive harm.\(^98\) But the aggregate effect has been to insulate defendants from liability by requiring plaintiffs to predict the future harmful effects of defendants’ conduct or link together a pattern of behavior that is not itself provably illegal.

II. THE FOREST ANITRUST MISSES

Modern antitrust’s atomistic focus leads it to ignore two types of cases where the simple logic of \(1 + 1 = 2\) doesn’t reflect the complexity of the real world. Those lacunae fall into two basic categories: probabilistic injury (conduct that might or might not turn out to harm competition) and synergistic injury (conduct that isn’t individually anticompetitive but that restricts competition when combined with other conduct).

\(^97\) See, e.g., United States v. Von’s Grocery Co., 384 U.S. 270, 277-78 (1966) (rejecting merger of two grocery companies with less than 5 percent of the local market); cf. Int’l Salt Co. v. United States, 332 U.S. 392, 394-96 (1947) (finding market power because of a patent even though International Salt had less than 10 percent of the salt market).

\(^98\) Cf. Lemley & McKenna, supra note 19, at 90-94 (suggesting application of an analogous rule in IP cases); Christina Bohannan & Herbert Hovenkamp, IP and Antitrust: Reformation and Harm, 51 B.C. L. Rev. 905 (2010) (same).
A. Probabilistic Antitrust Harm

The first blind spot of modern antitrust doctrine concerns conduct that might or might not injure competition in the future. Consistent with the normal requirement that the plaintiff prove its case by a preponderance of the evidence, and the special additional hurdles antitrust law has created, antitrust law requires a plaintiff to show that it is more likely than not that any particular conduct alleged to be anticompetitive caused antitrust injury.

While that might seem unobjectionable, it leaves antitrust unable to effectively deal with defendants who repeatedly engage in a pattern of actions that individually have a less than 51 percent chance of directly causing competitive harm. In the scenarios we describe here, each individual act might or might not harm competition. But take enough acts that each have a 10 percent chance of harming competition and you are virtually certain to do some harm to competition. We call this probabilistic antitrust harm. Antitrust law doesn’t have a mechanism for taking probabilistic harm into account.

1. Mergers

The first scenario that presents probabilistic harm involves mergers. As noted in Part I, antitrust law evaluates each merger on its merits, asking whether the challenger can prove that that particular merger will cause harm to competition.

Large companies are actively buying dozens of different companies. In the late 1990s, about two hundred VC-backed companies went public per year on average; in recent years, only about seventy-five have done so—a more than 60 percent decrease.

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99. See supra Part I.
101. Portions of the next few paragraphs are adapted from Lemley & McCreary, supra note 85, at 8.
This decline is especially striking given that the number of VC-backed firms exiting has increased during this period, from about 380 per year to about 530.\footnote{103} Putting these two trends together, while one in two exits was by an IPO as recently as the 1990s, only about one in ten is today.\footnote{104}

Figure 1. VC-Backed Exits: % IPOs v. % M&As.\footnote{105}
Acquisitions have filled the gap. The number of VC-backed firms acquired has jumped from 190 per year in the 1990s to 450 per year recently—a nearly 140 percent increase.\(^{106}\)

Over the last ten years, more than 50 percent of the value of each year’s top ten acquisitions has been generated by dominant firms acquiring horizontal competitors—an amount so large that it reflects over 40 percent of all reported VC-backed acquisition value across those years.\(^{107}\) In 2014, for example, eight of the ten largest disclosed acquisitions appear to have been by incumbents of nascent or potential rivals.\(^{108}\) These top eight amounted to $40 billion, or 80 percent of the disclosed value of all VC-backed companies acquired that year.\(^{109}\)

But large deals are not all or even most of the story. Incumbent firms are increasingly buying startups. Incumbents are in perhaps the best position among investors to identify firms that could threaten them before those firms mature; waiting until those threats grow in size and value to acquire them—as Facebook arguably did with WhatsApp—is likely the exception, not the rule.\(^{110}\)

For every large firm acquisition, there are many more, troubling, incumbent acquisitions of smaller firms, including ones not reported or tracked by the government. In December 2000, the deal size triggering antitrust merger review under the Hart-Scott-Rodino Act was raised from $15 million to $50 million (provided the firms also meet size-of-the-person criteria), and the Act added a new $200 million threshold to capture other transactions (regardless of firm size).\(^{111}\) Since then, the evidence suggests that the share of newly exempt deals has grown.\(^{112}\)

106. 2014 YEARBOOK, supra note 102, at 15 fig.10.0 (tallying VC-backed M&As from 1985 to 2013); 2016 YEARBOOK, supra note 102, at 68 fig.407 (same from 1995 to 2015). From 2015 to 2020, the number of VC-backed firms that were acquired climbed to about 1,030 per year, representing a roughly 400 percent increase from the 1990s. 2021 YEARBOOK, supra note 102, at 39 (same from 2008 to 2020).

107. Lemley & McCreary, supra note 85, at 18-19.

108. Id. at 19.

109. Id. at 19-20. For total disclosed exit value, see 2016 YEARBOOK, supra note 102, at 68 fig.407.

110. Lemley & McCreary, supra note 85, at 20.

111. Id. at 20-21.

112. The Hart-Scott-Rodino Act requires disclosure and pre-approval of proposed acquisitions over $200 million, as well as acquisitions over $50 million where other “size-of-the-person” test conditions are met. See 15 U.S.C. § 18a(a); FTC. TRADE COMM’N, STEPS FOR
A look at the pattern of incumbents' acquisitions shows that they are acquiring multiple nascent rivals and trying to control strategic complements that could otherwise destabilize their core business. Facebook, for instance, has acquired over ninety companies, mainly startups—building and maintaining its userbase partly by acquiring, and then often shuttering, other services. Google, similarly, has spent over 75 percent of its disclosed $25 billion in acquisitions since 2008 on competitors. It bought Waze for $1 billion before Waze or alternative acquirers like Facebook or Apple could challenge Google's mapping supremacy. Mapping is arguably a necessary complement for any firm seeking to compete with Google's core and future business areas, from search-based ads to autonomous ridesharing. Apple, too, has been “getting more aggressive and ambitious” in its acquisitions, buying digital music companies,
including Beats (for $3 billion) and Shazam (for a reported $400 million), to retrench its digital music position against attacks by streaming services like Spotify.¹¹⁷

This speed and scale of acquisitions is unlike that undertaken by past incumbents. Cisco completed its first acquisition only in its ninth year, as its board initially strongly opposed acquisitions.¹¹⁸ And Microsoft—the network incumbent of a prior generation—acquired only one company in its entire first decade of operations (then twenty-seven in the first decade after it began making acquisitions, with a disclosed sum worth less than $1 billion in today’s dollars).¹¹⁹ By contrast, Google acquired fifty in its first decade of operations (and eighty-five in its first decade of acquisitions, together worth a disclosed $8 billion),¹²⁰ and Facebook forty-eight (sixty in its first decade of acquisitions, worth $25 billion).¹²¹


The pattern of multiple acquisitions of startups by dominant incumbents creates a problem for antitrust doctrine. Any one acquisition might or might not restrain competition, because the startup in question might or might not have survived but for the acquisition and might or might not have evolved in a way to challenge the incumbent. But a pattern of acquiring all or most of the startups that might grow to displace you is an effective way to dampen the normal waves of Schumpeterian competition that disciplined previous network markets. 123 That may explain why those competitive waves seem to have stalled; the companies that dominate the digital economy are all more than fifteen years old and have dominated their market categories for more than a decade. 124 While monopoly alone is not illegal or necessarily problematic, today’s tech monopolists have almost certainly held onto and even broadened their monopolies by acquiring firms that in another era would have displaced them. At the very least, these acquisitions have reduced the likelihood of disruptive innovation that would challenge the power of those monopolies.

More problematic, incumbents often buy up promising startups only to shut them down. Sometimes this is intentional. Economists

122. Lemley & McC reary, supra note 85, at 23.
123. See id. at 61.
124. See id. at 61-62; Richard J. Gilbert & A. Douglas Melamed, Innovation Under Section 2 of the Sherman Act, 84 ANTITRUST L.J. 1, 6-7 (2021) (arguing that Schumpeterian models “do not justify exempting innovation-related conduct from antitrust enforcement” and that “[h]igh entry barriers and network effects can insulate firms in today’s high-tech economy from competition for decades”).
have documented cases of “killer acquisitions,” in which companies buy incipient competitors in order to eliminate the threat they pose. 125 While especially prominent in biotech, Facebook, Google, and Oracle have all bought and shut down competing firms, sometimes on the same day. 126 Tim Wu calls this the “Kronos effect”—killing your competitors in their infancy. 127 Other times firms engage in “acqui-hires”—buying a startup to get the brainpower it employs, not the products or ideas the startup offers. 128 (Both outcomes often come together: as one tech journalist put it, “[a]nother day, another acqui-hired shutdown.” 129)

But even incumbents that buy startups in good faith often shut them down within a few years. While companies fail all the time, incumbent mergers seem littered with failures. Facebook alone has shut down dozens of once-promising projects after it acquired them, and Google has done the same. 130 Those are not just technologies

125. E.g., Cunningham et al., supra note 112, at 650.
126. See, e.g., Josh Constine, Facebook Buys and Shuts Down Shopping Site TheFind to Boost Commerce in Ads, TECHCRUNCH (Mar. 13, 2015, 4:49 PM), https://techcrunch.com/2015/03/13/to-boost-commerce-in-ads-facebook-buys-and-shuts-down-shopping-site-thefind/ [https://perma.cc/PT2X-Q8AD]; Ingrid Lunden, After Facebook Acqui-Hired Branch Media in 2014, Founders Shutter Branch (and Potluck), TECHCRUNCH (June 3, 2015, 12:37 PM), https://techcrunch.com/2015/06/03/bye-branch/ [https://perma.cc/CLX5-7HT3]; Acquisition of Sun Microsystems by Oracle Corporation, WIKIPEDIA, [https://en.wikipedia.org/wiki/Sun_acquisition_by_Oracle] (discussing the fate of Sun Microsystems’s open source projects after its acquisition by Oracle); Wu & Thompson, supra note 113 (“Facebook has purchased and then shut down 39 companies—nearly half of its acquisitions. Many of these shutterings may represent the simple purchase of talent, but others may have been designed to eliminate future competitors.”); see also Lemley & McCreary, supra note 85, at 65 n.283 (discussing Google acquisitions shut down).
128. See, e.g., Neha Bhargava & Vishwanath Venugopalan, Acqui-Hires: Revolutionizing Strategy & Transforming Organizational Structures 3-4 (Jan. 31, 2013) (unpublished manuscript), [https://mackinstitute.wharton.upenn.edu/wp-content/uploads/2013/01/Bhargava-Venugopalan-Acqui-Hires.pdf] (discussing Google’s acquisition of Sun Microsystems’s open source projects after its acquisition by Oracle); Wu & Thompson, supra note 113 (“Facebook has purchased and then shut down 39 companies—nearly half of its acquisitions. Many of these shutterings may represent the simple purchase of talent, but others may have been designed to eliminate future competitors.”); see also Lemley & McCreary, supra note 85, at 65 n.283 (discussing Google acquisitions shut down).
129. Lunden, supra note 126.
130. For an overview of Facebook’s acquisitions and a report on the thirty-nine companies shut down, see Wu & Thompson, supra note 113. See also Glick & Ruetschlin, supra note 114, at 10 & n.26. For examples of Google’s acquired companies whose services were then shut down, see Ron Amadeo, Google’s Constant Product Shutdowns Are Damaging Its Brand, ARS TECHNICA (Apr. 2, 2019, 7:45 AM), https://ars.technica.com/gadgets/2019/04/googles-constant-product-shutdowns-are-damaging-its-brand/; see also Nicholas Carlson, How a Great Google Workplace Turned into a ‘Nightmare,’ BUS. INSIDER (June 25,
that no longer compete with the monopolist; they are technologies that we no longer have access to at all because of the acquisition.

It’s hard to know for sure whether any one of these acquisitions (except possibly the outright killer acquisitions) stopped a competitive challenge that would have panned out but for the merger. But it seems extremely likely that the cumulative effect of a dominant firm acquiring dozens of startups led to an overall reduction in expected competition. The probability of any one acquisition harming competition is often below 51 percent, but the probability of a pattern of acquisitions harming competition is much greater. Antitrust’s focus on provable causation by a specific act causes it to ignore a pattern of acquisitions that serves to maintain market dominance.
2. Noncompete Agreements and Exclusive Dealing

A second category of circumstances that can create probabilistic harm involves agreements that restrict employee mobility. Noncompete agreements are contracts that prohibit employees from working for or becoming a competitor for a certain period of time. \(^{133}\)

The use of noncompetes is on the rise in the United States. \(^{134}\) Employment agreements routinely prohibit workers from accepting a competitor's job offer, and/or from working in a competing business for a specified period in a certain geographic area. \(^{135}\) The Treasury Department recently estimated that nearly thirty million workers are bound by noncompete provisions. \(^{136}\) A study of executive employment contracts found that 70 percent of the firms investigated imposed noncompetes on their top employees. \(^{137}\) A 2021 study found that noncompetes are also common for nonexecutive employees with base salaries below $100,000 per year. \(^{138}\) A 2019 report noted that “[t]he use of non-competes is so pervasive that even volunteers in non-profit organizations, in states that do not even

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enforce them, are asked to sign away their post-employment freedom.”

Workers currently have limited recourse when it comes to contesting noncompetes. Court decisions in cases involving noncompetes are highly unpredictable, and litigation can be prohibitively expensive and burdensome for individual employees. Some states—notably California, but more recently including Massachusetts, Washington, Maryland, and New Hampshire—have passed laws voiding most noncompetes, but this state-specific legislative patchwork can be difficult for workers to understand. Many employees, especially those outside the professional class, end up complying with noncompetes even if they aren’t enforceable in the state in which they work (or are planning to move to for a new job). Moreover, more and more people are employed at companies with a national presence. Such companies often demand adherence to a noncompete nationwide, even for employees in a state that won’t enforce noncompetes.

Inconsistent state rules have also led to conflicts across state lines when an employee bound by a noncompete moves to a state that doesn’t enforce them. This has resulted in a “race to the courthouse” when employees change jobs, as each side tries to get its own state law to apply. It has even led to the unseemly spectacle of courts in different states attempting to prohibit each other from enforcing

139. See STARR, supra note 134, at 2 (footnote omitted).
140. Section 16600 of California’s Business and Professions Code prohibits contracts that restrain a person’s ability to engage in lawful employment. CAL. BUS. & PROF. CODE § 16600 (West 2021). Courts have consistently interpreted the law to ban employment noncompetes. See, e.g., Edwards v. Arthur Andersen LLP, 189 P.3d 285, 297 (Cal. 2008).
142. See STARR, supra note 134.
143. See id.
144. See Application Grp., Inc. v. Hunter Grp., Inc., 72 Cal. Rptr. 2d 73, 82 (Ct. App. 1998); see also Ferrofluidics Corp. v. Advanced Vacuum Components, Inc., 968 F.2d 1463, 1466 (4th Cir. 1992).
their respective state policies. Finally, the complex legal landscape surrounding noncompetes further entrenches established companies. Companies with substantial legal and financial resources can be more aggressive in using noncompetes to drive out competition even when their legal claims are on weak grounds. Incumbents may even use a reputation for suing employees who leave as a strategy to deter other employees from leaving.

“By restricting employees from switching employers or starting their own competing businesses, noncompetes [in the aggregate] have harmful economic effects.” They increase market concentration, reduce innovation and entrepreneurship, and impede efforts to correct inequities in labor markets. In the past decade, a wealth of research—including diverse empirical, experimental, and theoretical studies—has revealed the adverse effects of noncompete contracts and similar restrictions on the free movement of human capital. Research on the question of labor market mobility has taken multiple forms: longitudinal studies, comparative regional studies, patent network mapping, surveys, behavioral lab experiments, ethnographies, simulations, and modeling.

The research has leveraged exogenous shifts in state policy, including changes in Michigan (1980), Vermont (2005), Oregon (2008), South Carolina (2010), Georgia (2010), and Hawaii (2015). Studies also examine enforcement differences between states that do enforce noncompetes ... finding correlation between weak enforcement, increased mobility, and positive outcomes in those regions [that support job mobility].

Granted, there are plausible justifications for noncompetes unrelated to the suppression of competition, such as the reduction of transfer costs/disruptions or the protection of trade secrets. But carefully written laws and contracts already provide suitable alternative ways to protect the legitimate interests of employers. As a 2018 article states, “policymakers, economists, and legal scholars ... overwhelmingly conclude that the harms of noncompetes far outweigh their potential benefits.” The research shows that lifting noncompete restrictions—thereby increasing job mobility—is good for entrepreneurship, wages, industry and regional economic growth, and equality.

Enforcement of noncompetes favors large, incumbent firms. Studies have found that markets become more concentrated when noncompetes are adopted and enforced. When employees sign noncompetes with established firms, start-up companies have difficulty recruiting talent. Indeed, a ban on noncompetes in California generated greater and faster innovation because employees with good ideas that their employer did not want to use were able to take those ideas elsewhere.

153. Lemley & Lobel, supra note 132, at 3 (citing Starr et al., supra note 149; Lobel, supra note 146).
156. Lemley & Lobel, supra note 132, at 3 (citing AnnaLee Saxenian, Regional Advantage: Culture and Competition in Silicon Valley and Route 128, at 59-82 (1996); Ronald J. Gilson, The Legal Infrastructure of High Technology Industrial Districts: Silicon
But it is hard to trace that increased concentration and decreased innovation to any one particular agreement with a particular employee. The agreements are usually signed when an employee joins the company. Neither employers nor employees are likely to know when an employee joins the company whether that employee will want to leave, what they will do if and when they do leave, and how preventing them from taking a job in their chosen field will affect competition and innovation at some point in the indeterminate future. That means that antitrust law has a hard time dealing with noncompetes. To an even greater extent than mergers, any one noncompete may or may not affect competition, but some significant number of the tens of millions of noncompetes in force in the United States surely do affect competition.  

One potential way to reduce the probabilistic nature of the competitive harm from noncompetes is to view a company’s entire portfolio of noncompetes rather than individual agreements as a single act. But even if existing antitrust law would allow that, many of the competitive harms from noncompetes come from the fact that all or most of the companies in an industry use them, making employee mobility and new startups in the entire industry difficult.

Noncompetes can be thought of in probabilistic terms—that is, one noncompete may have a small chance of impeding competition, but a large enough number of noncompetes by a company that each have a small chance of harming competition may certainly do harm. Noncompetes also can be thought of in synergistic terms—that is, we might view each individual noncompete as legal but still be


157. To be sure, this is less of a problem in states that ban noncompetes, though even there evidence suggests companies continue to impose them, and employees may be unaware that those terms are unenforceable. Starr et al., supra note 149. But most states enforce them as a matter of contract law.

158. In theory, antitrust law could simply wait until after the noncompete had an anticompetitive effect and declare it unlawful then. But it would be hard to unravel the effects of the noncompete at that point. People who couldn’t apply for jobs (or couldn’t accept the jobs they were offered) are unlikely to return years later to take those jobs. And in any event it is the aggregation of noncompetes across numerous employees that is likely to be of competitive concern.
concerned about the combined effect of an industry full of them. We consider those synergistic arguments below.

B. Synergistic Antitrust Violations

Fields as diverse as philosophy, chemistry, industrial organization, and professional sports are familiar with the Aristotelian notion that the whole may be greater than the sum of the parts.\(^{159}\) Gestalt theory holds that any characteristic of the whole cannot be understood by studying each of the parts in isolation.\(^{160}\) Labor assembly lines allow groups of unskilled laborers to increase output beyond what even skilled workers could accomplish by laboring individually.\(^{161}\) Professional football teams rely on players performing remarkably distinct tasks—a center hiking the ball, a quarterback tossing the ball downfield, a receiver catching a pass—in service of the cooperative dynamics that produce a winning game; star-driven teams may find themselves left in the dust.\(^{162}\) Mixing a catalyst with another chemical component can produce a reaction beyond what either component could accomplish on its own.\(^{163}\)

Although Aristotle himself did not express the quote precisely as it is generally attributed,\(^{164}\) the concept resonates powerfully across

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159. *See* ARISTOTLE, METAPHYSICS 1045a (Hugh Tredennick trans., 1993).


161. *See* DAVID E. NYE, AMERICA'S ASSEMBLY LINE 21-22 (2013) (using Adam Smith's eighteenth-century observation that when employing a strict division of labor, a team of ten or more workers with minimal skills could produce and package 48,000 pins in a single day, whereas a single worker could not make even twenty pins in one day, to describe the subdivision of labor as one of the key features of an assembly line); Melvin Kranzberg & Michael T. Hannan, History of the Organization of Work, ENCYCLOPEDIA BRITANNICA (June 2, 2017), https://www.britannica.com/topic/history-of-work-organization-648000 [https://perma.cc/D2ZA-5K9W].


164. *See* ARISTOTLE, supra note 159, at 1045a.
the millennia. One would miss the intricate harmonies of a symphony if the notes were considered separately.\textsuperscript{165} And so it is with antitrust. By adopting an overly atomistic approach, modern antitrust law frequently misses the synergistic power of actions in concert.

In particular, modern atomistic analyses suffer from a failure to recognize and respond to synergistic antitrust violations. One can define synergistic antitrust violations as a series of acts that independently cause only a small amount of harm to competition, but which taken together restrict competition by a large amount, an amount that may be larger than the simple sum of the activities. The synergistic effect can be the effects of multiple actions combined or the effects of actions in multiple markets combined. It is the multiplicity that matters, something that atomistic antitrust misses entirely.

1. Multiple Actions

Synergistic antitrust violations occur when a market actor engages in a series of actions that operate in concert to frustrate or delay competition. Each individual action might not stop competition or restrict it enough to overcome the barriers we described in Part I. Each action may even be legal, if taken standing alone. Taken together, however, each action is part of an overall scheme to monopolize a market or maintain monopoly power.

Modern pharmaceutical markets are rife with synergistic anti-competitive activities. Companies are particularly likely to build walls of “evergreen” IP and non-IP protection around successful drug innovations.\textsuperscript{166} Drug discovery is expensive,\textsuperscript{167} so the patent

\textsuperscript{165}. Cf. DOVID LIEBERMAN, HOW FREE WILL WORKS: THE BLUEPRINTS TO TAKE CHARGE OF YOUR LIFE, HEALTH, AND HAPPINESS 295 (2015) (using the analogy of a musician, along with a chef’s ingredients and an artist’s colors, in describing three modalities of perfection).


\textsuperscript{167}. Sources differ widely on the extent of the cost to develop a drug and the validity of various measures, but the amount is certainly not small. Compare Joseph A. DiMasi, Henry G. Grabowski & Ronald W. Hansen, Innovation in the Pharmaceutical Industry: New Estimates of R&D Costs, 47 J. HEALTH ECON. 20, 25-27 (2016) (Tufts Center study estimating costs of developing new drug at approximately $2.5 billion), with Steve Morgan, Paul Grootendorst, Joel Lexchin, Colleen Cunningham & Devon Greyson, The Cost of Drug
system provides needed incentives to engage in pharmaceutical innovation. From a constitutional perspective, however, the patent system is designed to operate for the benefit of society, rather than for the benefit of individual inventors. Successful innovators receive a limited time in which to attempt to garner a return on their investments through the power to exclude others from the market, after which competitors should be able to enter the market and drive prices down.

In recent decades, however, pharmaceutical companies have become adept at strategic behavior that extends the time and scope of their protections. These include building “walls” of patents, evergreening, product hopping, pay-for-delay settlements,
filing citizen petitions at the FDA, \(^{174}\) refusing to cooperate with potential generic manufacturers to provide needed samples for testing, \(^{175}\) and using volume discounts to block cheaper generics from health insurance formularies, \(^{176}\) although the list is by no means exhaustive. In this Subsection, we briefly describe each of these techniques. \(^{177}\)

While pharmaceuticals have traditionally been an industry where a single key patent covers a new drug, that is changing. Companies pile large numbers of patents onto existing drugs to bolster protection. \(^{178}\) Some of the claims may be of questionable validity; some of the patents may be of questionable validity entirely. \(^{179}\)


174. See Feldman & Frondorf, supra note 172, at 91-92; Feldman et al., supra note 173, at 51-55; Carrier & Wander, supra note 70, at 259-63; Carrier & Minniti, supra note 70.


177. For in-depth analysis of these and other approaches, see generally Feldman & Frondorf, supra note 172; Feldman, supra note 176; Gerald Posner, Pharma: Greed, Lies, and the Poisoning of America (2020).


179. Patent examiners have a limited period of time to consider each application, some of which may have dozens or even hundreds of claims. See Robin Feldman, Rethinking Patent Law 49-50 (2012). Scholars have documented the fact that many patents are improperly granted or improperly asserted against parties whose products do not infringe the claims. See Mark A. Lemley, Rational Ignorance at the Patent Office, 95 Nw. U. L. Rev. 1495, 1500 (2001) (estimating that patent examiners spend an average of eighteen hours over a two- to three-
Nevertheless, each patent adds to the cost and delay that a competitor must take into account when contemplating entering the market.\(^\text{180}\) Even the process of evaluating numerous patents absorbs time and resources. And because generic drug makers can't launch a product until every listed patent expires or is successfully challenged,\(^\text{181}\) listing multiple patents, no matter how dubious, makes it harder to compete with the patent owner.\(^\text{182}\) Pharmaceutical companies make the problem worse by engaging in "evergreening"—obtaining later patents on minor aspects of a drug that nonetheless block generic entry.\(^\text{183}\)

In addition to patents, companies can rely on more than a dozen non-patent exclusivities that are available through the U.S. Food and Drug Administration (FDA).\(^\text{184}\) These include data exclusivity for new chemical industries, orphan drug designation, which provides seven years of exclusivity along with other benefits, and pediatric exclusivity offered in exchange for studying the safety of drugs in children.\(^\text{185}\) Some non-patent exclusivities operate to year period examining each patent, thus resulting in the improper issuance of many patents that should have been rejected; Feldman, *Intellectual Property Wrongs*, supra note 58, at 264-66 (discussing both improperly granted and improperly asserted patents).


181. Specifically, the Hatch-Waxman Act provides an automatic thirty-month stay of approval of any generic petition while the patent case is resolved. If the case goes on longer than thirty months, generics can theoretically launch "at risk"—that is, get approval and enter the market while it is pending, taking the risk of having to pay damages if they lose the suit. But few generics do so. See *In re Nexium* (Esomeprazole) Antitrust Litig., 842 F.3d 34, 40-41 (1st Cir. 2016).


183. See, e.g., 1 HOVENKAMP ET AL., supra note 79, § 15.03[A][2][a].


prevent generics or biosimilars from using existing clinical trial data for a period of time. Some extend the time of existing patents or other exclusivities, while others are available even if all patents have expired or have been invalidated. Still others are granted for engaging in clinical testing, even if that testing proves unsuccessful or is pointless. Each exclusivity program may exist for sound

that seven of the ten drugs with the highest annual sales revenue in 2015 were orphan drugs).

186. See 21 C.F.R. § 314.108(b)(2)-(3) (1995) (if a branded drug is designated as a new chemical entity, generic hopefuls may not use clinical trial data from the branded drug company for five years, with the period shortened to four years if a generic hopeful files for FDA approval certifying its intent to challenge the patent on the drug); THOMAS, supra note 184, at 4-5 (discussing data exclusivity and the ways generic drug companies may use the safety and efficacy information submitted by branded drug companies); 42 U.S.C. § 262(k)(7)(A)-(B) (under the Biologics Act, which governs biologic drugs, the original biologic drug maker receives twelve years of data rights, during the first four years of which no follow-on companies may apply).

187. See 21 C.F.R. § 314.108(b)(5)(ii) (2020) (when a generic company engages in new clinical studies on improvements on existing drugs (rather than new entities), generic hopefuls may not use the clinical trial data for three years); 42 U.S.C. § 262(k)(7) (for new biologic drugs, following four years in which no other biologic drug maker can apply to make the drug, even using their own original data, the new biologic drug company receives eight years in which no biosimilar or interchangeable may reference the original drug company’s data); Food and Drug Administration Safety and Innovation Act, Pub. L. No. 112-144, § 801, 126 Stat. 993, 1077 (2012) (codified as amended at 21 U.S.C. § 355) (establishing the Qualified Infectious Disease Products (QDIP) program, which extends by five years the period in which biosimilars and interchangeability of drugs for certain diseases may not use data from the original company for new entities and new clinical studies); Qualifying for Pediatric Exclusivity Under Section 505A of the Federal Food, Drug, and Cosmetic Act: Frequently Asked Questions on Pediatric Exclusivity (505A), U.S. FOOD & DRUG ADMIN. (Nov. 30, 2016), https://www.fda.gov/drugs/development-resources/qualifying-pediatric-exclusivity-under-section-505a-federal-food-drug-and-cosmetic-act-frequently [hereinafter FDA FAQs] (describing the pediatric studies exclusivity which provides a six-month extension of either patent or data rights for completing clinical trials of a drug on children); see also WENDY H. SCHACHT & JOHN R. THOMAS, CONGR. BISCH. SERV., R41114, THE HATCH-WAXMAN ACT: A QUARTER CENTURY LATER 3 (2012) (citing 35 U.S.C. § 156) (explaining that the patent term for pharmaceutical patents may be extended for up to five years based on time lost during clinical testing); Roche Prods., Inc. v. Bolar Pharm. Co., 733 F.2d 858, 864 (Fed. Cir. 1984) (“The brand-name companies gain for themselves, it is asserted, a de facto monopoly of upwards of 2 years by enjoining FDA-required testing of a generic drug until the patent on the drug’s active ingredient expires.”).

188. See 21 U.S.C. § 360aa note (Congressional Findings) (granting additional exclusivity to makers of “orphan drugs” that serve small populations).

policy reasons. Nevertheless, as with patents, companies have become adept at adding these exclusivities to the pile of patents that create impenetrable walls of protection.

Patent and non-patent exclusivities are not the only IP rights companies use to block competition. Although patents should, in theory, provide full information for those who would make the innovation when the patent expires, the reality is far from the ideal. Particularly with biologic drugs, much of the key information is embodied in what is known as “know-how” and “show-how” information that companies do not reveal in the patent but maintain as trade secrets. Thus, pharmaceutical companies can extend their practical control over biologics even after the expiration of every patent in the wall.

In addition to patent walls, some pharmaceutical companies extend protection by engaging in a behavior known as product hopping. With product hopping, companies make small changes to a drug’s dosage, formulation, or delivery system just before a drug’s protection expires. The company then uses advertising tactics to push patients and prescribing physicians onto the new version, even if there is little clinical difference between the two drugs. Indeed, product hopping generally relies on the difference at the FDA between drugs that are “bioequivalent” and those that are “AB rated.” A pharmaceutical company can switch to a drug so similar that it is bioequivalent without having to do any new testing or get

190. See, e.g., Colleen V. Chien, Contextualizing Patent Disclosure, 69 VAND. L. REV. 1849, 1851-53 (2016) (explaining that patent applicants hold back their most valuable information as trade secrets and noting that patent disclosures are relatively poor teaching tools).


194. Robin Feldman & Evan Frondorf, Drug Wars: A New Generation of Generic Pharmaceutical Delay, 53 HAW. J. ON LAWS 499, 527-31 (2016) (discussing the shifts from Prilosec to Nexium, despite a lack of evidence of Nexium’s added benefits, and from Asacol to Delziol, which only added an ineffective coating to the original tablets already containing a stomach-protective coating). For a discussion of this approach and its problems, see Dogan & Lemley, supra note 5.

195. See Carrier & Shadown, supra note 193, at 175.
FDA approval. In the case of TriCor, for instance, Abbott Laboratories switched from capsule form to tablet form and withdrew the capsules from the market, then switched to a new tablet dosage and withdrew the old tablets from the market. The active ingredient was “bioequivalent,” so the brand could rely on all its old safety and efficacy data in filing for approval for the new drug. But because the entire formulation wasn’t identical, it wasn’t “AB-rated” for generic substitution, so generic companies cleared to sell capsules had to start over again trying to get approval to sell tablets. Any cost associated with filing a revised new drug application was a small price to pay in return for all of the time without a competitor that the switch bought Abbott.

Many companies engage in multiple product hops, as Abbott did, timed to lock out a generic competitor just as they are poised to defeat the first round of patents and enter the market. And pharmaceutical companies also tend to get (generally dubious) patents on the new, minor changes, starting the patent wall process again.

Still other techniques for extending patent life involve pay-for-delay settlements, in which a brand company provides something of value to a potential generic in exchange for the generic agreeing to stay off the market, filing meritless so-called “citizen” petitions with the FDA against a potential competitor, and refusing to provide samples to or otherwise cooperate with potential competitors in the FDA approval process.

197. Id.
199. See Feldman & Frondorf, supra note 172, at 91-92; Feldman et al., supra note 173, at 51-54; Carrier & Miniti, supra note 70, at 331-33 (finding that between 2011 and 2015, brand companies filed 92 percent of 505(g) petitions, with the FDA denying 92 percent of those petitions); Carrier & Wander, supra note 70, at 261-263; Hovenkamp et al., supra note 79, § 15.03[A][2][a].
All of these techniques work to delay or deter competitors from getting to market. Most important, once a competitor does get to market, drug companies then use contracting processes such as volume discounts and most-favored-nation clauses to ensure that the competitor cannot gain much traction.

Some of this conduct, like pay-for-delay settlements and some particularly egregious forms of product hopping, may themselves be antitrust violations, though it took decades to firmly establish that those practices could even be challenged under the antitrust laws. But some of it is, standing alone, immune from antitrust scrutiny. It’s not illegal to obtain a patent, or lots of them. It’s not illegal to file citizen petitions with the FDA, or lots of them. It’s not illegal to obtain regulatory exclusivities, or lots of them. But in concert, these acts work to significantly delay generic competition even after the patentee has had its legitimate period of exclusivity. Worse, they can be timed to reinforce each other. A new evergreen patent can support a product hop, causing years of delay. A citizen petition timed just before generic entry can derail the Abbreviated New Drug Application (ANDA) approval process. A company can seek pediatric exclusivity or an orphan drug designation timed to interfere with generic entry that was otherwise imminent. And so on.

The anticompetitive conduct adds up, and each piece reinforces the others, preventing competition for years or even decades longer than the law intended.

2. Multiple Markets

In addition to multiple behaviors working in concert, synergistic behaviors can also arise from the interaction of multiple markets. Consider the behavior of patent aggregators. Mostly they are a subset of those patent plaintiffs known as nonpracticing entities or

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202. See generally Feldman, supra note 86.
203. See Carrier, supra note 200.
For our purposes, the relevant question relates to the behavior of those who hold large numbers of patents, rather than whether the entity “practices” the IP to produce a product.

The definition of “market power” when it comes to patents is itself fraught. There is a sense in which each patent potentially confers power in a relevant market, since it is a unique good. But most patents don’t confer any practical power because they have substitutes. Of course, a patent holder controlling a monopoly of the patents for all of the relevant substitutes could hold power, assuming the absence of effective substitutes in the public domain. Nonetheless, unlike a product market—in which there can be only one monopolist—many patent owners can each control a market with a sufficiently strong patent or portfolio, because those patents can overlap or “block” each other. If one person owns a patent on tires, a second owns a patent on a steering wheel, and a third owns a patent on an engine, they each have “market power” over cars in the sense that no one can build a car without permission from each of them. From this perspective, one might have concerns about a patent aggregator collecting patents in a single field. The potential for mischief, however, runs deeper.

Aggregators amass large numbers of patents, frequently covering a variety of fields, asserting those patents against product-producing companies to obtain licensing revenue. The largest aggregator, Intellectual Ventures, has held as many as 30,000 to 60,000 patents. Imagine a patent aggregator who holds a small number of patents related to the automobile industry but well below the threshold one would normally consider sufficient to confer power in the automotive IP market. Given the cost of evaluating a large

205. For a discussion of different terminology used, see Feldman, supra note 191, at 244-54.
209. See id. at 1, 3-4 (tracing shell corporations of Intellectual Ventures and analyzing impact on market theories).
210. See Feldman, Intellectual Property Wrongs, supra note 58, at 304 (setting out the aggregator and automobile industry hypothetical); see also Memorandum from Robin
number of patents, let alone the cost of litigating patent by patent, a rational company may well choose to pay a license fee for the portfolio as a whole, even if the company’s activities are unlikely to violate all or even very many of the patents asserted.\textsuperscript{211} If numerous companies in the automobile industry follow the same rational calculation by choosing to pay, and if prices rise in the industry beyond a reasonable return on investment, the aggregator may have succeeded in impacting prices and consumer welfare without holding any power in the market for automobiles.\textsuperscript{212}

In a more extreme example, suppose the aggregator holds no patents in the automobile industry at all.\textsuperscript{213} Nevertheless, the aggregator asserts a few patents from an unrelated industry, along with a threat to keep lobbing patent assertions at the automobile manufacturer. Once again, automobile companies could conclude that the rational choice is to buy a license to the portfolio. Thus, an aggregator merely needs a sufficiently sized patent portfolio, perhaps combined with a reputation for aggressive litigation, to have an impact on an industry. Market power in the markets as traditionally defined is not necessary. Rather, the power comes from the synergistic effects of lower levels of power in multiple IP markets when the use of multiple different components is necessary to make a product work.

We also see the synergistic effects of an action involving multiple markets in the operation of volume rebates in health plan

\textsuperscript{211} See Gideon Parchomovsky \& R. Polk Wagner, Patent Portfolios, 154 U. Pa. L. Rev. 1, 31-32 (2005) (noting the additive effects of asserting multiple patents). Large portfolio owners like IBM rarely end up having to enforce their patents, for the simple reason that defending against an IBM case is a fool’s errand—even if you defeat the particular patents, there are always more it can assert. For in-depth analyses of patent aggregators, see Ewing \& Feldman, supra note 208; Feldman, Intellectual Property Wrongs, supra note 58; Robin C. Feldman \& Mark A. Lemley, The Sound and Fury of Patent Activity, 103 Minn. L. Rev. 1793 (2019).

\textsuperscript{212} See 1 HOVENKAMP ET AL., supra note 76, § 4.02[A]. But most patents don’t confer any practical power because they have substitutes. See id. § 4.03[A]. Nonetheless, unlike a product market, where there can be only one monopolist, many patent owners can each control a market with a sufficiently strong patent or portfolio because each patent gives its owner the right to exclude others from making the product at all. See id. § 4.02[A].

\textsuperscript{213} Feldman, Intellectual Property Wrongs, supra note 58, at 304.
reimbursement. In modern health plans, medication coverage is dictated by the plan’s formulary, which is divided into tiers. These tiers determine how much a patient will have to pay out of pocket to access a drug, if the drug is covered by the plan. In theory, these tiers should promote generic and low-cost branded drugs over more expensive alternatives. But it hasn’t worked out that way.

Formulary tiers can be loosely analogized to product placement in a grocery store. A candy company may sell more candy if its product is placed at eye level at the checkout counter than if it is placed on the top shelf of the snack section. In the pharmaceutical world, brand companies provide a monetary incentive in the form of a rebate to drug payors—including insurers, managed care organizations, and pharmaceutical benefit managers—to provide a better placement on the formulary than their competitors, or even to exclude competitors entirely. These incentives are often offered in exchange for ensuring a particular volume of the product or a particular percentage of relevant patients within a plan. Without these rebate incentives, and in a market of sharply rising prices, the health plan and its patients would be forced to pay the extraordinarily high list price.

The power to create volume rebates comes through the operation of an expiring patent monopoly. When a drug’s patents expire, generic entrants should be poised to jump into the market. The brand company can prevent or delay that transition through volume discount deals coupled with an exclusivity requirement. Imagine

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214. Although volume rebates can be part of a multi-actioned strategy, they can also operate as single behavior exploiting synergistic effects across multiple markets. For an in-depth description of formulary tiering and the impact of volume rebates, see Feldman, supra note 176.

215. See id. at 3.

216. See id.

217. Id. at 11. If anything, the analogy only undersells the harm of formulary manipulation, for—unlike shelf space—formularies need not be subject to physical limits at all.


220. See FELDMAN, supra note 176, at 20-21.

221. See Feldman, supra note 176, at 53-56 (showing higher list prices than post-rebate prices in Medicare).

222. See id. at 15.

223. See id. In the pharmaceutical realm, as opposed to beer bottles, requirements
if Budweiser made the following offer to bar owners in an area\textsuperscript{224}: I will give you $1 back on every $3 bottle of Budweiser that you sell if you don't put any of that craft beer on the menu. If the bars currently sell 40,000 bottles of Budweiser in a year, that deal would be worth $40,000. Now imagine a craft beer company trying to break into the market and currently selling 1,000 bottles a year at a list price of $3. If the craft beer discounted its beer down to the tiny price of a penny a bottle, it still couldn't compete. The roughly $3,000 discount the bar owner gets could not compensate for the $40,000 discount the bar owner would forgo by walking away from Budweiser’s deal.

Now imagine volume rebates operating across multiple markets. Brand companies have created bundled rebate programs in which the desirable rebate comes only if the health plan chooses all of the company’s drugs in a category of drugs to the exclusion of other competitors. In this manner, a company can use the power of a volume position in one market to block competition in another market in which the company faces competition. As one Medicare plan administrator explained in discussing the bundled discount program for the blockbuster eye medication Restasis, the new entrant could give its drug away for free and the numbers still wouldn’t work.\textsuperscript{225}

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\item 224. See Feldman, supra note 176, at 22-23, 28-29 (using the beer analogy to describe volume discounts and explaining characteristics of the pharmaceutical market that make volume discounts more anticompetitive than in markets such as technology).
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The bargaining power granted by the brand-name company’s monopoly creates additional coercive power as well. Consumers and doctors may initially be reluctant to switch to a generic, and it may take some time for the transition to occur. The generic company also may not be prepared to provide the entire volume of supply from the first moment. In both circumstances, the health plan is dependent on the brand-name company for the necessary drugs for its patients. That dependence provides additional coercive power to drive purchasers to branded drugs by insisting on exclusivity—once again flowing from a government-granted monopoly that has already expired.\textsuperscript{226} In short, with bundled pharmaceutical rebates, a company can use its combined market power across multiple markets to disadvantage a competitor entering a single market. Unfortunately, courts have permitted such conduct even when it has clearly anticompetitive consequences.\textsuperscript{227}

With multiple markets in the pharmaceutical space, the seeds of potential approaches can be found within various decisions, but all of them place limits on the behaviors that can be reached, and none recognize the need to think broadly about synergistic effects across markets. For example, the Third Circuit in the 1978 \textit{SmithKline Corp. v. Eli Lilly & Co.} decision held that a bundled discount pricing scheme in the market for cephalosporin antibiotics constituted willful maintenance of a monopoly.\textsuperscript{228} The Third Circuit agreed with the district court’s characterization of the case,\textsuperscript{229} which

\textsuperscript{226} Formulary tiering manipulations such as these can have a significant impact on generic competitors, not to mention patients and society. For example, Feldman recently studied health insurance tiering by examining all retail prescription claims for a cohort of one million Medicare patients between 2010-2017. \textit{See Feldman, supra} note 176, at 22-23. The results show that the percentage of generics on the most preferred tier—the tier with lowest costs for consumers—dropped from 73 percent to 28 percent over the eight-year period. \textit{See id.} Similarly, the percentage of drugs that were inappropriately tiered rose from 47 percent to 74 percent. \textit{See id.} at 26. Considering only costs paid by patients and the federal low-income subsidy program, tier misplacement cumulatively cost society $13.25 billion during this time. \textit{See id.} at 28.

\textsuperscript{227} \textit{See In re EpiPen (Epinephrine Injection, USP) Mktg., Sales Pracs. & Antitrust Litig., 507 F. Supp. 3d 1289 (D. Kan. 2020)} (granting summary judgment in favor of Mylan, which enabled outrageous price increases for epinephrine by paying pharmacy benefit managers (PBMs) to refuse to carry competing products).\textsuperscript{228} \textit{See 575 F.2d 1056, 1065 (3d Cir. 1978).} \textsuperscript{229} \textit{See id.}
included the notion that one may not link a market in which one holds monopoly power with a competitive market to repel those trying to enter the competitive market.\textsuperscript{230}

The case involved bundled discounts, however, and later decisions have similarly involved bundling schemes that include one product holding market power.\textsuperscript{231} In the same vein, the leading antitrust law treatise suggests that bundled discounts are better analyzed as tying arrangements.\textsuperscript{232} In \textit{Eli Lilly}, however, when faced with a tying claim in addition to the attempted monopolization claim, the court declined to find tying.\textsuperscript{233} The judge reasoned that the buyers were free to reject the deal, even though they could suffer significant financial consequences.\textsuperscript{234} According to this logic, which is echoed in other tying analyses, as long as buyers are not forced to accept the deal, no tying can exist.\textsuperscript{235} This rather constrained definition of “forcing” defies common sense. Freedom to commit economic suicide is an illusory freedom, at best.\textsuperscript{236}

\textsuperscript{230} See SmithKline Corp. v. Eli Lilly & Co., 427 F. Supp. 1089, 1128 (E.D. Pa. 1976), aff’d, 575 F.2d 1056 (3d Cir. 1978). As described below, the court in \textit{Eli Lilly} declined to find tying in this case on the grounds that the buyers were not forced but were free to turn down the deal and suffer the financial consequences. \textit{See infra} text accompanying notes 279-80.

\textsuperscript{231} See LePage’s Inc. v. 3M, 324 F.3d 141, 159 (3d Cir. 2003).


\textsuperscript{233} \textit{Eli Lilly}, 427 F. Supp. at 1114.

\textsuperscript{234} \textit{See id.}

\textsuperscript{235} \textit{See Waldo v. N. Am. Van Lines, Inc.} 669 F. Supp. 722, 728-29 (W.D. Pa. 1987) (rejecting plaintiff’s claim that defendant tied the sale of insurance to its sale of trucks where plaintiff acknowledged he was free to purchase insurance from another party, but lacked the funds to do so, such that there was no evidence of coercion); \textit{Monsanto Co. v. Scruggs}, 342 F. Supp. 2d 568, 576-80 (N.D. Miss. 2004) (rejecting four claims of tying where farm supplier defendants failed to establish that any of the seed-producer plaintiff’s programs “forced” farmers to buy its product), \textit{aff’d and remanded}, 459 F.3d 1328 (Fed. Cir. 2006).

\textsuperscript{236} Predatory pricing behavior exists when a dominant firm charges below cost, drives other competitors out of the market, and then raises prices to monopolistic levels. Believing predatory pricing to be the appropriate lens for analyzing complex rebate schemes, some cases and commentators suggest that anticompetitive rebate behavior exists only when a monopolist charges a price below cost. \textit{See}, e.g., Aaron R. Moore, \textit{Note, Anticompetitive Bundled Discounts: A Way Out of the Wilderness}, \textit{37 J. Corp. L.} 951, 960-67 (2012) (analyzing various proposed frameworks for determining liability in bundled discount cases); \textit{see also} Cascade Health Sols. v. PeaceHealth, 515 F.3d 883, 903, 909 (9th Cir. 2008) (requiring a showing of predatory pricing but easing the requirement slightly by attributing the total discount to the tied product); \textit{Brooke Grp. Ltd. v. Brown & Williamson Tobacco Corp.}, 509 U.S. 209 (1993) (explaining the requirements of predatory pricing); \textit{Antitrust Modernization Commission, Report and Recommendations} 99 (2007) [hereinafter \textit{AMC Report}].
More important, a tying analysis requires market power in the tying market.\footnote{237} If a branded drug company no longer holds any power in the relevant markets but simply relies on its combined volume of patients—some of whom will surely be captive—and the pressure of high prices, a tying analysis becomes more challenging.

Some litigants have tried to argue that when volume discounts are part of a scheme to move patients from an old version of a drug to a new version, the behavior can only violate antitrust law if the brand company charges below its cost for the drug.\footnote{238} In other

(continuing the AMC’s recommendation for a modified discount attribution test for bundled discounts). As one author observes, however, there are a number of flaws with including bundled discount cases in the predatory pricing mold. See Sean P. Gates, Antitrust by Analogy: Developing Rules for Loyalty Rebates and Bundled Discounts, 79 ANTITRUST L.J. 99, 122-26 (2013). For example, given economic realities, cross-market leverages exist and can be used to harm competition.\footnote{237. See Ill. Tool Works Inc. v. Indep. Ink., 527 U.S. 28, 37 (2006).} Most importantly, the predatory pricing framework fails in markets with high fixed costs and low variable costs or in which incumbents need not drive competitors fully out of the market to entrench market power. See, e.g., Meijer, Inc. v. Abbott Lab’s, 544 F. Supp. 2d 995, 1004-05 (N.D. Cal. 2008) (declining to apply Cascade where above-cost pricing could still exclude even more efficient manufacturers); Feldman, supra note 176, at 21-26 (discussing the effects of volume rebates in modern pharmaceutical markets).

\footnote{238. In In re Suboxone (Buprenorphine Hydrochloride and Naloxone) Antitrust Litigation, direct purchasers of Suboxone, a prescription drug used to treat opioid addiction, alleged that the drug manufacturer engaged in a product hopping scheme to force patients to use a film formulation of Suboxone instead of a tablet form as the exclusivity period for the tablet form neared its end. 967 F.3d 264, 268 (3d Cir. 2020). After the district court granted plaintiffs’ motion for class certification, the manufacturer appealed, arguing in part that plaintiffs failed to provide “common evidence of injury or damages that matches a viable theory of liability,” as required to demonstrate predominance. See id. at 270 (footnote omitted). The manufacturer argued that plaintiffs’ only evidence of common injury was that they paid more than they otherwise would have due to the manufacturer’s decision to raise the prices of Suboxone tablets, and that plaintiffs’ damages claim was premised on the manufacturer’s choice to lower the prices of Suboxone film, causing plaintiffs to buy more film and fewer generic tablets. See id. The manufacturer asserted that the alleged injuries and damages resulted from lawful conduct in that “unilaterally pricing a new product lower than an older product, but still above cost, is perfectly legal.” See Brief for Defendant-Appellant Indivior, Inc. at 11 (under seal), In re Suboxone, 967 F.3d 264 (No. 19-3640).} The Third Circuit did not directly address these arguments, instead looking beyond the manufacturer’s pricing of tablets to the totality of [the manufacturer’s] actions, such as raising prices, withdrawing tablets from the market, providing rebates only for film, disparaging the safety of tablets, and delaying the generics’ entry by filing a citizen petition and not cooperating in the REMS process, suppressed generic competition and thus violat[ing] the antitrust laws.\footnote{In re Suboxone, 967 F.3d at 270. The court explained that the manufacturer “incorrectly asks...
words, these patterns of behavior would be acceptable unless they constitute predatory pricing, in which a company drives the price for a product down to such a low level that the competitor is forced to leave the market, at which point the predator raises the prices sky-high to recoup its losses.\textsuperscript{239} It would make little sense, however, to analyze pharmaceutical rebates in terms of recoupment. These types of behaviors are not focused on recouping temporary losses. Rather, they are schemes to prevent something from happening—specifically, to prevent the unfolding of the Hatch-Waxman system for robust generic competition.

Finally, even in the realm of multiplicity of markets, one must not forget the \textit{Noerr} constraints.\textsuperscript{240} A pharmaceutical company’s volume rebate schemes, for example, may be combined with other behaviors such as citizen petitions or evergreening—behaviors that would involve petitions to a judicial or regulatory body. Under those circumstances, \textit{Noerr}’s protections for petitioning government, in their current form, provide a poor fit for analyzing the synergistic effects of the scheme as a whole.

\section*{III. Clearing A Path}

More than any other area of law, antitrust is supposed to focus on the economic realities of markets. But as we have seen, all too often modern antitrust law replaces a holistic look at competitive effects with blinkered attention to the provable consequences of a single act isolated from context.

It wasn’t supposed to be this way, and it wasn’t always this way. Antitrust doctrine already has many of the tools it needs to focus on the forest and not the trees, from the “incipiency” doctrine in the Clayton Act to those \textit{Noerr-Pennington} decisions that focus on a
pattern of conduct rather than the success of individual lawsuits. Courts and agencies can, therefore, put existing antitrust tools to better use, focusing not just on proven harms to competition but on the probabilistic reduction of competition and on anticompetitive synergies.

But there is more we can and should do. In this Part, we suggest additional steps courts, the enforcement agencies, or Congress could take to solve the problem of atomistic antitrust.

A. Too Big to Buy

First, we need to reinvigorate merger enforcement. Agencies and courts have permitted mergers that threaten undue concentration in certain industries, and indeed have even allowed mergers that further concentrate industries that are already too concentrated. They have also permitted dominant firms to acquire smaller companies. Those deals harm competition by increasing prices, reducing innovation, and entrenching dominant firms. They may also facilitate collusion.

We should create a presumption of anticompetitive harm from acquisitions by monopolists or any firm with a significant market share (say, over 40 percent), essentially reversing the burden of responding to uncertainty about the effects of a merger. Doing so would solve a number of problems in current law.

First, it would relieve plaintiffs of the burden of proving that a particular merger would lead to competitive harm; above a certain threshold it would become the merging parties’ burden to rebut the

241. STAFF OF H. SUBCOMM. ON ANTITRUST, COM., & ADMIN. L., 116TH CONG., REP. ON INVESTIGATION OF COMPETITION IN DIGITAL MARKETS 400-02 (Comm. Print 2020).

242. See Lemley & McCreary, supra note 85, at 4-5; Hemphill & Wu, supra note 85, at 1880-81; STAFF OF H. SUBCOMM. ON ANTITRUST, COM., & ADMIN. L., 116TH CONG., supra note 241, at 11.


244. See Hosp. Corp. of Am. v. FTC, 807 F.2d 1381, 1388-89 (7th Cir. 1986) (noting that a concentration-increasing merger among hospitals in Chattanooga, Tennessee increased the likelihood of coordination leading to lower output and higher prices that might both be difficult to separately challenge). As Judge Posner noted, “Section 7 does not require proof that a merger or other acquisition has caused higher prices in the affected market. All that is necessary is that the merger create an appreciable danger of [competitive harm] in the future,” a standard that calls for a probabilistic prediction rather than proof. See id. at 1389.
presumption that their merger would harm competition. It therefore sidesteps the extreme causation requirements modern courts have put on antitrust plaintiffs. As Doug Melamed notes, “[c]urrent law implicitly presumes that mergers are efficient .... Plaintiffs are therefore required to prove that increased market power is a likely result of the merger. That is an almost impossible task.” 246 But where the industry is already concentrated, we shouldn't put that “impossible” burden on the government agencies challenging the merger. Dominant firms should have to justify allowing them to buy companies that might threaten their dominance. Traditional merger doctrine focused on the problem of entrenching existing monopolies and was therefore particularly restrictive of mergers in already concentrated markets. 246 We think that is sound antitrust policy. 247

Second, a presumption would avoid the problem of mergers flying under the radar. The presumption would extend to acquisitions of startups worth less than $200 million (the current threshold for reporting mergers for antitrust review). This would require amending the Hart-Scott-Rodino reporting threshold to require reporting of smaller mergers when the acquirer is a dominant firm. 248 Right now those mergers don't even trigger government review. 249 But they may short-circuit an important source of future competition. 250 And there is even evidence that companies structure

246. Portions of this Section are adapted from Lemley & McCreary, supra note 85, at 96-98. For a discussion, see Sean P. Sullivan, Anticompetitive Entrenchment, 68 U. Kan. L. Rev. 1133, 1135-36 (2020).
247. As Herb Hovenkamp notes:

While antitrust is powerless to regulate a single firm’s prices, it can interdict a merger that is likely to put the firm into a position where it is able profitably to increase its prices above the competitive level. See, e.g., FTC v. Sysco Corp., 113 F. Supp. 3d 1, 62-64 (D.D.C. 2015) (finding merger would eliminate bidding competition between closest competitors, thus permitting post-merger firm unilaterally to increase its price); United States v. H & R Block, Inc., 833 F. Supp. 2d 36, 81-82 (D.D.C. 2011) (reasoning similarly, although ultimately concluding that analysis of unilateral effects was unnecessary).

248. Lemley & McCreary, supra note 85, at 97; see also Fed. Trade Comm’n, supra note 112, at 12. We are not suggesting that the Hart-Scott-Rodino threshold be lowered overall. Many acquisitions by nondominant firms or in other industries do not raise the concerns we identify here. Lemley & McCreary, supra note 85, at 97 n.419.
250. Lemley & McCreary, supra note 85, at 20-22.
their transactions to avoid government scrutiny. We think that the antitrust agencies should presumptively block dominant firms’ acquisitions of directly competitive startups.

Third, a presumption avoids the complication that many startup acquisitions are not of direct competitors. Antitrust law is more skeptical of “horizontal mergers” between competitors than of...
“vertical mergers” combining buyers and sellers in a supply chain or “conglomerate mergers” that link unrelated businesses. But how should we analyze two technologies that aren’t related but might become so? Things that interconnect and work together but do different things? Traditional antitrust doctrines have trouble assessing mergers like these. Acquiring a direct competitor limits competition in the existing market. But acquiring adjacent companies short-circuits the Schumpeterian competition that could wholly displace the incumbent.

Agencies should pay particular attention to acquisitions by incumbent monopolists, even if they don’t present as direct competitors. Acquisitions of adjacent firms are likely to increase concentration and prevent the development of fundamentally new sources of competition. And unlike mergers between small firms, which might help build a strong competitor to an incumbent, acquisitions of adjacent startups by an incumbent often reinforce and extend its dominance, not only preventing a new competitor from arising but also making it harder for other competitors to dislodge the incumbent.

Things are more complicated if the startup doesn’t compete directly with the incumbent. Acquisition of a truly unrelated firm is unlikely to do much competitive harm (though it also won’t offer any great benefits). And acquisitions of complementary firms can sometimes enhance efficiency by linking complementary products more closely or by giving a nascent technology a wider distribution platform. So we shouldn’t ban all acquisitions by incumbents.

255. See Yun, supra note 252, at 626-28.
256. See Lemley & McCreary, supra note 85, at 8-9.
257. Id. at 96-97.
258. Id. at 98.
At the same time, much of the potential harm from acquisitions comes not in the form of suppressing direct competition but in accreting complementary technologies and shutting down potentially disruptive alternatives. \textsuperscript{261} Currently the law pays little, if any, attention to noncompetitive mergers involving startups. \textsuperscript{262} We need a much greater focus on mergers that involve adjacent or potentially market-disrupting technologies. \textsuperscript{263} The presumption should be weaker for firms that don't directly compete. \textsuperscript{264} Sometimes acquisitions of complementary technologies by dominant firms can improve efficiency, clear blocking patents, or give the acquired firm a bigger platform for its products. \textsuperscript{265} It could also be rebutted by strong evidence that the startup’s technology is uniquely complementary to the incumbent’s, so that it is unlikely to be profitably deployed by anyone other than the incumbent. \textsuperscript{266} The presumption could also be rebutted if the acquirer could show that the purchase improved competition in some way that outweighed any potential competitive harm. \textsuperscript{267} We think it unlikely there are many such cases. Ordinary claims of efficiencies from reducing duplication won’t cut it. They

\textsuperscript{260} Lemley & McCreary, supra note 85, at 98.

\textsuperscript{261} Id.

\textsuperscript{262} For a detailed discussion of this fact and why it’s a mistake, see Kevin A. Bryan & Erik Hovenkamp, Antitrust Limits on Startup Acquisitions, 56 REV. INDUS. ORG. 615, 616 (2020); Bryan & Hovenkamp, supra note 252, at 331.

\textsuperscript{263} Carl Shapiro, Protecting Competition in the American Economy: Merger Control, Tech Titans, Labor Markets, 33 J. ECON. PERSPS. 69, 78 (2019) (“[A]gencies and the courts could express greater wariness when a dominant incumbent firm seeks to acquire a firm operating in an adjacent market, especially if the target firm is well positioned to challenge the incumbent’s position in the foreseeable future.”).

\textsuperscript{264} See Lemley & McCreary, supra note 85, at 98.

\textsuperscript{265} See id. (discussing these potential benefits).

\textsuperscript{266} For example, a company that developed an add-on specific to Microsoft Word might be valuable only to Microsoft. This exception will be hard to prove. That’s by design. We don’t want the exception to swallow the rule. Investors who don’t think they’ll be able to make that argument of complementarity won’t buy that startup. Corporations may have to do more innovation in-house. Id. at 98 n.425.

\textsuperscript{267} See Melamed, supra note 85.
would have to involve some unique synergy that the startup couldn't achieve either on its own or through a merger with another firm. And even if the merger does create such a synergy, antitrust authorities should probably impose conduct remedies like a requirement that the merged firm open the synergistic new technology to others. In any event, we shouldn't effectively ignore those acquisitions, as we do today. Nor should we accept claims of efficiencies or benefits without very strong evidence.

The presumption against mergers in concentrated markets should also be rebuttable if (1) the startup would not be viable as a freestanding entity and (2) there are no other plausible acquirers (a nondominant company willing to pay a reasonable price, even if lower than the incumbent would pay). But those standards should be strictly applied. Not every firm that claims to be failing actually is. Not every firm that is actually failing should be bought. And not every failing firm that should be bought should be bought by the incumbent. Unfortunately, courts are too often willing to allow mergers based on unsubstantiated claims that the target is floundering.

This is not to suggest that big is bad or that a monopolist cannot continue to innovate. Homegrown innovation—that is, innovation in one’s own lab—would be perfectly acceptable. Buying one’s way to continued dominance, however, raises the specter of allowing monster-sized companies to strangle future competitors before they leave the cradle.

B. Banning Noncompetes

Second, we should ban noncompetes. The evidence is overwhelming that they reduce employee mobility, depress wages, and

268. This is consistent with the traditional understanding of the “failing firm” defense to mergers in antitrust law. That defense requires proof that a company (1) is in danger of imminent business failure, (2) cannot reorganize successfully in bankruptcy, and (3) made unsuccessful good faith efforts to find alternative purchasers. See Int’l Shoe Co. v. FTC, 280 U.S. 291, 301 (1930).

limit innovation. They are particularly problematic when applied to minimum wage workers and others at the low end of the labor market, because they reinforce the effective power employers have to prevent a truly competitive labor market by denying workers a choice of jobs.

Congress could ban noncompetes altogether, as a growing number of states have done. The government could also discourage noncompetes by refusing to contract with companies that use them even in states in which they are legal. But antitrust can also play a role without a need for legislation. The California law banning noncompetes uses language resembling section 1 of the Sherman Act. And California courts have refused every attempt to read in a “rule of reason” or other limitations to that language. Using this interpretation as precedent, the Antitrust Division could leverage the language in section 1 of the Sherman Act to ban employment noncompetes nationwide, either altogether or in circumstances in which they most clearly restrain competition, such as in concentrated markets or for low-wage or unskilled workers.

The FTC and the DOJ’s Antitrust Division have only recently started to consider anticompetitive practices in the labor market to be within their scope of regulating competition and unfair trade practices. That the White House has recently encouraged the Commission to consider banning noncompetes is certainly a

270. Seaman, supra note 138, at 1186 (discussing studies).
273. Lemley & Lobel, supra note 132.
276. Petition for Rulemaking to Prohibit Worker Non-Compete Clauses, OPEN MKTS. INST. (Mar. 20, 2016), https://static1.squarespace.com/static/5e449c90c3ef57af752b76a70d3e5eaa/0/098200365775/Petition-for-Rulemaking-to-Prohibit-Worker-Non-Compete-Clauses.pdf [https:llperma.cc/LP2S-VX5K].
277. This paragraph is adapted from Lemley & Lobel, supra note 132, at 7. For information on these anticompetitive practices, see U.S. DEP’T OF JUST. & U.S. FED. TRADE COMM’N, ANTITRUST GUIDANCE FOR HUMAN RESOURCE PROFESSIONALS 2 (2016), https://www.justice.gov/atr/file/903511/download [https:llperma.cc/V2LM-7LE3].
promising sign.278 But so far the FTC has taken no action. The FTC could use its regulatory power under section 5 of the FTC Act’s prohibition on “unfair methods of competition”279 to issue a federal rule to ban noncompetes nationwide in appropriate circumstances.280 The FTC could enforce this rule by bringing action against employers who use, or seek to use, noncompetes to restrict employee mobility in ways that interfere with competition.

C. Consider Markets and Conduct as a Whole

Third, courts should be more open to considering a pattern of anticompetitive conduct that crosses traditional market boundaries and that includes conduct that is not illegal standing alone. As we have seen, companies can interfere with competition by taking actions to target a single defendant in multiple markets,281 by taking actions against multiple defendants,282 and by taking a variety of acts against a single defendant.283 An atomistic focus on one act against one competitor in one market must give way to a broader focus on the overall effects of a company’s behavior, even when that behavior is directed at different defendants or different markets.

We don’t necessarily need to change the law to achieve many of these results. We can make significant progress simply by applying the law on the books. Courts can find liability based on an overall scheme to monopolize even if not all of the acts in that scheme are independently wrongful,284 and some courts emphasize that we

278. Exec. Order No. 14,036, 86 Fed. Reg. 36,987, 36,992 (Jul. 9, 2021) (“To address agreements that may unduly limit workers’ ability to change jobs, the Chair of the FTC is encouraged to consider working with the rest of the Commission to exercise the FTC’s statutory rulemaking authority under the Federal Trade Commission Act to curtail the unfair use of non-compete clauses and other clauses or agreements that may unfairly limit worker mobility.”).
280. OPENMKTS. INST., supra note 276.
281. See supra notes 205-12 and accompanying text (discussing patent aggregators).
282. See supra notes 111-17 and accompanying text (discussing startup mergers and patterns of lawsuits).
283. See supra notes 166-76 and accompanying text (discussing pharmaceutical evergreening using a variety of practices).
284. There must, of course, be some wrongful conduct.
shouldn’t break allegations into their individual components. Some (but as we have seen, not all) courts are willing to consider a pattern of abusive litigation or regulatory petitioning even if some of the individual lawsuits are protected petitioning activity. The Supreme Court has blessed the practice, but courts have wavered in applying antitrust scrutiny to the cumulative effects of several actions. Similarly, some—but not all—courts will find antitrust

285. "[T]he law requires that the 'character and effect of a conspiracy are not to be judged by dismembering it and viewing its separate parts, but only by looking at it as a whole." In re Nat'l Football League's Sunday Ticket Antitrust Litig., 833 F.3d 1136, 1152 (9th Cir. 2016) (quoting Cont'l Ore Co. v. Union Carbide & Carbon Corp., 370 U.S. 690, 698-99 (1962)). "[W]e must give plaintiffs the full benefit of their proof without tightly compartmentalizing the various factual components and wiping the slate clean after scrutiny of each." Id. at 1152-53 (quoting City of Long Beach v. Standard Oil Co., 872 F.2d 1401, 1404-05 (9th Cir. 1989), opinion amended on denial of reh'g, 886 F.2d 246 (9th Cir. 1989)). As such, even if every individual act in isolation produced no anticompetitive effect, they may still comprise an unlawful scheme where the acts collectively "work[] in tandem ... to restrain competition." Id. at 1153; see also New York ex rel. Schneiderman v. Actavis PLC, 787 F.3d 638, 653-54 (2d Cir. 2015) (combination of acts may be anticompetitive even though "neither [individual act] alone is anticompetitive"); Abbott Lab'ys v. Teva Pharms. USA, Inc., 432 F. Supp. 2d 408, 428 (D. Del. 2006) ("Plaintiffs are entitled to claim that ... acts as a group have an anticompetitive effect even if the acts taken separately do not."); Simon & Simon, PC v. Align Tech., 533 F. Supp. 3d 904, 908 (N.D. Cal. April 8, 2021) ("[A]lthough not every aspect of the alleged scheme gives rise to an antitrust claim on its own, the totality of the conduct does.").

286. See supra notes 69-70 and accompanying text.


288. Cont'l Ore Co., 370 U.S. at 698-99 ("It is apparent from the foregoing that the Court of Appeals approached Continental's claims as if they were five completely separate and unrelated lawsuits. We think this was improper. In cases such as this, plaintiffs should be given the full benefit of their proof without tightly compartmentalizing the various factual components and wiping the slate clean after scrutiny of each.").

289. Compare City of Mishawaka v. Am. Elec. Power Co., 616 F.2d 976, 986 (7th Cir. 1980) ("The utility would have us consider each separate aspect of its conduct separately and in a vacuum. If we did, we might agree with the utility that no one aspect standing alone is illegal. It is the mix of the various ingredients of utility behavior in a monopoly broth that produces the unsavory flavor."); City of Groton v. Conn. Light & Power Co., 662 F.2d 921, 928-29 (2d Cir. 1981) ("Even though many of the issues the municipalities raise are interrelated and interdependent, however, we must, like the municipalities' briefs, analyze the various issues individually. Moreover, we reject the notion that if there is a fraction of validity to each of the basic claims and the sum of the fractions is one or more, the plaintiffs have proved a violation of section 1 or section 2 of the Sherman Act."); and Intergraph Corp. v. Intel Corp., 195 F.3d 1346, 1366-67 (Fed. Cir. 1999) (refusing to "add up" pieces of evidence each supporting independent theories of antitrust liability); Daniel A. Crane, Does Monopoly Broth Make Bad Soup?, 76 ANTITRUST L.J. 663, 666-70 (2010) (criticizing the combination of conduct to show monopoly).
liability for conduct by a monopolist that is “reasonably capable of contributing significantly to” monopolization. Simply applying that law faithfully would be a good start.

In other areas, we may need more change. Courts have become hidebound with market definition—for example, ignoring other evidence of market-power-like conduct that makes no sense without power and persistent evidence of prices in excess of marginal cost. The antitrust agencies have moved away from an exclusive focus on market definition, hopefully the courts will eventually follow suit. If they don’t, Congress could step in to reiterate what the Sherman Act originally made clear—anticompetitive conduct by monopolists is unlawful even if the harm it does is not in a tightly defined market it shares with the defendant.

Courts are also reluctant to punish a defendant for engaging in conduct that is legal standing alone, even if it is done as part of a pattern of activity designed to restrain competition. There is room for courts to target those overall schemes to monopolize under existing law, but Congress could also act to directly target some of the more common ways defendants restrain competition. Congress could pass legislation to crack down on some of the regulatory abuses that are rampant in the pharmaceutical industry—for instance, forbidding certain practices, limiting the aggregate regulatory delay permissible, or limiting the number of patents a monopolist could assert covering a given drug.

We could also make patents harder to get and enforce. Limitations on the USPTO’s ability to review every claim of every patent

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293. For some encouraging evidence, see Carl Shapiro & Howard Shelanski, Judicial Response to the 2010 Horizontal Merger Guidelines, 58 REV. INDUS. Org. 51, 53, 60, 78 (2021).

294. See, e.g., Feldman, supra note 86, at 374-76 (suggesting a list of reforms including strengthening the obviousness requirement and mandating transparency); Feldman, supra note 166, at 640-43 (proposing a one-and-done system for patent protection); Feldman, supra note 176, at 33-34, 41 (proposing that formularies should reflect list price to eliminate the incentive for anticompetitive rebates); Hemphill & Sampat, supra note 178.
in detail allow weak patent claims to slide through.\textsuperscript{295} The burden of having to overturn an existing patent, let alone a group of existing patents, provides a powerful deterrent to competition. That is particularly true in the pharmaceutical industry because even obviously bogus patent claims stop the generic from entering the market for thirty months while the case gets litigated.\textsuperscript{296}

As with many of the reforms discussed in this Article, the tools already exist within the patent laws as written. Many weak follow-on patents could be eliminated with an appropriate application of the obviousness requirement.\textsuperscript{297} Many of the strategic behaviors are grounded in making minimal alterations of existing innovation, alterations that should be perfectly obvious under patent law.\textsuperscript{298} Similarly, the sleepy and rarely used doctrinal requirement that a patent be “useful” could be used to ensure that patents are not simply gumming up the system\textsuperscript{299} and serving to deter competition without “promot[ing] the Progress of ... [the] useful Arts,” as the Constitution requires.\textsuperscript{300} Courts and agencies have lost their way in applying those laws, however, taking such narrow approaches that it is all too easy to obtain and enforce patents on well-understood computer ideas or on trivial extensions of a drug whose basic patent has expired.\textsuperscript{301}

Finally, a word of caution. Allowing overall scheme cases will result in less certainty for defendants, who can no longer count on immunity for engaging in a particular act. There is a reasonable

\textsuperscript{295} See Lemley, supra note 179, at 1495-96, 1508.
\textsuperscript{296} See id. at 1529-30.
\textsuperscript{297} See Feldman, supra note 86, at 374-76.
\textsuperscript{298} See, e.g., Mark A. Lemley, Expecting the Unexpected, 92 Notre Dame L. Rev. 1369, 1393-94 (2017).
\textsuperscript{300} See U.S. Const. art. I, § 8, cl. 8.
worry that this uncertainty might deter legitimate procompetitive behavior. So we would limit this more holistic approach to conduct by monopolists or those with a dangerous probability of acquiring market power, whom we affirmatively want to be more cautious in restricting competition. And we would require evidence that the conduct in question was in fact part of a conscious scheme to monopolize a market.

**D. Remedies for Anticompetitive Conduct**

Finally, once they have found an antitrust violation, courts and agencies should be permitted to impose remedies that go well beyond simply stopping the offending conduct.\(^{302}\) Ordering a company to cease violating the antitrust laws is all well and good, but it is like closing the barn door after the horse is gone. Years of engaging in anticompetitive conduct frequently entrenches the defendant in a market position to which it had no legal right. Telling it to stop monopolizing after it has already acquired a monopoly may be better than nothing, but it isn't likely to undo the long-term effects of the antitrust violation, let alone serve as an effective deterrent.

Once again antitrust history can lead the way. Nothing in antitrust or remedies law explicitly limits the power of courts and agencies to impose structural or behavioral remedies to undo competitive harm, even if the remedies are directed at things that weren't themselves antitrust violations. For decades, courts and agencies were willing to break up monopolies and trusts, order compulsory licensing of patents, and, until recently, require defendants to disgorge their profits in order to try to restore competition to a market.\(^ {303}\) Those remedies were important to opening markets to competition. We should encourage courts and agencies to be more creative in using remedies that actually undo the harm an antitrust violation has caused.

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\(^{302}\) For discussion of the scope of antitrust remedies, see, for example, A. Douglas Melamed, *The Purposes of Antitrust Remedies*, 76 ANTITRUST L.J. 359, 359-64 (2009).

In 2021, the Supreme Court took away the FTC's long-held power to seek equitable monetary relief alongside injunctions. Despite decades of the FTC's exercising the power, the Court held that the FTC Act did not authorize the Commission to pursue such remedies.

**AMG Capital**'s impact is already suppressing antitrust enforcement. In *AbbVie, Inc. v. FTC*, for example, the Third Circuit rightly held that the *Noerr-Pennington* doctrine should not shield a company from liability for “sham litigation” even in the absence of an intent to harm or interfere with a competitor. Yet, the FTC withdrew its litigation shortly after *AMG Capital* effectively affirmed the circuit court's dismissal of the FTC's near-500 million dollar award. Congress should act quickly to restore the power to seek the disgorgement of ill-gotten profits, and courts should be willing to award such relief. The power to order a stop to anticompetitive acts is significantly weakened if the defendants get to keep all the profits they made.

There are other ways the agencies can use existing law to strengthen antitrust remedies. The federal/state government case pending against Facebook right now is based, among other things, on the allegedly anticompetitive effects of Facebook’s acquisition of Instagram and WhatsApp over the past decade. *FTC v. Facebook* presents a possibility that courts have rarely directly confronted in at least twenty years: that a court may be asked to break up an existing company in order to try to restore competition. We don’t take a position on whether Facebook should be broken up. But we

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305. Id.
309. The court considered but rejected the possibility of breaking up Microsoft when it was found to violate the antitrust laws in 2001. United States v. Microsoft Corp., 253 F.3d 34 (D.C. Cir. 2001) (en banc).
310. After this paper was written, the Fourth Circuit upheld the breakup of an existing company after finding that the merger violated the antitrust laws. Steves & Sons, Inc. v. Jeld-Wen, Inc., 988 F.3d 690 (4th Cir. 2021). The merger was not blocked in advance, and the suit was only brought by a private party years later.
think courts should not shy away from breaking up a monopolist after finding that it has violated the antitrust laws. It is likely to present some tough challenges, but there may be no other way to genuinely eliminate a monopoly and restore competition.

CONCLUSION

The antitrust laws on the books are remarkably flexible and forward-looking. They provide both the background theory and the necessary tools to handle a myriad of problems that are hampering competition more than a century after the original laws were codified. It is a tribute to the wisdom of the original drafters that antitrust law embodies such prophetic power. And in the past, courts and the agencies used that flexibility.

That power, however, lies dormant. Modern antitrust law has become increasingly atomistic, with courts and agencies alike focusing on individual points of behavior, rather than considering the comprehensive competitive effects of business behavior. That atomistic approach leaves antitrust law ill-equipped to handle behaviors involving probabilistic competitive harm—that is, multiple acts, any one of which might or might not cause competitive harm—and synergistic competitive harm—that is, acts that are lawful when taken individually but combine together in an anticompetitive manner. As a result, modern antitrust leaves a large swath of anticompetitive behaviors unattended, including large tech companies buying startups, employers imposing noncompete clauses, pharmaceutical company behaviors blocking generics, and patent aggregators asserting large portfolios. Across a wide range of conduct, antitrust authorities simply miss the forest for the trees.

The antitrust laws as written can handle these types of troubling behaviors if properly applied. But we can improve the way those laws are implemented. Along these lines, we recommend creating a presumption of anticompetitive harm from acquisitions by firms with a certain level of market share, because some industry players are simply too big to buy. We also recommend a series of other

changes that will help courts and agencies focus not just on individual or proven harms but on probabilistic reductions of competition and anticompetitive synergies.

One does not need legislation for the recommendations we have outlined. Courts and agencies may have gone so far down the atomistic pathway, however, that clarification of these issues by Congress could provide an important boost. Nevertheless, whether legislatively or judicially, antitrust law must turn its attention to the forest rather than the trees.