

Venture Predation

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Predatory pricing is a strategy firms use to suppress competition. The predator prices below its own costs to force its rivals out of the market. After they exit, the predator raises its prices to supracompetitive levels and recoups the cost of predation. The Supreme Court has described predatory pricing as “rarely tried” and “rarely successful” and has established a liability standard that is nearly impossible for plaintiffs to satisfy. We argue that one kind of company thinks predatory pricing is worth trying and at least potentially successful—venture-backed startups.

A venture predator is a startup that uses venture finance to price below its costs, chase its rivals out of the market, and grab market share. Venture capitalists (VCs) are motivated to fund predation—and startup founders are motivated to execute it—because it can fuel rapid, exponential growth. Critically, for VCs and founders, a predator does not need to recoup its losses for the strategy to succeed. The VCs and founders just need to create the impression that recoupment is possible, so they can sell their shares at an attractive price to later investors who anticipate years of monopoly pricing. In this Article, we argue that venture predation can harm consumers, distort market incentives, and misallocate capital away from genuine innovations. We consider reforms to antitrust law and securities regulation to deter it.

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I. INTRODUCTION

Uber once seemed poised to revolutionize the economics of urban transportation. Instead of hailing a cab in the street, you could order an Uber on a mobile app. Uber’s fares were surprisingly cheap—often much cheaper than taxis.¹ Yet drivers seemed to be making more with Uber than they could by driving a cab. The low fares attracted riders. The relatively high pay attracted drivers. Uber grew quickly and took market share from taxis.²

1. Bill Gurley, *How to Miss by a Mile: An Alternative Look at Uber’s Potential Market Size*, ABOVE THE CROWD (July 11, 2014), <https://abovethecrowd.com/2014/07/11/how-to-miss-by-a-mile-an-alternative-look-at-ubers-potential-market-size> [<https://perma.cc/C4GQ-2JNZ>] (reprinting an Uber ad that claims that Uber’s fares are 50% cheaper than taxi fares).

2. Todd W. Schneider, *Taxi and Ridehailing Usage in New York City* (June 30, 2022), <https://toddschneider.com/dashboards/nyc-taxi-ridehailing-uber-lyft-data> [<https://perma.cc/PZ52-PZVZ>] (displaying data from the New York City Taxi & Limousine Commission showing that ridehailing apps’ share of the combined taxi-and-ridehailing market in New York rose from 12% in January 2015 to 76% in February 2020).

The taxi companies struggled, and some went bankrupt.³ It seemed that Uber had found cost efficiencies that had eluded the hidebound taxi companies. But in hindsight, it has become clear that Uber's low fares and comparatively attractive driver pay were made possible only by massive venture capital subsidies. From the start, Uber racked up heavy losses.⁴ Over the past few years, Uber fares have increased steadily,⁵ but the company did not turn a profit until the second quarter of 2023—and even now analysts doubt that its profits are sustainable.⁶ If its business model never added up, how did Uber come to dominate the market for urban transportation? Venture predation.

Predatory pricing is a strategy that firms use to suppress competition. The classic predator is a deep-pocketed corporation with a large market share—like Standard Oil in its prime. The predator's prey are its competitors. The predator aims to “exclude” the prey—to drive them out of the market. Predatory pricing has two steps. First, the predator prices its product below its own costs. The predator loses money, but its low prices attract more customers and increase its market share. The prey cannot tolerate the losses necessary to compete, so they leave the market. Second, once the predator has excluded the prey, it raises its prices to supracompetitive levels. The predator's monopoly profits let it recoup the cost of predation.

Predatory pricing violates the antitrust laws.⁷ For much of the last century, those laws were enforced, and it was common for plaintiffs to prevail on predatory pricing claims.⁸ But starting in the 1970s, the law of predatory pricing began to change under the influence of Chicago School economists. These scholars argued that predatory pricing was irrational.⁹ They pointed out that predators should lose more from predation than their prey because of their greater market share.¹⁰ They also argued that predation would only exclude

3. See, e.g., Joe Fitzgerald Rodriguez, *Yellow Cab to File for Bankruptcy*, S.F. EXAM'R (Jan. 6, 2016), <https://www.sfexaminer.com/news/yellow-cab-to-file-for-bankruptcy> [<https://perma.cc/N2DS-X2PE>]; Katy Stech, *New York Taxi King Puts Some Companies into Bankruptcy*, WALL ST. J. (July 22, 2015), <https://www.wsj.com/articles/new-york-taxi-king-puts-some-companies-into-bankruptcy-1437600484> [<https://perma.cc/H774-EUA6>].

4. Uber Techs., Inc., Registration Statement (Form S-1) 88 (Apr. 11, 2019) (disclosing losses in the billions of dollars in each of the four years before its IPO).

5. See Dain Evans, *Uber and Lyft Rides Are More Expensive Than Ever Because of a Driver Shortage*, CNBC (Sept. 1, 2021), <https://www.cnbc.com/2021/08/31/why-uber-and-lyft-rides-are-more-expensive-than-ever.html> [<https://perma.cc/W9VD-MD98>] (reporting that the price of a ride in a ridehailing service had “increased 92% between January 2018 and July 2021”).

6. See Preetika Rana, *Uber's Business Is Finally Making Money After Years of Losses*, WALL ST. J. (Aug. 1, 2023), <https://www.wsj.com/articles/uber-q2-earnings-report-2023-453c335a> [<https://perma.cc/6SLW-RPNF>].

7. See U.S. DEP'T OF JUST., COMPETITION AND MONOPOLY: SINGLE-FIRM CONDUCT UNDER SECTION 2 OF THE SHERMAN ACT 49 (2008), <https://www.justice.gov/sites/default/files/atr/legacy/2009/05/11/236681.pdf> [<https://perma.cc/XC3H-DJZ7>] (“A firm with monopoly power can violate section 2 [of the Sherman Act] if it engages in classic price predation, namely, predatory pricing . . .”). Firms can face liability for predatory pricing under section 2 of the Sherman Act, 15 U.S.C. § 2, or section 2(a) of the Robinson-Patman Act, 15 U.S.C. § 13(a).

8. See *infra* Part I.B.2.

9. See, e.g., Roland H. Koller II, *The Myth of Predatory Pricing: An Empirical Study*, 4 ANTITRUST L. & ECON. REV., Summer 1971, at 105 (“[T]he standard theoretical analysis in this area treats predation as a form of non-maximizing (irrational) behavior and thus as an unlikely occurrence in the real world.”).

10. See John S. McGee, *Predatory Price Cutting: The Standard Oil (N.J.) Case*, 1 J.L. & ECON. 137, 140 (1958) (“The monopolizer thus finds himself in the position of selling more—and therefore losing more—than his competitors.”).

the prey temporarily. Targeted rivals could simply withdraw from the market during predation, take out a loan to get by, and re-enter when the predator raised its prices.¹¹ And even if the old prey never returned, the predator's supracompetitive prices should lead new firms to enter the market.¹²

The Supreme Court gradually embraced the Chicago School critique. In a 1986 case, the Court stated that "predatory pricing schemes are rarely tried, and even more rarely successful."¹³ Then, in 1993, in *Brooke Group v. Brown & Williamson Tobacco*, the Court held that the plaintiff in a predatory pricing case must prove that the defendant not only priced below its cost but also had a "reasonable prospect" or a "dangerous probability" of recouping its losses.¹⁴ This *Brooke Group* test has proved nearly impossible for plaintiffs to satisfy.¹⁵

In the past few decades, economists have reconsidered the Chicago School critique. Post-Chicago School economists have argued that predatory pricing can be rational when firms have imperfect information.¹⁶ These scholars have developed game theory models that show how predatory pricing can succeed.¹⁷ For example, in cost-signaling predation, the predator gives the false impression that it has achieved a new efficiency and then sharply lowers its prices, leading the prey to think it has been outcompeted on the merits.¹⁸ In financial market predation, the predator convinces the prey's lenders that the predator has lower costs, so the prey cannot get a loan to ride out the price war.¹⁹ In reputation-effect predation, the predator prices below its costs in one geographic or product market to deter rivals from competing with it in other markets, or the predator prices below its costs at one point in time to deter new entrants later.²⁰

These post-Chicago School models have become widely accepted. Most economists now agree that predatory pricing can be rational. But it has proven difficult to identify firms

11. *Id.* ("[A]t some stage of the game the competitors may simply shut down operations temporarily, letting the monopolist take all the business (and all the losses), then simply resume operations when he raises prices again.")

12. *Id.* at 142 ("Obstacles to entry are necessary conditions for success . . . It is foolish to monopolize an area or market into which entry is quick and easy.")

13. *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 589 (1986).

14. *Brooke Grp. Ltd. v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209, 224 (1993).

15. *See, e.g.*, Patrick Bolton, Joseph F. Brodley & Michael H. Riordan, *Predatory Pricing: Strategic Theory and Legal Policy*, 88 GEO. L.J. 2239, 2258–59 (2000) (stating that, in the six years between the *Brooke Group* decision and publication of the article, "plaintiffs have not prevailed in a single case in the federal courts"); C. Scott Hemphill & Philip J. Weiser, *Beyond Brooke Group: Bringing Reality to the Law of Predatory Pricing*, 127 YALE L.J. 2048, 2049 (2018) (explaining that, as a result of *Brooke Group*, "[o]ver the past twenty-five years, antitrust claims alleging a predatory price cut have fallen into disuse").

16. *See* Bolton, Brodley & Riordan, *supra* note 15, at 2242–50.

17. *See id.* at 2285–2321.

18. *See id.* at 2318–21.

19. *See id.* at 2285–99. The authors provide an example of financial market predation from the cable television market in Sacramento, California. *Id.* at 2292–99. This example is drawn from a study by Thomas W. Hazlett, *Predation in Local Cable TV Markets*, 40 ANTITRUST BULL. 609 (1995). In the 1980s, two firms attempted to enter the Sacramento cable television market to compete with the incumbent monopolist, Sacramento Cable Television. *Id.* at 614–17. The second of these two potential entrants had significant initial financing and was able to build a network and begin marketing itself to customers. Bolton, Brodley & Riordan, *supra* note 15, at 2292. The incumbent fought back with "drastic price cutting," causing the entrant's backers to stop providing new financing and resulting in the firm exiting the market. *Id.* at 2292–95.

20. *See* Bolton, Brodley & Riordan, *supra* note 15, at 2299–2300.

employing these strategies in the real world. As a result, the post-Chicago School models have had little impact on the law.²¹ Predatory pricing claims remain extremely hard for plaintiffs to win. We think real-world examples are not hard to find—if you look in the right place. A new breed of predator is emerging in Silicon Valley.²²

In this Article, we describe a new predatory pricing strategy we call “venture predation.”²³ The strategy has three steps. First, venture capitalists (VCs) provide a startup—the “venture predator”—with cash to build a war chest for predation. Second, the venture predator uses the war chest to price its goods or services below cost and drive its rivals out of the market. Third, once the venture predator has achieved a dominant market share, its VCs—and often its founders—cash out by selling their shares to investors who believe that the company can recoup the costs of predation.

VCs are motivated to fund predation because it can deliver the rapid, exponential growth that venture investing requires. Venture funds invest in portfolios of startups. The distribution of returns from a successful venture portfolio follows a power law.²⁴ Most of the startups will fail or generate only modest growth, but one or two will grow exponentially. The outsized returns from those outlier companies must offset the losses

21. See Carl Shapiro, *Antitrust: What Went Wrong and How to Fix It*, 35 ANTITRUST, Summer 2021, at 33, 36 (arguing that “the assumption that predatory pricing can rarely, if ever, be profitable for a monopolist” is “demonstrably false,” but that because it is “enshrined in doctrine” it is “effectively . . . immune from continued advances in economic learning”).

22. We are not the first to observe that venture-backed startups appear to be engaging in predatory pricing. See, e.g., Martin Kenney & John Zysman, *Unicorns, Cheshire Cats, and the New Dilemmas of Entrepreneurial Finance*, 21 VENTURE CAP. 35, 36 (2019) (arguing that recent technological and economic developments have led “to a situation within which new firms can afford to run massive losses for long periods in an effort to dislodge incumbents or attempt to triumph over other lavishly funded startups”); Matt Levine, *Nothing Is Free (Unless You Sign Up)*, BLOOMBERG OP. (May 18, 2018), <https://www.bloomberg.com/opinion/articles/2018-05-18/silicon-valley-s-subscription-free-for-all> [<https://perma.cc/L9GS-GX4M>] (discussing “the weirdly common Silicon Valley business model of ‘rapidly growing a business by selling its products below cost, subsidized by huge venture-capital investments, in the hopes of one day flipping to profitability once you’ve achieved scale’”); SEBASTIAN MALLABY, *THE POWER LAW: VENTURE CAPITAL AND THE MAKING OF THE NEW FUTURE* 387 (2022) (“When venture capitalists pour money into blitzscaling, the result is a pack of unicorns that can sell their products below cost, disrupting incumbents not necessarily because they are technologically superior but rather because they are subsidized by venture dollars.”); Matt Stoller, *WeWork and Counterfeit Capitalism*, BIG (Sept. 25, 2019), <https://mattstoller.substack.com/p/wework-and-counterfeit-capitalism> [<https://perma.cc/PL2T-CJGL>] (arguing that WeWork used venture finance for predatory pricing).

23. For an interesting analysis of how predatory pricing law might apply to venture-backed startups, see Jarod Bona, *Should Venture-Capital Backed or Foreign-Funded Companies Worry About Predatory-Pricing Antitrust Claims?*, BONA L. PLC: ANTITRUST ATT’Y BLOG (June 10, 2020), <https://www.theantitrustattorney.com/should-venture-capital-backed-or-foreign-funded-companies-worry-about-predatory-pricing-antitrust-claims> [<https://perma.cc/NM5Q-MHTM>] (asking if predatory pricing by venture-backed companies casts doubt on whether the strategy is “rarely tried”); ANANT RAUT, *ON PREDATION AND VENTURE CAPITAL-FUNDED FREE GOODS AND SERVICES* (Jan. 2019), https://www.ftc.gov/system/files/documents/public_comments/2019/01/ftc-2018-0088-d-0018-163744.pdf [<https://perma.cc/9GG2-YHXJ>] (captured using wayback machine) (“[F]ree goods and services in the tech sector underwritten by loss shifting to venture capital investors can be a form of predatory pricing.”).

24. See Chris Dixon, *Performance Data and the ‘Babe Ruth’ Effect in Venture Capital*, ANDREESSEN HOROWITZ (June 8, 2015), <https://a16z.com/2015/06/08/performance-data-and-the-babe-ruth-effect-in-venture-capital> [<https://perma.cc/A2K8-Y8PM>] (reporting aggregate data on the distribution of VC returns); see also SCOTT KUPOR, *THE SECRETS OF SAND HILL ROAD* 37–40 (2019) (explaining VCs’ focus on “home runs”); MALLABY, *supra* note 22, at 6–9 (2022) (describing venture returns in terms of the power law).

from the rest of the portfolio. The skewed distribution of venture returns makes VCs focused on upside potential and relatively insensitive to downside risk. They seek out startups with the potential for rapid, exponential growth and push them to take risks to realize that potential.²⁵

Venture predators also benefit from the secrecy afforded to private companies. Startup managers can freely discuss strategy with their investors in confidential meetings. And because private companies do not have to publicly disclose their financial statements, venture predators can obscure their cost structures, which makes it easier to mislead their rivals and their rivals' lenders into thinking they have been outcompeted on the merits.

The most important innovation of venture predation is that the VCs who fund it and the founders who implement it can profit even if the predator never recoups the costs of predation. They just need to convince whoever buys their shares—an acquirer or subsequent investors—that the predator might eventually recoup its costs. In fact, they do not even need the predator to be profitable at the time they cash out. They just need to create the *impression* of future profitability, so they can sell their shares at an attractive price.

Uber showed that venture predation works. Uber raised around \$24 billion from private investors and used it to subsidize cheaper fares for riders and higher pay for drivers.²⁶ Uber quickly crushed the taxi companies and acquired a dominant share of the combined taxi-and-ridehailing market.²⁷ But it never developed a superior product or cost efficiency. Lyft, other ridehailing startups, and even taxi companies developed similar apps.²⁸ Uber had to keep up its below-cost pricing to maintain its market share. In each of the three years before its IPO, Uber racked up losses of \$3 billion or more.²⁹ Uber reassured investors by explaining that, once it became dominant, it would be able to raise prices and recoup its losses. In its IPO roadshow, Uber's executives told investors that they expected the company to earn an adjusted profit margin of 25% after "competitive pressures" subsided.³⁰ Yet Uber did not report an operating profit until the second quarter of 2023, and it is not clear that this result will be repeated.³¹

25. See Brian J. Broughman & Matthew T. Wansley, *Risk-Seeking Governance*, 76 VAND. L. REV. (forthcoming 2023) (manuscript at 17–27).

26. See *Uber: Financials*, CRUNCHBASE, https://www.crunchbase.com/organization/uber/company_financials [<https://perma.cc/B3GA-6VV4>] (tracking Uber's private financing); MIKE ISAAC, SUPER PUMPED 89–90 (2019) (describing Uber's use of venture capital to subsidize lower fares and higher driver pay).

27. See Rodriguez, *supra* note 3; Stech, *supra* note 3. By 2017, ridehailing companies provided 15% of intra-city trips in San Francisco and taxis provided 1%. S.F. CNTY. TRANSP. AUTH., TNCs TODAY: A PROFILE OF SAN FRANCISCO TRANSPORTATION NETWORK COMPANY ACTIVITY 8 (2017), https://www.sfcta.org/sites/default/files/2019-02/TNCs_Today_112917_0.pdf [<https://perma.cc/6DQV-K38Y>]. As of May 2023, Uber had about a 75% share of the national ridehailing market, and Lyft had the remaining 25%. See Janine Perri, *Uber vs. Lyft: Who's Tops in the Battle of U.S. Rideshare Companies*, BLOOMBERG SECOND MEASURE (June 15, 2023), <https://secondmeasure.com/datapoints/rideshare-industry-overview> [<https://perma.cc/2TNM-RDGB>].

28. See ISAAC, *supra* note 26, at 113.

29. Uber Techs., Inc., *supra* note 4, at 88.

30. Amir Efrati, *Uber Makes Big Promises in IPO 'Road Show'*, INFO. (May 3, 2019), <https://www.theinformation.com/articles/uber-makes-big-promises-in-ipo-road-show?rc=wqwyoa> [<https://perma.cc/K42D-AQ4G>].

31. See Rana, *supra* note 6.

Will Uber ever recoup the losses from its sustained predation? We do not know. Our point is that, *from the perspective of the VCs who funded the predation, it does not matter*. All that matters is that investors were willing to buy the VCs' shares at a high price. The VC firm Benchmark, which led Uber's Series A round, generated a return of about \$5.8 billion on its investment.³² To Benchmark, Uber was a smashing success. To other VCs, Uber looks like a model to emulate. And in fact, others have already emulated it. Two other well-funded startups, WeWork and Bird, followed Uber's venture predation playbook.³³

Did these predators harm anyone? Or is venture predation just a transfer of wealth from late-stage investors to VCs, founders, and consumers? We concede that the "millennial lifestyle subsidy" was fun.³⁴ But we think venture predation has real social costs. Some of these costs are the kind of harms that antitrust law's consumer welfare standard recognizes. If a venture predator is able to raise its prices to a supracompetitive level, it directly harms consumers who pay those prices. And even if a venture predator is never able to raise its prices above the competitive level, it can still harm consumers by reducing their choices and depriving them of product innovations that excluded rivals or thwarted new entrants would have developed.

Some of the social costs of venture predation, though, go beyond the harms that the consumer welfare standard captures. Venture predation distorts the price signal. Prices convey information.³⁵ When prices do not reflect underlying market realities, people and businesses that rely on the price signal make economically irrational decisions. Consider venture predation from the perspective of a taxi driver who learned that Uber was paying its drivers much more than taxi companies were—and did not realize the pay was inflated by an unsustainable subsidy. The driver might decide to stop renting taxis and instead buy their own vehicle to drive for Uber. But once Uber's VCs cashed out and Uber stopped subsidizing driver pay, the economics of the new vehicle would no longer make sense. The driver would be stuck with a vehicle they could not afford. This kind of distortion might not violate the consumer welfare standard, but it is no less real.

Above all else, venture predation is a tragic misallocation of capital. VCs have funded the commercialization of some of the most socially valuable technologies of the last half-century—personal computers, the internet, and smartphones. Engineers have not run out of ideas. The next generation of VCs have the opportunity to fund advances in artificial intelligence, biotech, and renewable energy. But instead, in the late 2010s, billions of dollars of capital were squandered on predatory pricing. One of the goals of antitrust law is to direct investment toward productive activities and away from anticompetitive schemes. Venture predation is a problem that needs to be solved.

We consider two kinds of interventions to deter venture predation. First, we show how antitrust law could be reformed or existing doctrine could be applied creatively to remove

32. See Berber Jin, *Benchmark's VC Model Strained by Newcomers, Supersize Rivals*, INFO. (June 28, 2021), <https://www.theinformation.com/articles/benchmarks-vc-model-strained-by-newcomers-supersize-rivals?rc=wqwyoa> [https://perma.cc/33HC-UQ7J].

33. See *infra* Part III.D–III.E.

34. See Kevin Roose, *Farewell, Millennial Lifestyle Subsidy*, N.Y. TIMES (June 8, 2021), <https://www.nytimes.com/2021/06/08/technology/farewell-millennial-lifestyle-subsidy.html> [https://perma.cc/J5UT-SC4H] (lamenting the end of subsidized prices from, among others, Uber and Bird).

35. See Friedrich A. Hayek, *The Use of Knowledge in Society*, 35 AM. ECON. REV. 519, 526–28 (1945) (explaining how prices communicate distributed knowledge).

obstacles to successfully suing venture predators. We think the best solution would be to eliminate the recoupment requirement altogether.³⁶ But, as a more realistic alternative, we propose that plaintiffs should be able to satisfy the recoupment requirement by proving that investors bought shares in a venture predator in the belief that it would recoup its losses, regardless of whether it has done so. Courts should also be receptive to evidence that a venture predator has created a barrier to entry by building a platform that benefits from network effects or by establishing a reputation for predation. Antitrust enforcement might be a powerful tool against venture predation. If investors become concerned that venture predators are vulnerable to monopolization claims, they will be less willing to cash out the VCs who fund predation. In turn, VCs would be less likely to attempt venture predation in the first place.

Second, we argue that the social value of deterring venture predation strengthens recent proposals to reform securities regulation. The Securities and Exchange Commission (SEC) is currently studying whether large, private companies should be required to make basic disclosures about their finances.³⁷ The opacity of private companies has become increasingly controversial because startups are staying private longer.³⁸ We argue that, if the finances of venture predators are revealed earlier, analysts and short sellers might detect the strategy and investors might be less willing to bet on it. Competitors also might be more willing to fight back and more likely to obtain financing if they and their lenders know that the predator's below-cost prices result from unsustainable subsidies.

The Article proceeds in three parts. Part I introduces the economics of predatory pricing and the relevant antitrust law. Part II explains how venture predation works in theory and shows how three venture predators—Uber, WeWork, and Bird—put it into practice. Part III argues that venture predation is socially costly and considers how to deter it.

II. PREDATORY PRICING

The development of predatory pricing doctrine in the twentieth century was intertwined with the evolution of economic theory about the strategy's rationality and likelihood of success. An early consensus that big national firms could use their resource advantage to destroy smaller, local competitors gave way to the Chicago School critique that predatory pricing is not a rational business strategy and that it is rarely attempted. More recent post-Chicago School economic analyses, however, posit various ways that predatory

36. See Christopher R. Leslie, *Predatory Pricing and Recoupment*, 113 COLUM. L. REV. 1695, 1744–64 (2013) (arguing for eliminating or replacing the recoupment requirement); see also Louis Kaplow, *Recoupment, Market Power, and Predatory Pricing*, 82 ANTITRUST L.J. 167, 218 (2018) (supporting retention of the recoupment requirement but arguing that “[r]ecoupment . . . should not be considered in a vacuum, separated from the core predation inquiry as well as from market power assessments and the analysis of procompetitive explanations”).

37. See Paul Kiernan, *SEC Pushes for More Transparency from Private Companies*, WALL ST. J. (Jan. 10, 2022), <https://www.wsj.com/articles/sec-pushes-for-more-transparency-from-private-companies-11641752489> [<https://perma.cc/82AB-A8T3>].

38. Scholars have called on the SEC to mandate disclosure for large, private companies. See Jennifer S. Fan, *Regulating Unicorns: Disclosure and the New Private Economy*, 57 B.C. L. REV. 583, 609 (2016); Ann M. Lipton, *Not Everything Is About Investors: The Case for Mandatory Stakeholder Disclosure*, 37 YALE J. ON REGUL. 499, 563 (2020).

pricing could be both rational and successful. Until the early 1990s, the judicial approach to predatory pricing tracked these changes in economic thinking. Predatory pricing claims were relatively common and often successful in the mid-twentieth century. But in the period from the late 1970s to the early 1990s, appellate courts, and eventually the Supreme Court, adopted the Chicago School's view that the strategy is rarely attempted and rarely successful. Ultimately, in *Brooke Group v. Brown & Williamson Tobacco*, the Supreme Court established a predatory pricing test that has proved nearly impossible for plaintiffs to satisfy. Since then, courts have been slow to adapt predatory pricing jurisprudence to post-Chicago School advances in predatory pricing theory.

A. Economics of Predatory Pricing

At first blush, the economics of predatory pricing appear straightforward. The predator prices below its costs with the intent to exclude its prey. It takes on losses, but rapidly gains market share. The prey decide they cannot compete and exit the market. Once the predator excludes the prey, it raises its prices to a supracompetitive level and extracts monopoly profits. A firm can also use predatory pricing to enforce an oligopoly. Here, the predator's goal is not to exclude the prey but to "discipline" them—to force them to raise their prices. Again, the predator prices below its own costs, and the prey cannot tolerate the losses. They decide to stop competing on price and raise their prices to the supracompetitive level. The predator then raises its prices too and extracts oligopoly profits. The intuitive appeal of this theory has made "[t]he predatory price-cutter one of the oldest and most familiar villains in our economic folklore."³⁹

1. Chicago School Critique

In the mid-twentieth century, a group of economists at the University of Chicago questioned this classic predatory pricing story. These Chicago School scholars were skeptical that predatory pricing is a realistic business strategy that rational firms would undertake. In 1958, one of these economists, John McGee, published an influential study of the Standard Oil case, which attacked the then broadly held notion that Standard Oil had gained and maintained its monopoly through predatory price discrimination.⁴⁰ Scouring the case record, McGee concluded that there was no evidence that Standard Oil successfully employed predatory pricing to exclude its rivals. Indeed, he argued that it would have been irrational for Standard Oil even to attempt such a strategy.⁴¹ McGee's economic critique of predatory pricing theory had several elements. First, he asserted that because standard predatory pricing theory assumes that the predator is already dominant and uses its rich resources to finance the price war, the theory fails to explain how predatory

39. Koller, *supra* note 9, at 105.

40. McGee, *supra* note 10, at 138 ("According to most accounts, the Standard Oil Co. of New Jersey established an oil refining monopoly in the United States, in large part through the systematic use of predatory price discrimination.").

41. *Id.* at 168 ("I am convinced that Standard did not systematically, if ever, use local price cutting in retailing, or anywhere else to reduce competition. To do so would have been foolish.").

pricing could be used to monopolize a market in the first place.⁴² Second, rather than wage a costly price war to establish dominance in a local market, McGee reasoned that Standard simply could have purchased its rivals, thereby earning monopoly profits immediately.⁴³ Third, McGee posited that predatory pricing becomes increasingly expensive as it succeeds in boosting the predator's market share. If the predator can increase its share of sales from, say, 25% to 65%, it is taking losses on many more sales than it was initially and losing more than its smaller rivals.⁴⁴ Fourth, the predator's rivals might decide to withdraw from the market temporarily and then re-enter if the predator attempts to raise price above the competitive level.⁴⁵ And fifth, the predatory pricing scheme will succeed only if there are barriers to entry sufficient to allow the predator to raise prices above the competitive level without facing new competition.⁴⁶

Following McGee, in 1971, Roland Koller conducted an empirical study of federal predatory pricing cases, which purported to show that price predation—especially predation intended to eliminate a rival—was exceedingly rare.⁴⁷ From an initial set of one hundred and twenty-three federal predatory pricing cases, Koller focused on twenty-six cases where plaintiff prevailed and there was a “substantive trial” that “produced a factual record adequate” for the analysis Koller wanted to undertake.⁴⁸ Koller analyzed these twenty-six matters to determine if the predator had decreased its prices below its short-run average total cost, whether it did so with “predatory intent,” and whether the predator succeeded in eliminating a rival, forcing a merger, or disciplining its rivals' prices.⁴⁹ He concluded that in sixteen of his twenty-six cases, there was no predation, and in three cases the evidence was ambiguous.⁵⁰ In only seven cases, according to Koller, was predation attempted with the requisite predatory intent and in only four of these cases was predation “successful” such that the targeted rival was eliminated, a desired merger was

42. *Id.* at 139 (“The usual argument that local price cutting is a monopolizing technique *begins* by assuming that the predator has important monopoly power, which is his ‘war chest’ for supporting the unprofitable raids and forays.”).

43. *Id.* (“If, instead of fighting, the would-be monopolist bought out his competitors directly . . . monopoly profits could begin at once; in the predatory case, large losses would first have to be incurred.”).

44. *Id.* at 140 (“The monopolizer thus finds himself in the position of selling more—and therefore losing more—than his competitors.” If the monopolist gains a 75% market share it “would sell three times as much as all competitors taken together, and, on the assumption of equal unit costs, would lose roughly three times as much as all of them taken together”).

45. McGee, *supra* note 10, at 140.

46. *See id.* at 142. For a critique of McGee's methods and conclusions regarding the Standard Oil case, see Christopher R. Leslie, *Revisiting the Revisionist History of Standard Oil*, 85 S. CAL. L. REV. 573, 579 (2012) (asserting that McGee “jumped to concrete conclusions based on ambiguous evidence”). Leslie argued that McGee was “too quick to conclude that no evidence of predatory pricing existed and that Standard must not have engaged in price predation.” *Id.* at 580. He also pointed out that later research found that Standard had priced below its costs. *Id.* at 585. Further, Leslie rejected McGee's theoretical claims about why firms are unlikely to engage in predatory pricing. *Id.* at 588–99 (contesting McGee's assertions that predatory pricing is unlikely because excluded firms can re-enter the market when the monopolist tries to raise its price, the predator suffers much larger losses than it inflicts on its prey, and Standard Oil would not have attempted predation because “mergers were cheaper”).

47. Koller, *supra* note 9.

48. *Id.* at 110–11.

49. *Id.* at 111.

50. *Id.* at 112.

consummated, or prices were disciplined.⁵¹ Of these four “successful” predation campaigns, one involved the classic elimination of a rival; the other three resulted in a merger or collusion.⁵² Koller asserted that even when predation was successful, “significant harm to resource allocation” was “a reasonable probability” only in the three cases involving a merger or collusion.⁵³

Koller conceded that his study had significant limitations. First, predation resulting in a merger or collusion is less likely to face a court challenge because the parties to the arrangement presumably are satisfied.⁵⁴ Second, infrequent predation might best be explained by its illegality.⁵⁵ But Koller concluded nonetheless that not only is predatory pricing rare, when it occurs “it produce[s] little or no harm to competition.”⁵⁶

McGee, Koller, and other Chicago School theorists contended that predatory pricing is an irrational strategy that firms rarely attempt in the real world. And even in the vanishingly small number of cases where firms do attempt price predation, they argued, consumers rarely are harmed. On this view, legal restrictions on predatory pricing are either wasteful or even harmful, because they are likely to discourage firms from pricing aggressively.⁵⁷ As we discuss below, the Chicago School critique had a profound effect on legal doctrine and ultimately helped transform the law of predatory pricing.⁵⁸ But it was not the last word on the economics of predation.

2. Post-Chicago School

In the wake of the Chicago School critique, a new generation of economists employing game theory demonstrated that price predation can be a rational strategy under certain conditions.⁵⁹ These theories reject the key assumption underlying the McGee analysis—that firms operate with perfect information—and show that strategic pricing conduct can be rational and successful in a world with imperfect and asymmetric information.⁶⁰ When firms lack perfect information, a predator can create doubt in its prey (and its prey’s financiers) about whether the predator’s low prices result from lower costs or predation. The prey (or its backers) might rationally conclude that it cannot compete

51. *Id.*

52. Koller, *supra* note 9, at 112.

53. *Id.*

54. *Id.* at 121.

55. *Id.*

56. *Id.*

57. *See, e.g.*, ROBERT H. BORK, *THE ANTITRUST PARADOX* 155 (1993) (arguing that “predatory price cutting is most unlikely to exist” and that because the result of attempted enforcement “can only be to dampen the vigor of price competition . . . attempts to outlaw [predatory pricing] are likely to harm consumers more than would abandoning the effort”).

58. *See, e.g.*, George A. Hay, *The Economics of Predatory Pricing*, 51 *ANTITRUST L.J.* 361, 362–63 (1982) (“The theme of [the Chicago School] literature was radical and of great policy consequence, *viz.*, there is no such thing as successful predatory pricing in the real world.”).

59. *See* Bolton, Brodley & Riordan, *supra* note 15, at 2247 (“Stimulated by the growing number of observed instances of predatory pricing and the emergence of modern game theory . . . economists developed new economic theories [regarding predatory pricing] beginning in the early 1980s.”).

60. *Id.* (“This new body of research challenges the static framework of perfect information on which McGee had relied. The new analysis explains predatory pricing in a dynamic world of imperfect and asymmetric information in which strategic conduct can be profitable.”).

with the predator, forcing it to abandon or decline to enter the predator's market. Economists have described four types of strategic pricing conduct of this variety: financial market, reputation-effect, test market, and cost-signaling predation.

Financial market predation theory focuses on the interaction between the prey and its investors. In this theory, the predator takes advantage of the investors' limited market information to try to convince them to terminate the prey's funding.⁶¹ By pricing below its costs, the predator harms the prey's performance. The prey's investors attribute its poor performance to internal shortcomings rather than to price predation, and determine that it is a losing investment, eventually pulling their financing.⁶² Patrick Bolton, Joseph Brodley, and Michael Riordan argue that this strategy can be especially effective against nascent competitors, which are inherently risky and uncertain investments.⁶³

In reputation-effect predation, the predator cultivates a reputation as an extremely aggressive competitor.⁶⁴ It employs below-cost pricing in one market (the "demonstration market") to deter potential entry in other markets (the "recoupment markets").⁶⁵ For example, the predator could price below cost in one geographic area to develop a reputation that would deter entry in other regions. Or the predator could price below cost at one point in time to develop a reputation that would deter entry in the future. Faced with the threat of a price war, firms (and their investors) are less willing to enter the predator's markets.

Sometimes potential entrants will attempt to gauge market conditions for a new product by introducing it in a narrow "test market." The predator, understanding the prey's strategy, cuts prices below costs in the test market with the goal of convincing the nascent rival that it will not be able to compete with the predator in the broader market.⁶⁶ Seeing that consumers in the test market choose the predator's product based on its low price, the prey is unable to accurately determine market demand.⁶⁷ Rather than risk losses in the broader market, the prey decides not to enter at all.⁶⁸ Like the reputation-effect strategy, test-market predation relies on the prey's limited information, in this case about the prospects for success in a new market.

Finally, the predator might try to convince the prey that the predator has achieved a new efficiency—through a technological breakthrough or exclusive access to a new supplier, for example. In cost-signaling predation, the predator lowers its prices sharply after creating the misperception, convincing the prey that this new efficiency has lowered the predator's costs to the point where the prey no longer can compete successfully.⁶⁹ Unable to determine the true state of the predator's cost structure, the prey makes the rational decision to exit the market.

These post-Chicago School predation theories explain why and under what conditions predatory pricing can be a rational and effective anticompetitive strategy. By assuming that firms operate with limited information about their rivals' cost structures and intentions, the

61. *Id.* at 2286.

62. *Id.*

63. *Id.* at 2285–90.

64. Bolton, Brodley & Riordan, *supra* note 15, at 2300–01.

65. *Id.*

66. *Id.* at 2311.

67. *Id.* at 2311–12.

68. *Id.*

69. Bolton, Brodley & Riordan, *supra* note 15, at 2318.

post-Chicago School approach better reflects market realities than the Chicago School theory, which relies on the unrealistic assumption that firms have perfect information about their rivals and the market. Nonetheless, this more nuanced approach to predatory pricing theory so far has done little to affect legal doctrine.

B. Law of Predatory Pricing

U.S. antitrust law has long prohibited predatory pricing, at least in theory. Redress is available under section 2 of the Sherman Act, which bars unlawful monopoly acquisition and maintenance, and the Robinson-Patman Act, which prohibits anticompetitive price discrimination. Predatory pricing litigation was mostly dormant in the early years of the Sherman Act, but after the Robinson-Patman Act became law in 1936, these claims became more common, with plaintiffs often prevailing. Then, starting in the 1970s, the Chicago School critique of predatory pricing came to influence the legal doctrine, ultimately resulting in the Supreme Court's 1993 decision in *Brooke Group v. Brown & Williamson Tobacco*,⁷⁰ which articulated a standard for plaintiffs that has proven nearly impossible to satisfy.

1. Statutory Framework

Predatory pricing claims have been pursued under section 2 of the Sherman Act and the Robinson-Patman Act.⁷¹ Courts apply the same legal standard under both statutes.⁷² Section 2 of the Sherman Act prohibits the unlawful acquisition or maintenance of monopoly power in a relevant antitrust market.⁷³ A section 2 plaintiff must show that the defendant has monopoly power (or the dangerous probability of acquiring monopoly power) and that it engaged in anticompetitive conduct to acquire or maintain that power.⁷⁴ If proven, predatory pricing can satisfy section 2's conduct element.

The Clayton Act of 1914 barred firms from charging customers different prices for the same product.⁷⁵ The Robinson-Patman Act strengthened this restriction. Robinson-Patman prohibits "discriminat[ing] in price between different purchasers of commodities of like grade and quality . . . where the effect of such discrimination may be substantially to lessen competition."⁷⁶ Predatory pricing claims brought under Robinson-Patman are

70. *Brooke Grp. Ltd. v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209, 216 (1993).

71. *See, e.g., De Soto Cab Co. v. Uber Techs., Inc.*, No. 16-cv-06385, 2021 WL 5860917, at *4 (N.D. Cal. Nov. 11, 2021) (evaluating predatory pricing claim brought under section 2 of the Sherman Act); *Brooke Grp.*, 509 U.S. at 216 (analyzing predatory pricing claim brought under section 13(a) of the Robinson-Patman Act).

72. *See Brooke Grp.*, 509 U.S. at 222 ("[W]hether the claim alleges predatory pricing under § 2 of the Sherman Act or primary-line price discrimination under the Robinson-Patman Act, two prerequisites to recovery remain the same.").

73. 15 U.S.C. § 2.

74. *See United States v. Grinnell Corp.*, 384 U.S. 563, 570–71 (1966) ("The offense of monopoly under s 2 of the Sherman Act has two elements: (1) the possession of monopoly power in the relevant market and (2) the willful acquisition or maintenance of that power as distinguished from growth or development as a consequence of a superior product, business acumen, or historic accident.").

75. 15 U.S.C. § 13(a) (1914).

76. 15 U.S.C. § 13(a) (1936).

“primary-line” cases, meaning the competitive harm is at the seller’s level of the distribution chain.⁷⁷

2. Early Caselaw

Early examples of matters involving predatory pricing claims include a pair of Supreme Court cases from 1911: *Standard Oil Co. of New Jersey v. United States*⁷⁸ and *United States v. American Tobacco Co.*⁷⁹ In *Standard Oil*, the government alleged “local price cutting at the points where necessary to suppress competition,”⁸⁰ and in *American Tobacco*, it claimed “ruinous competition, by lowering the price of the [tobacco] plug below cost.”⁸¹ The government prevailed in both cases. Despite its prohibition under section 2 of the Sherman Act and section 2 of the Clayton Act, however, few predatory pricing claims were brought before the passage of the Robinson-Patman Act in 1936.⁸² Post Robinson-Patman, predatory pricing claims became more common, and plaintiffs often prevailed.⁸³ The Supreme Court’s decision in *Utah Pie Co. v. Continental Baking Co.* exemplified the plaintiff-friendly approach to predatory pricing claims in this era.⁸⁴ Plaintiff Utah Pie was a manufacturer of frozen fruit pies operating in Utah. In the late 1950s and early 1960s, it had a large share of the frozen pie market in Salt Lake City, ranging from a high of 66.5% to a low of 34.3%.⁸⁵ Despite its local success, the Court observed that Utah Pie was “not . . . a large company.”⁸⁶ Defendants Continental Baking Company, Carnation Company, and Pet Milk Company were each in the Court’s view “large compan[ies]” and “major factor[s] in the frozen pie market in one or more regions of the country.”⁸⁷

Firms in the Utah frozen pie market competed primarily on price.⁸⁸ Low prices were what allowed Utah Pie to gain its large market share initially.⁸⁹ But the defendants responded with aggressive price cuts of their own, driving prices down significantly for all

77. See, e.g., *Brooke Grp. Ltd. v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209, 220 (1993) (“This type of injury, which harms direct competitors of the discriminating seller, is known as primary-line injury.”). The Act addresses two forms of competitive injury: “primary line” and “secondary line.” The former occurs when a firm operating nationally or in multiple geographic markets strategically reduces its prices in one of those markets to harm its rivals in that market. See *Price Discrimination: Robinson-Patman Violations*, <https://www.ftc.gov/tips-advice/competition-guidance/guide-antitrust-laws/price-discrimination-robinson-patman> [<https://perma.cc/48AN-H6M6>]. Secondary-line injury takes place when a firm charges a favored customer lower prices than its other, disfavored customers. *Id.* In a secondary-line case, the harm is at the buyer’s level. *Id.*

78. *Standard Oil Co. of N.J. v. United States*, 221 U.S. 1, 42 (1911).

79. *United States v. Am. Tobacco Co.*, 221 U.S. 106, 160 (1911).

80. *Standard Oil*, 221 U.S. at 42.

81. *Am. Tobacco Co.*, 221 U.S. at 160.

82. See Bolton, Brodley & Riordan, *supra* note 15, at 2250.

83. *Id.* (after passage of the Robinson-Patman Act, “[p]laintiffs won most litigated cases, including those they probably should have lost”).

84. *Utah Pie Co. v. Cont’l Baking Co.*, 386 U.S. 685 (1967).

85. *Id.* at 689.

86. *Id.*

87. *Id.*

88. *Id.* at 690 (“The major competitive weapon in the Utah market was price.”).

89. *Utah Pie Co.*, 386 U.S. at 690.

competitors.⁹⁰ Utah Pie sued under the Robinson-Patman Act, alleging that its bigger national competitors charged a lower price for their pies in Salt Lake City than they did in other geographic markets and that they were pricing below their costs in Salt Lake.⁹¹

Despite the defendants' aggressive pricing campaigns, Utah Pie's sales increased, its profits remained steady, and it maintained a robust market share during the relevant period.⁹² Indeed, the market looked more competitive in 1961 than it had in 1958 when Utah Pie had a near-monopoly market share of 66.5%.⁹³ Nonetheless, the Court reversed the court of appeals' holding that Utah Pie had failed to demonstrate probable injury to competition within the meaning of the Robinson-Patman Act. The Court found that "the evidence shows a drastically declining price structure which the jury could rationally attribute to continued or sporadic price discrimination" and that the jury was "entitled to conclude that 'the effect of such discrimination . . . may be substantially to lessen competition.'"⁹⁴

The *Utah Pie* decision has been much criticized as promoting the welfare of competitors over consumers and promulgating a predatory pricing standard that tended to harm competition.⁹⁵ It also helped usher in a period of radical reconsideration of predatory pricing by scholars and, eventually, courts. The Chicago School's economic critique paved the way for this sea change in predatory pricing doctrine, culminating in Philip Areeda and Donald Turner's 1975 article, *Predatory Pricing and Related Practices Under Section 2 of the Sherman Act*.⁹⁶ Like the early Chicago School economists, Areeda and Turner contended that predatory pricing "seems highly unlikely."⁹⁷ They recognized, however, that firms sometimes use below-cost pricing as a cudgel to harm rivals, conduct which is "not competing on the merits."⁹⁸ Therefore, they argued that predatory pricing should be proscribed under section 2 of the Sherman Act.⁹⁹ But they asserted that predatory pricing

90. *Id.*

91. For example, in June 1961, Continental lowered its price in Utah for 22-ounce frozen apple pies to \$2.85 per dozen, down from a high of over \$5 per dozen in 1958, while "selling the same pies at substantially higher prices in other markets." *Id.* at 691, 698. Continental's price in Salt Lake City was "less than its direct cost plus an allocation for overhead." *Id.* at 698. Utah Pie lowered its prices to \$2.75 per dozen before suing Continental. *Id.* at 698–99. As a result of its low-price campaign, Continental increased its market share from 1.8% in 1960 to 8.3% in 1961. *Utah Pie Co.*, 386 U.S. at 699. The Court found that Carnation also charged prices "well below" its costs and below what it charged in other markets, like San Francisco. *Id.* at 701. Pet Milk similarly charged prices in Utah below what it charged in California markets, and the evidence showed that it was pricing at a loss. *Id.* at 693, 697.

92. *Id.* at 689.

93. *Id.* at 705 (Stewart, J., dissenting).

94. *Utah Pie Co.*, 386 U.S. at 703.

95. See, e.g., Ward S. Bowman, *Restraint of Trade by the Supreme Court: The Utah Pie Case*, 77 YALE L.J. 70, 84 (1967) ("*Utah Pie* must rank as the most anticompetitive antitrust decision of the decade."); Kenneth G. Elzinga & Thomas F. Hogarty, *Utah Pie and the Consequences of Robinson-Patman*, 21 J.L. & ECON. 427, 427 (1978) ("The *Utah Pie* opinion . . . has provoked much criticism on the grounds that it serves to protect localized firms from the competition of more distant sellers.")

96. Phillip Areeda & Donald F. Turner, *Predatory Pricing and Related Practices Under Section 2 of the Sherman Act*, 88 HARV. L. REV. 697 (1975).

97. *Id.* at 699.

98. *Id.* at 697.

99. *Id.*

case law and doctrine lacked coherence¹⁰⁰ and was based on “exaggerated fears that large firms will be inclined to engage in it.”¹⁰¹ A more precise analytical framework was necessary, in their view, lest the threat of predatory pricing litigation chill aggressive, but lawful, pricing.

In attempting to impart enhanced rigor to predatory pricing doctrine, Areeda and Turner argued that price predation “would make little economic sense” unless the predator had the resources to outlast its rivals in a price war and “a very substantial prospect that the losses he incurs in the predatory campaign will be exceeded by the profits to be earned after his rivals have been destroyed.”¹⁰² In other words, Areeda and Turner proposed that predatory pricing liability should attach only if the predation campaign was likely to succeed in excluding the predator’s rivals, and market conditions—including barriers to entry—suggested that the predator was likely to recoup its losses from the price war. The authors also carefully analyzed the measure of cost courts should use to determine when below-cost pricing might harm competition. They concluded that prices at or above average variable cost “should be conclusively presumed lawful” while prices below average variable cost “should be conclusively presumed unlawful.”¹⁰³

The Areeda-Turner article had an immediate impact on appellate courts’ approaches to predatory pricing.¹⁰⁴ Initially, some courts adopted a per se version of the Areeda-Turner average variable cost pricing guidance, with the result that plaintiffs’ fortunes in predatory pricing cases declined precipitously.¹⁰⁵ In the seven-year period following the Areeda-Turner article’s publication, plaintiffs’ success rate in predatory pricing cases fell to 8% of reported cases, sharply down from a high of 78% in cases brought in the prior era.¹⁰⁶ This rapid decline in pro-plaintiff outcomes was mitigated somewhat once it became clear that a per se version of the Areeda-Turner average variable cost test heavily favored defendants.¹⁰⁷ Many courts then shifted to a modified version of the Areeda-Turner rule under which a price below average variable cost was presumptively unlawful and a price above average total cost was presumptively lawful. Prices in between were also presumptively lawful, but a plaintiff could rebut the presumption using evidence of intent and market structure.¹⁰⁸ Plaintiffs fared slightly better under this modified standard.¹⁰⁹

100. *Id.* at 699 (“Courts in predatory pricing cases have generally turned to such empty formulae as ‘below cost’ pricing, ruinous competition, or predatory intent in adjudicating liability. These standards provide little, if any, basis for analyzing the predatory pricing offense.”).

101. Areeda & Turner, *supra* note 96, at 698.

102. *Id.*

103. *Id.* at 733.

104. See William E. Kovacic, *The Intellectual DNA of Modern U.S. Competition Law for Dominant Firm Conduct: The Chicago/Harvard Double Helix*, 2007 COLUM. BUS. L. REV. 1, 46 (“Within months of the [Areeda-Turner] article’s publication, two courts of appeals relied heavily on the paper to dismiss predatory pricing allegations.”).

105. Bolton, Brodley & Riordan, *supra* note 15, at 2250–51.

106. *Id.* at 2254.

107. *Id.* at 2253.

108. *Id.*

109. *Id.* at 2254 (stating that in the time period that “roughly coincided with the augmented AVC rule, plaintiffs’ success rate rose to seventeen percent” and, “if settlements are taken into account,” plaintiffs’ success rate “may have been considerably higher”).

3. Modern Caselaw

The Supreme Court first acknowledged this shifting approach to predatory pricing doctrine in a pair of 1986 decisions. In *Matsushita Electric Industrial Co. v. Zenith Radio Corp.*, a case involving an alleged predatory pricing conspiracy among Japanese television manufacturers, the Court echoed the Chicago School contention that “predatory pricing schemes are rarely tried, and even more rarely successful.”¹¹⁰ And while the Court in *Cargill, Inc. v. Monfort of Colorado* noted that “there is ample evidence suggesting” predatory pricing does occur, it stated that firms “engage in the practice only infrequently.”¹¹¹ The *Cargill* Court also cautioned that successful predation is possible only when the predator can absorb its rivals’ market shares after it cuts its prices and sufficient barriers to entry exist to allow the predator to charge “supracompetitive prices for an extended time.”¹¹²

Then, in 1993, the Court in *Brooke Group v. Brown & Williamson Tobacco* squarely addressed the standard for analyzing predatory pricing claims.¹¹³ The plaintiff alleged that Brown & Williamson was pricing below costs to force the plaintiff to raise its prices on generic cigarettes, facilitating supracompetitive oligopoly pricing in the generic segment, and narrowing the price gap between generics and branded cigarettes.¹¹⁴ Plaintiff sued under the Robinson-Patman Act, claiming primary-line discrimination.¹¹⁵ The Court observed that the competitive injury inflicted by primary-line discrimination under Robinson-Patman “is of the same general character” as that inflicted by predatory pricing under section 2 of the Sherman Act.¹¹⁶ And while the statutes differ in some respects, “the essence of the claim under either statute is the same.”¹¹⁷

Drawing on the price-cost analysis from the Areeda-Turner article and subsequent scholarship by Kenneth Elzinga and David Mills,¹¹⁸ the Court established a two-part predatory pricing test. Plaintiffs now were required to show that defendant’s prices were “below an appropriate measure of its costs” and that defendant had a “reasonable prospect” or a “dangerous probability” of recouping its losses after the price war.¹¹⁹ Recoupment is

110. *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 589 (1986).

111. *Cargill, Inc. v. Monfort of Colo. Inc.*, 479 U.S. 104, 121 (1986).

112. *Id.* at 119 n.15 (quoting *Matsushita*, 475 U.S. at 591 n. 15).

113. *Brooke Grp. Ltd. v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209, 223 (1993).

114. *Id.* at 210–20.

115. *See supra* note 77 and accompanying text.

116. *Brooke Grp.*, 509 U.S. at 221.

117. *Id.* at 222.

118. *See* Kenneth G. Elzinga & David E. Mills, *Testing for Predation: Is Recoupment Feasible?*, 34 ANTITRUST BULL. 869, 871 (1989) (proposing a “test for predation” that “eschews price-cost comparisons” and instead “embraces an analysis of the recoupment period as well as the predatory period”). Under the Elzinga-Mills approach, “if a given predatory strategy is an economically implausible investment, as judged by the parameters of the recoupment plan it implies, then the alleged predator is exonerated.” *Id.*

119. *See Brooke Grp.*, 509 U.S. at 222–24 (holding that to prevail on a predatory pricing claim a plaintiff “must prove that the prices complained of are below an appropriate measure of its rival’s costs” and “that the competitor had a reasonable prospect, or . . . a dangerous probability, of recouping its investment in below-cost prices”). The appropriate cost measure to employ in predatory pricing cases has been vigorously debated. Many commentators and courts rely on a version of incremental cost. *See* U.S. DEP’T OF JUST., *supra* note 7, at 61 (“[T]here is general agreement that the appropriate measure of cost in any price-cost test for predatory pricing is ‘some kind of incremental cost.’”); *Barry Wright Corp. v. ITT Grinnell Corp.*, 724 F.2d 227, 232 (1st Cir. 1983)

key, according to the Court, because “[w]ithout it, predatory pricing produces lower aggregate prices in the market, and consumer welfare is enhanced.”¹²⁰ To satisfy the recoupment prong, the Court required a plaintiff to demonstrate that defendant’s below-cost pricing could or did drive its prey from the relevant market (or forced the prey to raise its prices) and that sufficient barriers to entry exist such that the predator could charge supracompetitive prices for long enough to recoup its losses.¹²¹

The *Brooke Group* standard has proved exceedingly difficult for predatory pricing plaintiffs to satisfy, all but eliminating predatory pricing as a viable antitrust claim.¹²² Several legal scholars have argued that the standard is too favorable to defendants and that the Court underestimated the potential for predatory pricing to harm competition.¹²³ These critiques are based in part on post-Chicago School economic theory demonstrating how strategic below-cost pricing can harm competition in a world of imperfect information. *Brooke Group*’s recoupment requirement has come in for particular criticism as lacking nuance and adding little value to predatory pricing analysis. Christopher Leslie, for example, has argued that “the recoupment element is both unnecessary and counterproductive.”¹²⁴ He contended that judges fail to appreciate the variety of ways a firm can recoup the costs of predation. A predator, he explained, can price below costs in one product market and recoup the losses in other markets, like complementary product markets.¹²⁵ Further, Leslie observed that predatory pricing harms consumers even in the absence of complete recoupment because consumers who pay supracompetitive prices

(“[If] a firm charges prices that fail to cover these ‘avoidable’ or ‘incremental’ costs—the costs that the firm would save by not producing the additional product it can sell at that price . . . [t]hen one would know that the firm cannot rationally plan to maintain this low price; if it does not expect to raise its price, it would do better to discontinue production.”). Various incremental cost measures have been proposed, including marginal cost, average variable cost, long-run average incremental cost, and average avoidable cost. *See, e.g.*, William J. Baumol, *Predation and the Logic of the Average Variable Cost Test*, 39 J.L. & ECON. 49, 57–59 (1996) (analyzing the distinctions among average variable cost, average incremental cost, and average avoidable cost for purposes of the Areeda-Turner test).

120. *Brooke Grp.*, 509 U.S. at 224.

121. *See id.* at 225–26 (“For recoupment to occur, below-cost pricing must be capable, as a threshold matter, of producing the intended effects on the firm’s rivals, whether driving them from the market, or . . . causing them to raise their prices to supracompetitive levels within a disciplined oligopoly . . . Determining whether recoupment of predatory losses is likely requires an estimate of the cost of the alleged predation and a close analysis of both the scheme alleged by the plaintiff and the structure and conditions of the relevant market.”).

122. *See* Hemphill & Weiser, *supra* note 15, at 2049 (“[A]s a result of *Brooke Group*, [o]ver the past twenty-five years, antitrust claims alleging a predatory price cut have fallen into disuse.”); Leslie, *supra* note 36, at 1741 (“[While the] Supreme Court did not officially eliminate predatory pricing from the reach of the Sherman Act[,] . . . given the low success rate following the imposition of the recoupment requirement, the cause of action seems somewhat academic.”). *But see* Daniel A. Crane, *The Paradox of Predatory Pricing*, 91 CORNELL L. REV. 1, 4 (2005) (“[A]lthough it is accepted wisdom that no predatory pricing plaintiff has won a verdict since *Brooke Group Ltd. v. Brown & Williamson Tobacco Corp.*, plaintiffs have recently won some predatory pricing cases and procured substantial settlements in others.”).

123. *See, e.g.*, Bolton, Brodley & Riordan, *supra* note 15, at 2257 (“The [*Brooke Group*] Court’s exacting requirements of proof appear to be driven partly by the assumption that predatory pricing rarely occurs [but] . . . the view that predation is rare and implausible conduct is based on outdated economic theory.”); Hemphill & Weiser, *supra* note 15, at 2049 (“*Brooke Group*’s two-part framework was adopted by the Court without any contested presentation of its merits, and both parts of the framework are subject to serious criticism.”).

124. Leslie, *supra* note 36, at 1699.

125. *Id.* at 1720–39 (“[R]ecoupment can happen in markets for complements, substitutes, and replacement goods.”).

post-predation are harmed even if the firm does not recover every last dollar spent on its price cuts.¹²⁶

While the Chicago School critique had an immediate impact on judicial decision-making, courts have been slow to adopt the post-Chicago approach to predatory pricing. A handful of decisions have mentioned the possibility of reputation effects in predatory pricing,¹²⁷ but courts continue to apply the restrictive *Brooke Group* test in most circumstances.¹²⁸ One criticism of post-Chicago School predatory pricing theory is that its proponents have been unable to point to many real-world examples of firms employing strategic predation to harm competition.¹²⁹ We think examples are not hard to find—if you look in the right place.

III. VENTURE PREDATORS

Venture predators are startups that use venture capital to fund predatory pricing. Unlike traditional price predators, venture predators begin their predation campaigns without holding a large share of the market they aim to dominate, and they cannot rely on internal cash flows to fund their below-cost pricing. But the economics of venture finance and the secrecy of private companies give venture predators previously unappreciated strategic advantages. In this Part, we explain how venture predation works, introduce some of the leading venture predators, and respond to potential objections to our theory.

A. Strategy

Venture predation takes three steps. First, VCs supply the venture predator with cash to build a war chest for predation. Second, the venture predator uses the war chest to price its products below cost and exclude or discipline its rivals. Third, once the venture predator has achieved a dominant market share, its VCs and founders cash out by selling their shares to investors who believe that the company can recoup the costs of predation. Venture predation adds three innovations to traditional predatory pricing: (1) financiers motivated to fund predation, (2) the secrecy of private companies, and (3) the opportunity to cash out before recoupment.

126. *Id.* at 1741–42; see also Hemphill & Weiser, *supra* note 15, at 2054 (“The conclusion that unsuccessful predation [i.e., below-cost pricing that either is unlikely ex ante to be recouped or that the firm was unable to recoup ex post] is harmless is not quite right, because below-cost prices are distortive even when they do not exclude, a point the Court quietly acknowledged in part.”).

127. See, e.g., *Advo, Inc. v. Phila. Newspapers, Inc.*, 51 F.3d 1191, 1196 n.4 (3d Cir. 1995) (stating that predation “makes economic sense” in cases where the predator uses its reputation for below-cost pricing in some geographic markets to discipline prices in other geographic markets where it does not price below cost). The *Advo* court also explained the “idea behind ‘strategic entry deterrence’” where a monopolist “who pursues predatory pricing with sufficient zeal and frequency will earn a reputation formidable enough to scare off all potential entrants indefinitely.” *Id.* at 1202.

128. See Shapiro, *supra* note 21, at 33, 36.

129. See generally Crane, *supra* note 122, at 40–42 (arguing that even in light of “behavioral and game theory literature that has sought to rehabilitate predatory pricing’s status . . . [t]here probably are not very many cases of bona fide predatory pricing”).

1. Motivation

VCs are motivated to fund predation because it can generate the kind of rapid, exponential growth that makes a venture fund successful. VCs are financial intermediaries—they invest other people’s money. They raise capital from institutional investors, such as mutual funds, pension funds, sovereign wealth funds, and university endowments.¹³⁰ Venture funds are organized as limited partnerships, with the institutional investors as limited partners (LPs) and the VCs as the general partners.¹³¹ The LPs compensate the VCs in two ways: an annual management fee of 2% of the fund’s assets and “carried interest” equal to 20% of the fund’s profits.¹³² The carried interest gives the VCs a strong incentive to deliver returns.¹³³

Each venture fund has a limited life, typically ten years.¹³⁴ At the start of a fund’s life, the VCs vet a large number of startups.¹³⁵ They select a small fraction of those companies to include in their portfolios. Then they provide the portfolio companies with cash in exchange for shares. The VCs must “exit” each investment by the end of the fund’s life so that they can deliver returns to their LPs.¹³⁶ If a startup is acquired, the VCs exit by selling their shares to the acquiror. If a startup goes public, the VCs exit by selling their shares in the stock market, usually after a 180-day lock-up period.¹³⁷ Vetting and selling startups takes time, so VCs only have about five to six years between investment and exit for their startups to grow in value.

The returns from venture investing follow a power law.¹³⁸ Most startups fail or grow modestly. But some startups grow exponentially—think of Apple, Facebook, or Google. In a successful venture portfolio, most of the returns will come from one or two “home run” companies that grow 10x or more.¹³⁹ Gains from these home runs can more than offset any losses from the rest of the portfolio. The skewed distribution of venture returns gives VCs risk preferences unlike those of most investors. They are monomaniacally focused on upside potential and relatively insensitive to downside risk.

Few companies can deliver home run returns within a five- to six-year timeline. VCs try to overcome these odds by vetting a large number of startups and investing only in the

130. See Ronald J. Gilson, *Engineering a Venture Capital Market: Lessons from the American Experience*, 55 STAN. L. REV. 1067, 1070 (2003).

131. See *id.* at 1070–71.

132. Josh Lerner & Ramana Nanda, *Venture Capital’s Role in Financing Innovation: What We Know and How Much We Still Need to Learn*, 34 J. ECON. PERSP. 237, 254 (2020).

133. See Gilson, *supra* note 130, at 1089.

134. See *id.* at 1071. But note that VCs increasingly are able to extend the life of their funds. See Diane Mulcahy, *The New Reality of the 14-Year Venture Capital Fund*, INSTITUTIONAL INV. (Feb. 19, 2015), <https://www.institutionalinvestor.com/article/b14z9vv7hjb6y/the-new-reality-of-the-14-year-venture-capital-fund> [<https://perma.cc/UX3H-PP6J>].

135. Paul A. Gompers, William Gornall, Steven N. Kaplan & Ilya A. Strebulaev, *How Do Venture Capitalists Make Decisions?*, 135 J. FIN. ECON. 169, 170 (2020) (finding that, in one year, the average VC screens 200 startups and invests in four).

136. See Gilson, *supra* note 130, at 1089–90.

137. In recent years, some investors have negotiated early releases from the traditional post-IPO lock-up period. See Connie Loizos, *The Year of the Disappearing Lock-Up*, TECHCRUNCH, (Jan. 4, 2022), <https://techcrunch.com/2022/01/04/the-year-of-the-disappearing-lock-up> [<https://perma.cc/2DQJ-RXHJ>].

138. See MALLABY, *supra* note 22, at 6–9.

139. See Dixon, *supra* note 24; KUPOR, *supra* note 24, at 37–40.

small number that show the potential for rapid, exponential growth. The most successful VCs, though, do not just try to *find* home runs—they try to *build* home runs. VCs use their power as directors of their portfolio companies to encourage founders to take extreme risks.¹⁴⁰ Because VCs (and their LPs) are diversified, they do not need to worry that a particular portfolio company will take too much risk and fail. If each of a VC's portfolio companies takes extreme risks, and most of those companies fail, but one or two become home runs, the VC wins.

VCs do not need their portfolio companies to achieve profitability before they exit. They only need to persuade an acquiror (in an M&A deal) or subsequent investors (before or after an IPO) that the company will *eventually* become highly profitable. In recent years, IPOs of unprofitable companies have become common. For example, in 2017, more than three-quarters of companies that went public had posted a net loss in the twelve months before their IPO.¹⁴¹

VCs increasingly encourage their portfolio companies to prioritize scaling before profitability.¹⁴² A startup with a rapidly growing user base can deliver a lucrative exit. When Facebook acquired Instagram for \$1 billion, Instagram had no revenue.¹⁴³ Facebook was willing to pay that price because it saw Instagram's rapid user growth as a competitive threat.¹⁴⁴ Public investors have made similar bets. In 2018, Spotify went public through a direct listing and closed its first day of trading with a market capitalization of \$26.5 billion.¹⁴⁵ Spotify had yet to generate a profit, but it had amassed 71 million subscribers.¹⁴⁶ The reasoning behind these bets is that, once the company has acquired the users, it will eventually figure out a way to monetize them.

Venture predation appeals to VCs because it enables rapid scaling. A venture predator starts by targeting a large market.¹⁴⁷ The predator does not need to do the hard and uncertain work of developing a better product or a more efficient production process than its competitors. Instead, it uses cash raised from VCs to price below its costs and undercut its rivals. Rational consumers will switch to the predator's product because of the lower price, and the predator's user base and market share will grow rapidly. If the strategy works,

140. See Broughman & Wansley, *supra* note 25, at 17–27.

141. Ben Eisen, *No Profit? No Problem! Loss-Making Companies Flood the IPO Market*, WALL ST. J. (Mar. 16, 2018), <https://www.wsj.com/articles/spotify-and-dropbox-to-join-a-growing-club-profitless-public-companies-1521204676> [https://perma.cc/F2Y4-5LE5].

142. Andrew Chen, formerly the director of rider growth at Uber and now a VC at Andreessen Horowitz, recommends that startups prioritize user growth first. See Andrew Chen, *Why It's Smart for Consumer Startups to Grow First and Make Money Later*, @ANRDEWCHEN (2011), <https://andrewchen.com/why-its-smart-for-consumer-startups-to-grow-first-and-make-money-later> [https://perma.cc/2ASC-KA8P].

143. Shayndi Raice & Spencer E. Ante, *Insta-Rich: \$1 Billion for Instagram*, WALL ST. J. (Apr. 10, 2012), <https://www.wsj.com/articles/SB10001424052702303815404577333840377381670> [https://perma.cc/K9LM-UWZ9].

144. See Casey Newton & Nilay Patel, *'Instagram Can Hurt Us': Mark Zuckerberg Emails Outline Plan to Neutralize Competitors*, VERGE (July 29, 2020), <https://www.theverge.com/2020/7/29/21345723/facebook-instagram-documents-emails-mark-zuckerberg-kevin-systrom-hearing> [https://perma.cc/3YNZ-9RDG].

145. Chuck Mikolajczak & Stephen Nellis, *Spotify Shares Jump in Record-Setting Direct Listing*, REUTERS (Apr. 3, 2018), <https://www.reuters.com/article/us-spotify-ipo/spotify-shares-jump-in-record-setting-direct-listing-idUSKCN1HA12B> [https://perma.cc/6AZR-WEHN].

146. *Id.*

147. See KUPOR, *supra* note 24, at 127–30 (discussing the importance of a large potential market for venture investing).

the predator's value will spike along with its market share, and the VCs will exit with exponential returns. This is why VCs are attracted to predation.

2. *Secrecy*

Venture predators also have an advantage in executing predation: they are private companies. The secrecy afforded to private companies facilitates predation in two ways. First, the managers of private companies can communicate with their financiers confidentially, which lets them discuss and agree on a plan of predation. Second, private companies are better able to obscure their cost structure, which enables them to capitalize on their competitors' imperfect information.

The advantage that private company predators gain from confidential communication can be illustrated by contrast with the challenges of being a public company predator. Suppose, for example, that the managers of a public company decide to wage a predation campaign. They start pricing their goods below cost, leading to losses. As the predator's market share grows, the losses become heavy; indeed, the predator incurs greater losses than its rivals precisely because it has a greater market share.¹⁴⁸ For a while, the public company predator can cover its losses with internal cash flows, but over time that strategy becomes difficult to conceal.

The relative transparency of public company finances makes it harder to redirect internal cash flows to predation. Public companies must disclose their financial statements each quarter.¹⁴⁹ Analysts and short sellers scrutinize those disclosures. When a public company predator uses internal cash flows to cover losses from predation, analysts or short sellers could start to notice that these cash flows are being redirected. They might ask, for example, why the predator has less cash on hand or is paying out less in dividends. Investors might wonder whether the money is being lost or embezzled and could question the managers' competence or integrity. Shareholders might replace the managers before their campaign succeeds.

The managers cannot openly reassure their dispersed shareholders that the losses are a strategic sacrifice designed to unlock long-term monopoly profits. After all, predatory pricing is illegal. And even if the predator's shareholders give the managers the benefit of the doubt, the predator's competitors and regulators might get suspicious. Managers who anticipate these risks may forgo otherwise viable predation.

Venture predators avoid this problem. A typical startup board includes the company's founders and its major investors.¹⁵⁰ VC directors are expected to give the management team guidance on the company's strategy.¹⁵¹ The directors interact frequently over the phone, by video, and in person during confidential board meetings. They can discuss a plan for below-cost pricing without leaving any record. Neither the VCs nor the founders need to utter the words "predatory pricing." They can simply agree on below-cost pricing as a strategy to gain a foothold in the market. Over time, VCs and founders can develop a tacit

148. See McGee, *supra* note 10, at 140.

149. See generally Regulation S-K, 17 C.F.R. § 229.

150. See Steven N. Kaplan & Per Strömberg, *Financial Contracting Theory Meets the Real World: An Empirical Analysis of Venture Capital Contracts*, 70 REV. ECON. STUD. 281, 287–90 (2003) (presenting data on startup board composition).

151. See KUPOR, *supra* note 24, at 203–04.

understanding that they are willing to sustain below-cost pricing as long as it takes to drive out rivals and dominate the market.

When a venture predator racks up heavy losses through below-cost pricing, its VCs will not waver. They will understand that the losses are a strategic sacrifice designed to unlock greater market share, higher valuations, and eventually a successful exit. If the losses prove too great for the startup's existing VCs to bear, they can bring in new VCs in the next round and let them in on the plan. VC firms practice syndication—co-investing with other VC firms.¹⁵² The close relationships that VCs develop as co-investors in one startup can help build the trust necessary for cooperating to fund predation at the next startup. The VC industry has a deep bench of investors willing to help fund predation once it looks like it might work.

The secrecy of private companies also aids venture predators in another way—it obscures their cost structures from their competitors. When public companies disclose their financial statements, they give the world a glimpse of their cost structures. The army of analysts and short sellers that scrutinize those disclosures can sometimes uncover whether a public company has or has not found a way to cut costs. Private companies are not required to make similar disclosures.¹⁵³ Analysts are less likely to cover private companies because their shares are largely illiquid, and short sellers are less motivated to investigate them because their shares are nearly impossible to short.¹⁵⁴ As a consequence, there is little publicly available information about the cost structure of private companies.

The opacity of private company finances enables venture predators to take advantage of their competitors' imperfect information. They can put into practice some of the strategies that post-Chicago School economists have shown are viable in theory. For example, venture predators can employ cost-signaling predation—persuading their rivals that they have developed cost-saving innovations that the rivals cannot replicate.¹⁵⁵ And they can combine that strategy with financial market predation—convincing rivals' investors and lenders that the rivals have been outcompeted on the merits, so they cannot get a loan to ride out the predation.¹⁵⁶

To be sure, private company cost structures are not *totally* opaque. As we explain below, we know that Uber is a venture predator in part because some of its private financial statements leaked to the press.¹⁵⁷ Likewise, the cost structures of public company predators are not totally transparent.¹⁵⁸ A large, multi-division public company predator might be

152. See Robert P. Bartlett, III, *Venture Capital, Agency Costs, and the False Dichotomy of the Corporation*, 54 UCLA L. REV. 37, 55–56 (2006).

153. Resales of private securities must fit into one of several narrow exemptions. For an overview, see Concept Release on Harmonization of Securities Offering Exemptions, 84 Fed. Reg. 30460, 30517–19 (June 26, 2019) (to be codified at 17 C.F.R. pt. 210).

154. See Matthew T. Wansley, *Taming Unicorns*, 97 IND. L.J. 1203, 1244–48 (2022) (explaining why the limited secondary markets for trading private company securities do not attract analysts or short sellers).

155. See Bolton, Brodley & Riordan, *supra* note 15, at 2318–21 (describing cost-signaling predation).

156. See *id.* at 2285–99 (describing financial market predation).

157. See Amir Efrati, *Uber's Losses Grow, But So Do Its Profit Projections*, INFO. (Jan. 11, 2016), <https://www.theinformation.com/ubers-losses-grow-but-so-do-its-profit-projections?unlock=D104ce&token=ece149610ae5ea63ac16b195b5a1152d7691f78e> [https://perma.cc/VJ9R-MJEX] (reporting leaked financial statements).

158. After all, the post-Chicago School economists who developed theories of how predatory pricing could work in a world with imperfect information were likely writing with public company predators in mind.

able to use accounting tricks to bury the losses it incurs on predation deep in its consolidated financial statements. This is why we emphasize not just the securities filings themselves, but also the army of analysts and short sellers who are motivated to read them. Our claim is a relative one: venture-backed startups are more able to create uncertainty about their true costs, which facilitates predation.

3. *Cashing Out*

The most important innovation of venture predation is how it ends. In a traditional predatory pricing campaign, after a predator dominates a market, it raises its prices to a supracompetitive level and starts to recoup the costs of predation. The predator will be able to recoup its losses only if its reputation for predation or other barriers to entry can deter new competition. Venture predation is different. VCs do not need the venture predator to recoup its losses to profit on their investment. Instead, they only need to persuade an acquiror or subsequent investors that the company could eventually recoup its losses.¹⁵⁹ VCs need to create the *impression* that recoupment is possible.

VCs can create this impression in two ways. First, they can take advantage of lingering information asymmetries. If the acquiror's due diligence or the IPO process does not reveal that the venture predator's success was only due to predation—and not to a better product or a more efficient production process—the buyers might anticipate recoupment. Second, VCs can profit from genuine uncertainty. Even if acquirors or investors realize that the predator's market dominance was achieved through predation, they might still anticipate recoupment if they believe that the predator's reputation for predation or other barriers to entry will deter competition. In either case, the VCs cash out at an attractive valuation. If VCs anticipate this outcome, they will be motivated to fund predation.

One interesting implication of this argument is that venture predation is vulnerable to failing around the time of an IPO. The disclosures companies make during the IPO process reduce information asymmetries. VCs cannot be certain at the time of investment that, when the information asymmetries are later reduced, buyers will still anticipate recoupment. As we note below, WeWork unraveled shortly after it filed its S-1.¹⁶⁰ But venture finance does not require certainties. As long as VCs believe that venture predation has a chance of generating rapid, exponential growth, they will be motivated to pursue it.

The opportunity to cash out before recoupment is also available to the venture predator's founders. Most startup founders take a large stake in their companies' equity and accept a lower salary in exchange.¹⁶¹ As the startup grows, the value of their equity stake rises.¹⁶² Equity compensation effectively ties the founders' net worth to their companies' value, which gives them a strong incentive to grow the business.¹⁶³ Like VCs,

159. Cf. Kenney & Zysman, *supra* note 22, at 43 (“Paradoxically, a sustainable business may not be the objective and may not matter, if earlier investors, founders, and management can sell their stakes in the business at higher valuation multiples to later stage investors or through an IPO or trade sale before the actual unit economics and profit-generating potential of a company are clarified through repeated performance.”).

160. See *infra* Part III.D.

161. See Gilson, *supra* note 130, at 1083.

162. In a typical venture funding round, the startup will issue new equity that dilutes the founders' ownership share. But the founders will still come out ahead because the growth in the startups' value will more than offset the dilution.

163. See Gilson, *supra* note 130, at 1083.

most founders do not hold their shares forever. If the startup is acquired, they sell their shares to the acquiror; if it goes public, they typically sell their shares after a lock-up period, especially if they are not staying on as CEO.¹⁶⁴ Therefore, both founders and VCs stand to gain from a high-value exit.

If founders always had to wait to cash out until the VCs exited, though, they might be reluctant to try predation. VCs and founders have divergent risk preferences.¹⁶⁵ VCs are risk-neutral: they hold equity in a diversified portfolio of startups. Founders are generally more risk-averse. Their equity represents one large, concentrated bet on their startup. They cannot diversify away their firm-specific risk. Once a startup grows large enough, the founders' equity stakes will represent a substantial percentage of their net worth. Some founders might not want to gamble their paper fortune on a risky strategy like predatory pricing. They might prefer to play it safe until they can cash out their shares in an acquisition or IPO. For this reason, we suspect that founder risk aversion may have prevented some startups from attempting venture predation in the past.

In recent years, though, the VC market has developed a solution to the problem of founder risk-bearing.¹⁶⁶ Founders are increasingly selling large amounts of equity to private investors on the secondary market before their companies are sold or go public. According to one partner at a Silicon Valley law firm, “[h]alf of Series A and B deals now have some secondary component for founders.”¹⁶⁷ Secondary sales enable founders to receive an immediate payout and diversify away some of their risk, while preserving the chance of a larger payout later in a successful exit. Founders who expect that they will have the option to cash out in a secondary sale will be more willing to pursue venture predation.

B. Platform Economics

Venture predation is especially attractive to startups that build platforms. A platform is a two-sided market that matches users for transactions or interactions.¹⁶⁸ They cover a range of economic activity, from selling and buying homemade crafts on Etsy to dating on Tinder.¹⁶⁹ Platforms create network effects: each new user who joins the platform increases

164. See Loizos, *supra* note 137.

165. See Broughman & Wansley, *supra* note 25, at 14–17.

166. For an overview of private secondary markets, see Darian M. Ibrahim, *The New Exit in Venture Capital*, 65 VAND. L. REV. 1, 15–20 (2012); Elizabeth Pollman, *Information Issues on Wall Street 2.0*, 161 U. PA. L. REV. 179, 183–202 (2012).

167. Berber Jin, *Startup Founders Use Record-High Valuations to Cash Out Earlier*, INFO. (Sept. 13, 2021), <https://www.theinformation.com/articles/startup-founders-use-record-high-valuations-to-cash-out-earlier> [<https://perma.cc/RB5Z-7JBW>].

168. See Jean-Charles Rochet & Jean Tirole, *Platform Competition in Two-Sided Markets*, 1 J. EUR. ECON. ASS'N 990, 990–93 (2003).

169. Antitrust analysis of platforms requires considering both sides of the transaction. See *Ohio v. Am. Express Co.*, 138 S. Ct. 2274, 2287 (2018) (holding that “[e]valuating both sides of a two-sided transaction platform is . . . necessary to accurately assess competition”). A two-sided platform's prices are predatory when they are below its costs after accounting for payments from both sides. A platform may set a low price on one side of the transaction but profit by charging a price well above its costs on the other side of the transaction. For example, Google Maps is free to consumers, but Google profits by selling advertising space to businesses that want to reach those consumers. In a case like that, the price level is not predatory. Instead, there is a skewed price distribution between the two sides of the market. See Julian Wright, *One-Sided Logic in Two-Sided Markets*, 3

the platform's value for existing users.¹⁷⁰ Consider LinkedIn, an archetypal platform business. Each new LinkedIn user makes the LinkedIn platform more valuable to at least some of its existing users by increasing the number of potential connections in their networks. For existing users, the new user might become an employer, an employee, or a business partner. Network effects create a positive feedback loop or flywheel—new users join, the platform becomes more valuable, which in turn attracts more users to join.

Getting the flywheel started, however, can be challenging. All platforms confront a chicken-and-egg problem.¹⁷¹ Consider Airbnb, another successful platform. Most property owners will list their rentals on the platform only if it has a critical mass of renters, and most would-be renters will search for a rental on the platform only if it has a critical mass of properties. Platforms can solve the chicken-and-egg problem by subsidizing use of the platform and then recovering the cost of those subsidies once the platform grows.¹⁷² Many startups have used venture finance for that initial subsidy.

A platform company, like any company, can maintain dominance in a market with a superior product or a more efficient production process. Google's search engine—a platform for connecting searchers with advertisers—became dominant because its PageRank algorithm delivered consistently better results than its competition.¹⁷³ But a platform company can also maintain its dominance *without* an advantage in product quality or cost efficiency if the network effects are strong enough. The strength of a platform's network effects depends in part on the costs that its users would incur to switch platforms.¹⁷⁴ Switching costs can be especially high in markets in which consumers “single-home”—that is, they use one platform exclusively for a certain kind of transaction.¹⁷⁵

The success of VHS, the dominant format for video cassette recorders (VCRs), illustrates this point. A competing format, Betamax, was introduced first and was in some respects a higher quality product.¹⁷⁶ But VHS won out, in large part because its producers were able to move more quickly than Beta manufacturers, flooding the market with VHS

REV. NETWORK ECON. 44, 48 (2004); *see also* Erik Hovenkamp, *Platform Antitrust*, 44 J. CORP. L. 713, 749 (2019) (describing the “concern that, absent a two-sided market definition, courts might erroneously diagnose a skewed price distribution as predatory pricing”).

170. *See* Rochet & Tirole, *supra* note 168, at 995.

171. *See* David S. Evans, *Multisided Platforms, Dynamic Competition, and the Assessment of Market Power for Internet-Based Firms* 7 (Univ. of Chi. L. Sch. Coase-Sandor Inst. for L. & Econ., Working Paper No. 753, 2016); Hovenkamp, *supra* note 169, at 720 (describing the “‘chicken-and-egg’ problem” that two-sided platforms face).

172. *See* E. Glen Weyl & Alexander White, *Let the Right ‘One’ Win: Policy Lessons from the New Economics of Platforms* 4 (Univ. of Chi. L. Sch. Coase-Sandor Inst. for L. & Econ., Working Paper No. 709, 2014), (arguing that firms can induce consumers to join their platform by “using temporary subsidization strategies”).

173. *See* Aaron S. Edlin & Robert G. Harris, *The Role of Switching Costs in Antitrust Analysis: A Comparison of Microsoft and Google*, 15 YALE J.L. & TECH. 169, 192–212 (2013) (arguing that Google Search must be providing a better service than competitors because switching costs are low). *But see* Herbert Hovenkamp, *Antitrust and Platform Monopoly*, 130 YALE L.J. 1952, 1977 (2021) (considering whether Google Search's continued dominance results from product advantages or exclusionary practices).

174. *See* Kenneth A. Bamberger & Orly Lobel, *Platform Market Power*, 32 BERKELEY TECH. L.J. 1051, 1068–69 (2017).

175. *See* Hovenkamp, *supra* note 173, at 1975–77 (contrasting single-homing and multi-homing).

176. *See* Michael Cusumano, Yiorgos Mylonadis & Richard S. Rosenbloom, *Strategic Maneuvering and Mass-Market Dynamics: The Triumph of VHS Over Beta*, 66 BUS. HIST. REV. 51, 76–79 (1992).

machines.¹⁷⁷ More consumers bought VHS-compatible VCRs, and the cost of switching formats was high—consumers did not want to “multi-home” by buying a second VCR. More movies were made for the larger VHS market, and Betamax died out. When VCs fund a platform startup, they may hope it becomes the next Google. But they can profit just as handsomely if it becomes the next VHS.

Venture predation is a powerful strategy for platform startups. A venture predator developing a platform uses venture subsidies not just to solve the chicken-and-egg problem, but also to drive competing platforms out of the market. Once the venture predator excludes rival platforms, the network effects flywheel will spin faster. Then the VCs and founders can cash out their shares to investors who expect that the company can raise its prices to supracompetitive levels while network effects keep its users on the platform and deter new entrants. Of course, whether the venture predator will remain the dominant platform and recoup the costs of predation will depend on the strength of the network effects and users’ switching costs. But for the VCs and founders, recoupment only needs to be plausible enough for them to cash out. And the power and uncertainty of network effects can make recoupment seem plausible.

Not all venture predators are platform companies, and not all platform companies are venture predators. But venture predation and platforms work well together. Predatory pricing can supercharge growth by unlocking network effects. And platform startups’ need to solve the chicken-and-egg problem also facilitates venture predation by giving startups a *plausibly legal* reason to start below-cost pricing. Founders may tell themselves that they are just using subsidies to attract users to their platform. They may hope that their startup will eventually develop a better product or achieve a cost efficiency that lets it outcompete rivals on the merits. This is the logic of “fake it till you make it.”¹⁷⁸ If the startup never finds a way to win on the merits, the founders may decide to maintain their predatory pricing campaign until they can cash out. In this way, venture predation may emerge gradually as a kind of fallback strategy. That is the most sympathetic interpretation of what happened at one platform startup—Uber.

C. Uber

For several years, Uber was the most valuable startup in the world.¹⁷⁹ Even though Uber’s ridehailing business never achieved a sustainable efficiency advantage over its rivals, Uber came to dominate the urban transportation market through venture predation.¹⁸⁰

177. *Id.* at 81.

178. *Cf.* Elizabeth Pollman, *Private Company Lies*, 109 GEO. L.J. 353, 379–80 (2020) (describing pressures to commit fraud at venture-backed startups).

179. Sara Ashley O’Brien, *Uber Is the Most Valuable Startup in the World*, CNN (July 31, 2015), <https://money.cnn.com/2015/07/31/technology/uber-50-billion-valuation/index.html> [<https://perma.cc/3NKE-UTVJ>].

180. *Cf.* Lina M. Khan, *Amazon’s Antitrust Paradox*, 126 YALE L.J. 710, 786 (2017) (“The idea that investors are willing to fund predatory growth in winner-take-all markets also holds in the case of Uber.”).

1. Uber's Predation

Travis Kalanick and Garrett Camp founded UberCab out of frustration with San Francisco's taxis.¹⁸¹ The company started out as a website where customers could request a ride from high-end black car services¹⁸² for "one and a half times the price of a yellow cab."¹⁸³ After raising \$1.4 million in seed capital, Kalanick and Camp contracted with outside software developers to develop a mobile app.¹⁸⁴ The app caught on quickly.¹⁸⁵ By 2011, Uber had dropped "Cab" from its name and raised an \$11 million Series A round, which included \$9 million from the blue-chip VC firm Benchmark.¹⁸⁶

Competitive pressures soon forced Uber to change its business model. Sunil Paul, the founder of Sidecar, came up with the idea of letting drivers use their personal vehicles for ridehailing.¹⁸⁷ Sidecar never gained traction, but Lyft quickly copied Sidecar's model and made it popular.¹⁸⁸ In a now largely forgotten irony, Uber's first reaction to this new competition was to call it illegal. Uber's managers met with San Francisco regulators and asked them to shut down Lyft and Sidecar.¹⁸⁹ But the city would not enforce its taxi regulations.¹⁹⁰ So Uber decided to copy Sidecar and Lyft and allow its drivers to use their personal vehicles too.¹⁹¹

Around the time that Uber shifted to the new business model, it started to raise an unprecedented amount of venture capital. In 2013, Uber raised a \$258 million round that valued the company at \$3.5 billion.¹⁹² By the time it went public in 2019, Uber would raise around \$24 billion from private investors,¹⁹³ and its private valuation would reach \$76 billion.¹⁹⁴ Uber's massive fundraising was all the more remarkable because it was an asset-

181. See ISAAC, *supra* note 26, at 41–50.

182. See *id.* at 58.

183. *Id.*

184. See *id.* at 56–58.

185. See *id.* at 59–60.

186. Michael Arrington, *Huge Vote of Confidence: Uber Raises \$11 Million From Benchmark Capital*, TECHCRUNCH (Feb. 14, 2011), <https://techcrunch.com/2011/02/14/huge-vote-of-confidence-uber-raises-11-million-from-benchmark-capital> [<https://perma.cc/JX7Y-Z9YT>]; Rolfe Winkler & Scott Austin, *Uber's Venture Investors Set for a Windfall*, WALL ST. J. (Apr. 11, 2019), <https://www.wsj.com/articles/ubers-venture-investors-set-for-a-windfall-11555032345> [<https://perma.cc/A74Z-XTQ4>].

187. See ISAAC, *supra* note 26, at 85.

188. See *id.* at 85–86.

189. *Id.* at 86.

190. *Id.* at 86–87.

191. See *id.*

192. See ISAAC, *supra* note 26, at 98–101. The valuations that startups report systematically overestimate their true value. The standard formula is to multiply the price per share that the VCs paid for the most recent round of preferred shares and then multiply it by the total number of shares outstanding. This formula does not account for the special rights preferred shares carry that make them more valuable than common shares. Properly accounting for the rights of different share classes typically results in a lower valuation for the enterprise. See Will Gornall & Ilya A. Strebulaev, *Squaring Venture Capital Valuations with Reality*, 135 J. FIN. ECON. 120, 132–40 (2020) (finding that unicorns—startups with publicly reported valuations over \$1 billion—are usually overvalued).

193. See *Uber: Financials*, *supra* note 26.

194. Mike Isaac, Michael J. de la Merced & Andrew Ross Sorkin, *How the Promise of a \$120 Billion Uber IPO Evaporated*, N.Y. TIMES (May 15, 2019), <https://www.nytimes.com/2019/05/15/technology/uber-ipo-price.html> [<https://perma.cc/B5DK-U2WD>].

light business. Uber did not manufacture a product, nor did it own much real property, and it maintained a modest payroll.

Uber put its cash to use in below-cost pricing. Like all platform companies, Uber needed to solve the chicken-and-egg problem.¹⁹⁵ It needed more drivers to attract riders (by reducing time spent waiting for a ride) and more riders to attract drivers (by reducing time spent driving without a fare-paying rider). Uber solved this problem by subsidizing both sides of the transaction. It paid drivers bonuses for reaching a certain number of rides or days on the network.¹⁹⁶ At the same time, it cut the price that consumers paid for a ride and offered free trips.¹⁹⁷ Mike Isaac, who covered Uber for *The New York Times*, recalled: “People loved how shockingly cheap the (subsidized) rides were.”¹⁹⁸ These subsidies were only possible, he explained, because Uber had raised a “war chest” from its VCs.¹⁹⁹

For a non-predatory platform company, subsidies should be temporary. Once the company attracts a critical mass of users to the platform and overcomes the chicken-and-egg problem, it should raise its prices. The company should survive either by developing a better platform (like Google) or simply by exploiting network effects (like VHS).²⁰⁰ If switching costs are high, the platform is partially insulated from competition. If they are low, the company needs to develop a better platform.

Uber’s fundamental problem was that its platform was not clearly better than its competitors’, *and* its users’ switching costs were low. Many of its drivers and riders multi-homed. Lyft had its own app and some taxi companies developed their own apps too.²⁰¹ Uber riders and drivers could download these other apps and transact with competitors. The only way that Uber could compete was on price. Uber understood this clearly. Bill Gurley, a partner at Benchmark who served on Uber’s board, wrote on his blog in 2014 that Uber’s specific price elasticity—the sensitivity of its users to changes in prices—was “high.”²⁰²

Uber turned to predation. It continued subsidizing its rides well after it had achieved a critical mass of drivers and riders. The strategy crushed the competition. Traditional taxis never stood a chance. In most cities, taxi fares were fixed by regulation.²⁰³ Some cities artificially constrained the supply of taxis by requiring drivers to own or lease one of a fixed number of “medallions” to operate.²⁰⁴ When Uber lowered its fares below taxi levels, riders switched to Uber. Uber’s marketing emphasized its price advantage over taxis. For example, an Uber ad from 2014, which Gurley posted on his blog, read: “We just dropped uberX fares by 25%, making it 50% cheaper than a taxi.”²⁰⁵ Taxis could not compete with

195. See Evans, *supra* note 171, at 7.

196. ISAAC, *supra* note 26, at 89–90.

197. *Id.* at 90.

198. *Id.*

199. *Id.*

200. See Rochet & Tirole, *supra* note 168, at 995.

201. See Katrina M. Wyman, *Taxi Regulation in the Age of Uber*, 20 N.Y.U. J. LEGIS. & PUB. POL’Y 1, 26 (2017).

202. Gurley, *supra* note 1.

203. Wyman, *supra* note 201, at 40.

204. See *id.* at 32.

205. Gurley, *supra* note 1.

these subsidized prices. Leading taxi companies fell into bankruptcy.²⁰⁶ More than a dozen taxi drivers committed suicide.²⁰⁷

Crushing the hapless taxi companies was easy. But Uber faced tougher competition from Lyft. The Achilles' heel of a venture predator is another venture predator. Like Uber, Lyft was not hamstrung by regulations, and it could subsidize fares with venture capital. Uber's executives understood this, so they fought Lyft harder than they fought the taxis. Uber developed a program that tracked the locations of Uber drivers who also drove for Lyft.²⁰⁸ Then Uber had its employees create fake accounts on the Lyft network, so they could learn how much Lyft was paying nearby drivers and outbid them.²⁰⁹ Later, Uber developed another program that could determine when its drivers were driving for Lyft by detecting the sound of notifications from the Lyft app inside their vehicles.²¹⁰ Uber would target those drivers with bonuses.²¹¹

Uber's predation required it to hemorrhage cash. When Uber's financial statements leaked to the press in 2016, they showed heavy losses.²¹² And its 2019 IPO filing was drenched in red ink. Uber's S-1 revealed operating losses of \$644 million in 2014, \$1.3 billion in 2015, \$3 billion in 2016, \$4.1 billion in 2017, and \$3 billion again in 2018.²¹³ But the strategy worked. Uber achieved market dominance. By early 2015, Uber controlled over 90% of the U.S. ridehailing market.²¹⁴

During its rapid growth phase, Uber made a surprising strategic decision for a money-losing business. It started pouring cash into a long-term project to develop autonomous vehicles (AVs).²¹⁵ Kalanick called AVs "existential" for the company.²¹⁶ When asked about this comment later, he explained that he meant Uber needed to innovate or risk being made obsolete by competitors.²¹⁷ But there is a simpler explanation for Kalanick's enthusiasm for AVs: he understood that Uber's existing business model was not profitable. Replacing drivers with software would cut costs and deliver profits. In total, Uber spent over \$2.5 billion on AVs before abandoning the project.²¹⁸

In 2017 and 2018, Uber suffered a series of self-inflicted wounds. A former Uber engineer, Susan Fowler, published a blog post detailing how Uber had mishandled her sexual harassment claim.²¹⁹ Google's AV unit, Waymo, sued Uber, alleging that Uber's

206. See Rodriguez, *supra* note 3; Stech, *supra* note 3.

207. ISAAC, *supra* note 26, at 113.

208. *Id.* at 166.

209. *See id.*

210. *See id.* at 187–88.

211. *Id.* at 188.

212. *See* Efrati, *supra* note 157.

213. *See* Uber Techs., Inc., *supra* note 4, at 88.

214. Rani Molla, *Lyft Has Eaten into Uber's U.S. Market Share, New Data Suggests*, VOX (Dec. 12, 2018), <https://www.vox.com/2018/12/12/18134882/lyft-uber-ride-car-market-share> [<https://perma.cc/RMH8-8MA9>].

215. ISAAC, *supra* note 26, at 180–85 (recounting Uber's early efforts to build AVs).

216. *See* Paayal Zaveri & Jillian D'Onfro, *Travis Kalanick Takes the Stand to Explain Why Uber Wanted to Poach Google Self-Driving Engineer*, CNBC (Feb. 6, 2018), <https://www.cnbc.com/2018/02/06/travis-kalanick-reveals-why-he-wanted-googles-anthony-levandowski.html> [<https://perma.cc/E9QB-TECB>].

217. *See id.*

218. Amir Efrati, *Infighting, 'Busywork,' Missed Warnings: How Uber Wasted \$2.5 Billion on Self-Driving Cars*, INFO. (Sept. 28, 2020), <https://www.theinformation.com/articles/infighting-busywork-missed-warnings-how-uber-wasted-2-5-billion-on-self-driving-cars?rc=wqwyoa> [<https://perma.cc/FK9M-UU8Q>].

219. *See* ISAAC, *supra* note 26, at 213–22.

AV team lead had stolen its intellectual property.²²⁰ And Kalanick was caught on a widely publicized video berating an Uber driver.²²¹ Then, in March 2018, one of Uber's AVs struck and killed a woman walking her bike across a street.²²² The combination of these incidents damaged Uber's brand. Riders switched to Lyft, and Uber's market share eroded.²²³

Nonetheless, Uber pressed onward toward an IPO. Kalanick resigned as CEO in 2017.²²⁴ Dara Khosrowshahi replaced him and pledged to take Uber public.²²⁵ In September 2018, Morgan Stanley and Goldman Sachs were pitching investors on an IPO valued at \$120 billion.²²⁶ Uber filed its S-1 in April 2019.²²⁷ For the first time, the public could see Uber's complete financial statements and learn how much it relied on venture subsidies. The journalist Josh Barro gave the S-1 a close read:

Uber says: "We can choose to use incentives, such as promotions for Drivers and consumers, to attract platform users on both sides of our network, which can result in a negative margin until we reach sufficient scale to reduce incentives."

This means, "We sell our product below cost."

Uber says: "In certain markets, other operators may use incentives to attempt to mitigate the advantages of our more liquid network."

This means, "Our competitors also sell their products below cost."

Uber says: "And we will generally choose to match these incentives, even if it results in a negative margin, to compete effectively and grow our business."

This means, "We regularly get into price wars where we and our competitors vie to see who can lose the most money."

Uber says: "Generally, for a given geographic market, we believe that the operator with the larger network will have a higher margin than the operator with the smaller network."

This means, "At least we don't sell our product as far below cost as our competitors do."

Uber says: "To the extent that competing ridesharing category participants choose to shift their strategy towards shorter-term profitability by reducing their incentives or employing other means of increasing their take rate, we believe that

220. *Id.* at 234.

221. *See id.* at 237–39.

222. Daisuke Wakabayashi, *Self-Driving Uber Car Kills Pedestrian in Arizona, Where Robots Roam*, N.Y. TIMES (Mar. 19, 2018), <https://www.nytimes.com/2018/03/19/technology/uber-driverless-fatality.html> [<https://perma.cc/8VK5-ABXP>].

223. *See* Molla, *supra* note 214.

224. *See* ISAAC, *supra* note 26, at 304–05.

225. *See* Anita Balakrishnan, *The Entire Uber Board Now Wants an IPO, CEO Says: 'The Numbers Support It'*, CNBC (Nov. 9, 2017), <https://www.cnbc.com/2017/11/09/uber-ceo-dara-khosrowshahi-speaks-at-nytimes-dealbook-conference-2017.html> [<https://perma.cc/49FK-44W5>].

226. Isaac, de la Merced & Sorkin, *supra* note 194.

227. *See* Uber Techs., Inc., *supra* note 4, at 88.

we would not be required to invest as heavily in incentives given the impact of price and Driver earnings on consumer and Driver behavior, respectively.”

*This means, “We hope our competitors will eventually stop selling their products below cost.”*²²⁸

In May 2019, Uber went public at a much reduced valuation of \$82.4 billion.²²⁹ By the close of the first day of trading, its market cap had fallen further to \$69.7 billion.²³⁰ That price represented a significant cut from its last private valuation of \$76 billion and a massive cut from its initial target IPO price of \$120 billion.²³¹

The market’s reaction to Uber’s IPO suggests that many investors were skeptical that its business model was sustainable. But, at the same time, it is also possible to see why some investors believed that Uber had a path to profitability and recoupment. The taxi companies were struggling or bankrupt. Lyft had gone public less than two months earlier and closed its first day of trading at a market cap of \$26 billion.²³² Like Uber, Lyft was burning cash quickly. In its S-1, Lyft reported a loss from operations of \$978 million in its last fiscal year before the IPO.²³³ Lyft looked well-positioned to join Uber in a disciplined oligopoly that raised prices to supracompetitive levels. Uber’s investors may not have been crazy to hope, as Barro put it, that its competitors would eventually stop selling their products below cost.

The *impression* that Uber might eventually recoup its losses was all that Uber needed to achieve to enrich its early-stage VCs. From their perspective, Uber’s lackluster IPO was a smashing success. Consider Benchmark, which invested \$9 million in Uber’s Series A.²³⁴ In 2018, Benchmark sold \$900 million of its shares in a secondary sale.²³⁵ After the IPO, Benchmark’s return totaled about \$5.8 billion.²³⁶ Uber’s predation also worked out well for Kalanick. Around the same time as Benchmark, Kalanick sold \$1.4 billion of his shares

228. Josh Barro, *Uber’s Plan to Lose Money on Each Transaction and Make It Up in Volume*, Annotated, N.Y. MAG. (Apr. 26, 2019), <https://nymag.com/intelligencer/2019/04/ubers-plan-to-lose-money-on-each-ride-make-it-up-in-volume.html> [<https://perma.cc/V9L2-FVHT>] (italics in the original).

229. Michael J. de la Merced & Kate Conger, *Uber I.P.O. Values Ride-Hailing Giant at \$82.4 Billion*, N.Y. TIMES (May 9, 2019), <https://www.nytimes.com/2019/05/09/technology/uber-ipo-stock-price.html> [<https://perma.cc/9A9B-2XXQ>].

230. Lauren Feiner, *Uber Ends Its First Day of Trading Down More Than 7%*, CNBC (May 10, 2019), <https://www.cnbc.com/2019/05/10/uber-ipo-stock-starts-trading-on-the-new-york-stock-exchange.html> [<https://perma.cc/P9JW-Q2Y9>].

231. *See id.*

232. Kate Conger & Michael J. de la Merced, *Lyft’s Shares Jump in Trading Debut, Cementing Rise of the Gig Economy*, N.Y. TIMES (Mar. 29, 2019), <https://www.nytimes.com/2019/03/29/technology/lyft-stock-price.html> [<https://perma.cc/V4TU-32YN>].

233. Lyft, Inc., Registration Statement (Form S-1) 74 (Mar. 1, 2019).

234. Winkler & Austin, *supra* note 186.

235. Theodore Schleifer, *Benchmark Is Selling \$900 Million of Its Holdings in Uber*, VOX (Jan. 5, 2018), <https://www.vox.com/2018/1/5/16853106/benchmark-900-million-uber-tender> [<https://perma.cc/9PDM-6Z3M>].

236. Jin, *supra* note 32.

in a secondary sale.²³⁷ Despite that sale, Kalanick still owned 8.6% of Uber at the time of the IPO.²³⁸ His remaining shares were worth \$5.3 billion at the IPO price.²³⁹

Uber and Lyft are now a stable duopoly, with Uber controlling about 76% of the national market and Lyft controlling 24%.²⁴⁰ In many cities, Uber and Lyft have all but displaced traditional taxi companies. For example, in 2017, Uber and Lyft provided 15% of intra-city vehicle trips in San Francisco.²⁴¹ Taxi companies provided 1%.²⁴² In New York City, ridehailing trips surpassed yellow taxi trips in December 2016.²⁴³ By March 2019, ridehailing trips outnumbered taxi trips three-to-one.²⁴⁴

In the last few years, Uber has steadily raised its prices. From January 2018 to July 2021, the price of a ride on Uber and Lyft rose by 92%.²⁴⁵ The markets are pushing Uber to become profitable, and it is clear that Uber cannot reach that goal by charging the prices it did in the last decade. Uber has also started to change its approach to competition. In 2022, Uber reached a deal with certain taxi companies in New York City, which lets riders hail their taxis on the Uber app.²⁴⁶ Uber's willingness to cut deals with taxi companies suggests that it no longer hopes to compete on price. It is still not clear whether Uber will be able to recoup its losses. But from the perspective of Benchmark and Kalanick, *it does not matter*.

2. Other Theories for Uber's Success

No other explanation for Uber's success withstands close scrutiny. The taxi industry in the early 2010s did not appear to be a promising market to enter. A taxi company's main costs are driver pay, fuel, new vehicles, vehicle maintenance, insurance, and dispatching.²⁴⁷ The company has little ability to control those costs. Other than dispatching, each cost center involves transactions with third-party suppliers. And, other than dispatching, technology cannot reduce those costs much either—at least until AVs are deployed.

Uber's business model differs from the traditional taxi model in three ways. First, Uber riders request rides by using the Uber app rather than by hailing a taxi in the street or

237. Jillian D'Onfro & Deirdre Bosa, *Former Uber CEO Kalanick Plans to Sell \$1.4 Billion Worth of Shares*, CNBC (Jan. 5, 2018), <https://www.cnbc.com/2018/01/04/uber-travis-kalanick-reportedly-selling-1-point-4-billion-worth-of-shares.html> [<https://perma.cc/NE8K-49YC>].

238. Levi Sumagaysay, *How Travis Kalanick, Other Investors Fared in Uber IPO*, MERCURY NEWS (May 10, 2019), <https://www.mercurynews.com/2019/05/10/how-travis-kalanick-other-investors-fared-in-uber-ipo> [<https://perma.cc/5N7V-UC5H>].

239. *Id.*

240. Janine Perri, *Uber vs. Lyft: Who's Tops in the Battle of U.S. Rideshare Companies*, BLOOMBERG SECOND MEASURE (June 15, 2023), <https://secondmeasure.com/datapoints/rideshare-industry-overview> [<https://perma.cc/2MSQ-HKBP>].

241. S.F. CNTY. TRANS. AUTH., *supra* note 27, at 8.

242. *Id.*

243. *See* Schneider, *supra* note 2.

244. *See id.*

245. Evans, *supra* note 5.

246. Winnie Hu, Kellen Browning & Karen Zraick, *Uber Partners with Yellow Taxi Companies in N.Y.C.*, N.Y. TIMES (Mar. 29, 2022), <https://www.nytimes.com/2022/03/24/business/uber-new-york-taxis.html> [<https://perma.cc/M64S-3ZC6>].

247. Hubert Horan, *Will the Growth of Uber Increase Economic Welfare?*, 44 TRANSP. L.J. 33, 44 (2017).

calling a dispatcher. Second, Uber does not comply with some regulations that apply to traditional taxi companies. Third, Uber shifts the cost of owning and maintaining vehicles from the taxi company to the driver. All of the differences in Uber's business model are replicable. None of them give Uber a sustainable efficiency advantage, a "moat" that traditional taxi companies or ridehailing startups would struggle to cross.

Uber's app improved on telephone dispatching by eliminating the labor cost of a human dispatcher. It also made it easier for consumers to request a ride without a phone call or a street hail.²⁴⁸ But Uber's app cannot explain its dominance because both its ridehailing competitors and traditional taxi companies quickly developed similar apps.²⁴⁹ The app was not valuable intellectual property. Other industries, like the airline industry, have switched to internet-based reservation systems without any change in market structure.²⁵⁰

Uber's notorious disregard of taxi regulations did not give it a sustainable efficiency advantage either. Uber pioneered a strategy of "regulatory entrepreneurship"—reforming taxi regulations by not complying and daring regulators to enforce them.²⁵¹ The strategy largely worked. In some jurisdictions, legislators enacted a new set of rules that apply to "transportation network companies" (TNCs) like Uber and Lyft.²⁵² In others, regulators adapted existing rules to accommodate ridehailing.²⁵³ Regulators enforced the rules and chased Uber out of the market in only a small number of jurisdictions, mostly outside the United States.²⁵⁴

Uber's regulatory entrepreneurship may have been socially valuable—its campaign effectively ended the cartel-like medallion system, which had artificially inflated taxi fares. It is worth asking whether the system could have been reformed without upending the lives of law-abiding taxi drivers. But our point here is just that Uber's success in changing regulations did not give it a sustainable efficiency advantage. Uber did not create an equilibrium with one rule for Uber and another rule for competitors. Any company competing with Uber can play by the new rules. Smart taxi companies should call themselves TNCs. In fact, Uber's regulatory entrepreneurship was not even designed to build a competitive moat. Uber's goal was speed. It did not want to comply with certain regulations—like fingerprint background checks—because they would have slowed the pace at which drivers joined its network.²⁵⁵

The structure of Uber's relationship with its drivers does not increase efficiency either. Uber's classification of its drivers as independent contractors is not new. Taxi drivers have long been independent contractors of taxi companies.²⁵⁶ The difference between Uber's relationship with its drivers and the taxi companies' relationship with theirs is that taxi

248. *See id.* at 49 (arguing that, although Uber's app "reduces labor costs, these savings appear to be more than offset by much higher development and other overhead costs").

249. Wyman, *supra* note 201, at 26.

250. Horan, *supra* note 247, at 55.

251. *See generally* Elizabeth Pollman & Jordan M. Barry, *Regulatory Entrepreneurship*, 90 S. CAL. L. REV. 383 (2017) (introducing the concept of regulatory entrepreneurship and offering Uber as an example).

252. *See* Wyman, *supra* note 201, at 17.

253. *See id.* at 17–18.

254. *See id.* at 16.

255. *See* ISAAC, *supra* note 26, at 114–15.

256. *See* Horan, *supra* note 247, at 38–39.

companies generally own the vehicles, maintain them, and pay for insurance.²⁵⁷ Uber drivers own their vehicles and pay for maintenance and (part of) insurance.²⁵⁸ Uber's model is likely *less* efficient than the taxi model.²⁵⁹ Taxi companies may benefit from economies of scale in the form of volume discounts from dealers, repair shops, and insurers.²⁶⁰ Individual Uber drivers have less leverage.

Uber may have gained a transitory efficiency advantage by exploiting drivers' cognitive biases. In theory, drivers should account for the cost of vehicle ownership, maintenance, and insurance when they compare their net income from Uber and traditional taxi companies. Some Uber drivers may ignore these costs or underestimate their risk of a collision and the ensuing increase in maintenance and insurance costs.²⁶¹ But eventually Uber will need to pay its drivers more to account for their ownership, maintenance, and insurance expenses. If exploiting their cognitive biases were profitable, competitors could attempt it too.

None of these elements of Uber's business model protected it from competition. Uber acquired its market share through heavy subsidies. As Uber draws down its driver and rider subsidies, it will be vulnerable to competition. Switching costs may be low enough for the network to unravel. It is unclear if Uber will ever recoup the costs of predation. What is clear, though, is that Benchmark's \$5.8 billion return validated a model for other venture predators to follow.

D. WeWork

WeWork is a commercial real estate company.²⁶² Its business model is simple. WeWork buys or takes out long-term leases on office space.²⁶³ It outfits the space with furniture, office supplies, snacks, and beer.²⁶⁴ Then it sells "memberships" that give members—typically startups or freelancers—the right to use the space on a short-term basis.²⁶⁵ WeWork's business model is risky because of the mismatch in duration between the long-term leases it signs with property owners and the short-term agreements it signs

257. *See id.* at 46.

258. *See id.*

259. *See* Izabella Kaminska, *Scaling, and Why Unicorns Can't Survive Without It*, FIN. TIMES (Jan. 15, 2016), <https://www.ft.com/content/948535b3-48df-3aff-b4cb-d8dad5d7dbd0> [https://perma.cc/CAF6-233J] (“Outsourcing to individual contractors . . . means that on an aggregate basis efficiency is lost. For example, rather than having the bulk purchase bargaining power of a major corporate, Uber drivers must negotiate everything from car lease contracts, insurance, fuel prices and cleaning services individually.”).

260. *See* Horan, *supra* note 247, at 50–51.

261. *See id.* at 47–48.

262. For an account of WeWork as an example of risky “adolescent” late-stage startups, see Donald Langevoort & Hillary A. Sale, *Corporate Adolescence: Why Did “We” Not Work?*, 99 TEX. L. REV. 1347, 1350–57 (2021).

263. *See* Alex Konrad, *Inside the Phenomenal Rise of WeWork*, FORBES (Nov. 5, 2014), <https://www.forbes.com/sites/alexkonrad/2014/11/05/the-rise-of-wework> [https://perma.cc/BM9Z-DWLZ] (describing WeWork's business model).

264. *See* Matt Weinberger, *Here's What It's Like to Work in a WeWork Building, the \$16 Billion Company that Simulates Startup Life*, BUS. INSIDER (July 20, 2016), <https://www.businessinsider.com/working-in-a-wework-2016-7> [https://perma.cc/QP94-DJA7] (walking the reader through the inside of a WeWork co-working space).

265. *See* Konrad, *supra* note 263.

with its members.²⁶⁶ In a downturn, WeWork bears the risk that not enough members will be willing to renew their short-term agreements at a price high enough to cover the rent it owes on its long-term leases.²⁶⁷

WeWork's business is also vulnerable to competition. There are no barriers to entry into its market. Anyone can rent space in an office building, add some espresso machines and foosball tables, and call it a co-working site. WeWork also does not benefit much from economies of scale—it has high variable costs.²⁶⁸ Only so many members per square foot can fit in each of its sites. To add more members, it needs to rent more space. WeWork does not gain much from network effects either. As the *Harvard Business Review* put it, “it’s hard to see how someone joining WeWork in, say, Indonesia creates value for an existing member in Texas.”²⁶⁹ Switching costs are low too. Because members sign short-term agreements, they are free to leave when they find cheaper office space nearby. For these reasons, one would expect that co-working would be a low-margin, fragmented, and competitive industry.

Yet over the last decade, WeWork grew to dominate the co-working industry. By 2019, it had reached a private valuation of \$47 billion.²⁷⁰ How did WeWork crush its competition? The official story is suspicious. WeWork styled itself as a technology company. In its Form S-1, WeWork attributed its low prices to the “approximately 1,000 engineers, product designers and machine learning scientists that are dedicated to building, integrating and automating the complex systems we use to operate our business.”²⁷¹ The word “technology” appeared 110 times in that document.²⁷² WeWork founder Adam Neumann once claimed that he and his co-founder would “interview every new employee to make sure they [did not] see WeWork as just another real estate play.”²⁷³ But despite these protestations, there is no magic technology that makes providing commercial real estate more efficient. WeWork is just another real estate play.

As with Uber, the real explanation for WeWork's dominance is venture predation. In 2012, WeWork raised a \$17.5 million Series A, led by Benchmark, the same firm that led Uber's Series A.²⁷⁴ Benchmark had never invested in real estate before.²⁷⁵ Bruce Dunlevie, the Benchmark director on WeWork's board, “admitted to a partner that he wasn't certain

266. See Vijay Govindarajan & Anup Srivastava, *No, WeWork Isn't a Tech Company. Here's Why That Matters*, HARV. BUS. REV. (Aug. 21, 2019), <https://hbr.org/2019/08/no-wework-isnt-a-tech-company-heres-why-that-matters> [<https://perma.cc/7YTR-8UYQ>].

267. When a journalist asked Neumann how WeWork would survive a recession or cheaper competition, he replied that “WeWork has millions in equity and operating cash flow that can help it weather a down cycle.” Konrad, *supra* note 263.

268. Govindarajan & Srivastava, *supra* note 266.

269. *Id.*

270. Sophia Kunthara, *WeWork May Reduce Its Valuation Ahead of IPO by Tens of Billions*, CRUNCHBASE NEWS (Sept. 5, 2019), <https://news.crunchbase.com/news/wework-may-reduce-its-valuation-ahead-of-ipo-by-tens-of-billions> [<https://perma.cc/XNN7-NFPB>].

271. The We Co., Registration Statement (Form S-1) 3 (Aug. 14, 2019).

272. Govindarajan & Srivastava, *supra* note 266.

273. Konrad, *supra* note 263.

274. See Maureen Farrell & Eliot Brown, *The Money Men Who Enabled Adam Neumann and the WeWork Debacle*, WALL ST. J. (Dec. 14, 2019), <https://www.wsj.com/articles/the-money-men-who-enabled-adam-neumann-and-the-wework-debacle-11576299616> [<https://perma.cc/9GVM-NXJ8>].

275. Konrad, *supra* note 263.

how WeWork would ever become profitable.”²⁷⁶ But he was “taken” with WeWork’s founder, Adam Neumann, so he “said to the partner, ‘Let’s give [Neumann] some money, and he’ll figure it out.’”²⁷⁷ And Benchmark was just the first investor. By 2019, WeWork would raise over \$12 billion.²⁷⁸

WeWork spent much of that \$12 billion on predatory pricing.²⁷⁹ The company followed a blueprint: it would enter a city, open new co-working sites next to its competitors’ existing sites, lower prices to levels the competitors could not match, and then drive them out of business. Jeremy Neuner, the founder of the coworking company NextSpace, saw this plan in action. He claims that “WeWork opened competing offices alongside each one of [NextSpace’s] facilities, never more than a few blocks away. Invariably, WeWork charged tenants slightly less.”²⁸⁰

WeWork used its below-cost pricing to lure away its rivals’ clients. In some cases, “WeWork promised tenants a moving bonus if they terminated an existing lease; in other instances, the company obtained client directories from competitors’ Web sites and offered everyone on the lists three months of free rent.”²⁸¹ The founder of another coworking company, Downtown Works, said that WeWork mistakenly sent him an email intended for one of his clients, with the subject line: “A Year of Office Space, On Us.”²⁸² In the email, WeWork offered a 12-month membership agreement for free with a 24-month commitment and added, “if you’re in a contract, we’ll help you get out of the contract.”²⁸³

WeWork’s predation campaign succeeded in crushing its competition. The owner of a third WeWork rival, Blankspaces, recalled: “My average rate was five hundred and fifty dollars per desk per month, and I was just scraping by. Then WeWork arrived, and I had to drop it to four hundred and fifty, and then three hundred and fifty. It eviscerated my business.”²⁸⁴ The founder of a fourth rival, Covo, recounted a similar experience: “*No one* could make money at these prices. But [WeWork] kept lowering them so that they were cheaper than everyone else. It was like they had a bottomless bank account that made it impossible for anyone else to survive.”²⁸⁵

Of course, if WeWork had underpriced its rivals by cutting costs, these complaints would be sour grapes. There is nothing illegal about aggressively pursuing a competitor’s clients. But WeWork never developed an efficiency advantage. It could undercut its rivals only because it had billions in venture capital, and they did not. Neuner, the NextSpace

276. Charles Duhigg, *How Venture Capitalists Are Deforming Capitalism*, NEW YORKER (Nov. 23, 2020), <https://www.newyorker.com/magazine/2020/11/30/how-venture-capitalists-are-deforming-capitalism> [<https://perma.cc/97PK-UH7M>].

277. *Id.*

278. Kunthara, *supra* note 270.

279. WeWork also squandered some of the money on lavish perks (a sauna, a fitness club, and a private jet) and buying unrelated businesses (company-focused event-planning, search engine optimization, and coding education). See Farrell & Brown, *supra* note 274.

280. Duhigg, *supra* note 276.

281. *Id.*

282. Shona Ghosh, *Rivals Say WeWork Uses ‘Aggressive’ Tactics Like Snooping on Their Operations and Poaching Tenants*, BUS. INSIDER (Nov. 24, 2017), <https://www.businessinsider.com/wework-aggressive-uber-coworking-startup-2017-10> [<https://perma.cc/Q6DY-QHB6>].

283. *Id.*

284. Duhigg, *supra* note 276.

285. *Id.* (emphasis in original).

founder, sought investment from VCs, but he said they asked him: “How do you compete with WeWork? Why should we invest with you instead of them?”²⁸⁶ This is financial market predation combined with reputation-effect predation. NextSpace could not raise capital to fight back against WeWork because the VCs knew that WeWork would bleed them to death.

WeWork’s predation fueled breakneck growth. By 2019, WeWork had expanded to 528 locations in 111 cities.²⁸⁷ Investment banks pitched IPO valuations ranging as high as \$104 billion.²⁸⁸ But after WeWork filed its S-1, the company started to unravel. Its financial statements revealed heavy losses. WeWork had lost \$396 million in 2016, \$932 million in 2017, and \$1.69 billion in 2018.²⁸⁹ Other red flags emerged too, including many dubious related-party transactions.²⁹⁰ Investors realized that, stripped of its high-tech branding, WeWork was a commercial real estate company that lost a lot of money.

WeWork aborted its IPO.²⁹¹ Neumann was forced to resign as CEO.²⁹² In 2021, WeWork went public via a special purpose acquisition company (SPAC).²⁹³ It closed its first day of trading with a market capitalization of \$9.5 billion, a fraction of its former value.²⁹⁴ WeWork’s market value has since fallen below \$2 billion, and it is still losing money.²⁹⁵

WeWork’s venture predation had different results for different investors. For late-stage investors, like the notorious growth fund SoftBank, WeWork was a disaster. SoftBank invested or loaned WeWork over \$20 billion and lost most of it.²⁹⁶ SoftBank’s founder Masayoshi Son later said he regretted the investment and blamed his own bad judgment.²⁹⁷

286. *Id.*

287. The We Co., *supra* note 271, at 1.

288. Eric Platt et al., *WeWork Turmoil Puts Spotlight on JPMorgan Chase and Goldman Sachs*, FIN. TIMES (Sept. 24, 2019), <https://www.ft.com/content/272d408e-de40-11e9-b112-9624ec9ede59> [<https://perma.cc/U97H-ZXFQ>].

289. The We Co., *supra* note 271, at 63.

290. See Farrell & Brown, *supra* note 274.

291. Maureen Farrell, *WeWork Parent Postpones IPO*, WALL ST. J., (Sept. 17, 2019), <https://www.wsj.com/articles/wework-parent-expected-to-postpone-ipo-11568671322> [<https://perma.cc/7YJ8-8BGQ>].

292. David Gelles et al., *WeWork C.E.O. Adam Neumann Steps Down Under Pressure*, N.Y. TIMES (Sept. 24, 2019), <https://www.nytimes.com/2019/09/24/business/dealbook/wework-ceo-adam-neumann.html> [<https://perma.cc/CB58-FPPV>].

293. Peter Eavis, *WeWork Stock Starts Trading, Two Years After an Aborted I.P.O.*, N.Y. TIMES (Oct. 21, 2021), <https://www.nytimes.com/2021/10/21/business/wework-trading-debut.html> [<https://perma.cc/FZ3Z-K7ZJ>].

294. *Id.*

295. Peter Eavis, *WeWork Will Close About 40 Locations as Losses Narrow*, N.Y. TIMES (Nov. 10, 2022), <https://www.nytimes.com/2022/11/10/business/wework-quarterly-earnings.html> [<https://perma.cc/R44Y-LKJH>].

296. Phred Dvorak & Megumi Fujikawa, *SoftBank Founder Calls His Judgment ‘Really Bad’ After \$4.7 Billion WeWork Hit*, WALL ST. J. (Nov. 6, 2019), <https://www.wsj.com/articles/softbank-books-loss-of-4-7-billion-on-wework-investment-11573024776> [<https://perma.cc/CER4-4R8E>].

297. *Id.*

For its early-stage VCs, though, WeWork was a success. Benchmark reportedly cashed out \$315.5 million in secondary sales in 2017 and 2019.²⁹⁸ Its secondary sales alone—not to mention any money it recovered after the failed IPO—generated a 15x home run.²⁹⁹

For Neumann, whose misbehavior contributed to the company's fall, the reward was even sweeter. Neumann cashed out \$700 million from WeWork in secondary sales and debt transactions before the failed IPO.³⁰⁰ In 2021, he agreed to a settlement with SoftBank that gave him hundreds of millions more.³⁰¹ WeWork showed that Uber was no fluke. Venture predation can work if you cash out at the right time.

E. Bird

Bird is an electric scooter rental company. When Bird enters a new city, it places its scooters on well-traveled sidewalks.³⁰² Bird's app lets a rider find a nearby scooter and unlock it.³⁰³ When the rider reaches their destination, they drop off the scooter on the sidewalk again and use the app to lock it. Bird pays independent contractors, called "chargers," to retrieve and plug in the scooters at night.³⁰⁴ When Bird started out, it did not manufacture or design its own scooters. Instead, it bought them from Chinese electronics companies and wrapped them with its branding.³⁰⁵

The strength of Bird's business model is that it benefits from economies of scale. One important metric for a business that provides services with physical assets is its utilization rate—the percentage of time during an asset's useful life that it is generating revenue. For example, an airline's utilization rate is higher when its planes are carrying revenue-generating passengers, rather than sitting on a tarmac. An increase in scale lets a company like Bird provide a better service without sacrificing its utilization rate. When more

298. Mary Ann Azevedo, *Report: Adam Neumann, Benchmark Unloaded \$676.5M in WeWork Shares Before Failed IPO*, CRUNCHBASE NEWS (Apr. 13, 2020), <https://news.crunchbase.com/startups/report-adam-neumann-benchmark-unloaded-676-5m-in-wework-shares-before-failed-ipo> [<https://perma.cc/VJ8Y-NA9H>].

299. MALLABY, *supra* note 22, at 349.

300. Eliot Brown, Maureen Farrell & Anupreeta Das, *WeWork Co-Founder Has Cashed Out at Least \$700 Million Via Sales, Loans*, WALL ST. J. (July 18, 2019), <https://www.wsj.com/articles/wework-co-founder-has-cashed-out-at-least-700-million-from-the-company-11563481395> [<https://perma.cc/M4LR-UAKH>].

301. Eliot Brown & Maureen Farrell, *Former WeWork Chief's Gargantuan Exit Package Gets New Sweetener*, WALL ST. J. (May 27, 2021), <https://www.wsj.com/articles/former-wework-chiefs-gargantuan-exit-package-gets-new-sweetener-11622115000> [<https://perma.cc/3JGQ-UXZH>] (reporting that in the settlement with SoftBank, Neumann received \$200 million in cash, the right to refinance \$432 million in debt on favorable terms, and \$578 million for stock from a company he controlled).

302. See Will Yakowicz, *14 Months, 120 Cities, \$2 Billion: There's Never Been a Company Like Bird. Is the World Ready?*, INC. (Feb. 2019), <https://www.inc.com/magazine/201902/will-yakowicz/bird-electric-scooter-travis-vanderzanden-2018-company-of-the-year.html> [<https://perma.cc/5HVD-FQTZ>].

303. See Kevin Roose, *How I Learned to Stop Worrying and Love Electric Scooters*, N.Y. TIMES (June 6, 2018), <https://www.nytimes.com/2018/06/06/technology/how-i-learned-to-stop-worrying-and-love-electric-scooters.html> [<https://perma.cc/ZZY4-UKHP>] (describing the experience of using a Bird scooter).

304. See Nellie Bowles & David Streitfeld, *Electric Scooters Are Causing Havoc. This Man Is Shrugging It Off*, N.Y. TIMES (Apr. 20, 2018), <https://www.nytimes.com/2018/04/20/technology/electric-scooters-are-causing-havoc-this-man-is-shrugging-it-off.html> [<https://perma.cc/H9HC-885E>].

305. Sam Dean & Jon Schleuss, *Can Bird Build a Better Scooter Before It Runs Out of Cash?*, L.A. TIMES (May 5, 2019), <https://www.latimes.com/business/technology/la-fi-tn-bird-scooters-money-profit-strategy-20190505-story.html> [<https://perma.cc/8569-GJWF>].

customers in a city ride its scooters, Bird can make more scooters available at more locations in the city while maintaining the same utilization rate. When Bird serves more locations, it increases the chance that a scooter will be nearby when a rider opens its app. The economies of scale of scooter rentals are not as strong as the network effects of ridehailing,³⁰⁶ but they still make scaling rapidly attractive.

The main weakness of Bird's business model, like Uber's and WeWork's, is that it is highly vulnerable to competition.³⁰⁷ Switching costs are low. Riders pay by the trip, so they can easily change brands if another company's scooters are closer or cheaper. The barriers to entry are also low. At the time Bird was founded in 2017, any startup could cheaply buy scooters from the same Chinese suppliers or even build its own.³⁰⁸ Electric scooters were not technological marvels.

Bird was founded by Travis VanderZanden, a man who knew the venture predation playbook well. He had been the COO of Lyft and VP of Growth at Uber.³⁰⁹ In September 2017, Bird placed its first scooters on the streets of Santa Monica.³¹⁰ Then it started expanding rapidly. In February 2018, Bird raised a \$15 million Series A.³¹¹ The next month, it raised another \$100 million.³¹² In May, it raised a \$150 million Series B led by the blue-chip VC firm Sequoia.³¹³ The round valued Bird at \$1 billion, which made it the fastest company to reach that valuation in history.³¹⁴ Just one month later, Bird raised a \$300 million Series C at \$2 billion, adding another leading VC firm, Accel, to its list of investors.³¹⁵ Only fourteen months after its founding, Bird had expanded to 120 cities.³¹⁶

How did Bird grow at such an unprecedented rate in 2018? By this point, you can guess the answer: venture predation. Bird introduced a new twist to predatory pricing. Bird's prices themselves were quite low. At one point, riders were charged \$1 to unlock the scooter and then 10-15¢ per minute of use.³¹⁷ But Bird's main innovation was using

306. See Ben Thompson, *The Scooter Economy*, STRATECHERY (June 11, 2018), <https://stratechery.com/2018/the-scooter-economy> [<https://perma.cc/3TPQ-EWYM>] (contrasting the network effects in the ridehailing market with the scooter rental market).

307. See *id.* (discussing the absence of competitive moats in the scooter rental market).

308. Bird claimed it had agreed to exclusive partnerships with Xiaomi and Ninebot, but around the same time at least one of those suppliers was still filling orders for Bird's competitors. See Jonathan Shieber, *Update: Bird Buys More Scooters*, TECHCRUNCH (May 11, 2018), <https://techcrunch.com/2018/05/11/in-a-bid-to-corner-supply-bird-locks-in-exclusive-deals-with-the-biggest-scooter-vendors> [<https://perma.cc/WU4G-4MSV>].

309. Yakowicz, *supra* note 302.

310. *Id.*

311. Connie Loizos, *This Former Uber (and Lyft) Exec Just Raised \$15 Million for His Controversial E-Scooter Startup: Bird*, TECHCRUNCH (Feb. 13, 2018) <https://techcrunch.com/2018/02/13/this-former-uber-and-lyft-exec-just-raised-15-million-for-his-controversial-e-scooter-startup-bird> [<https://perma.cc/63R8-BE22>].

312. Jonathan Shieber, *Bird Is Raising \$100 Million to Become the Uber of Electric Scooters*, TECHCRUNCH (Mar. 9, 2018), <https://techcrunch.com/2018/03/09/bird-is-raising-100-million-to-become-the-uber-of-electric-scooters> [<https://perma.cc/TQA4-UHKP>].

313. Olivia Zaleski & Eric Newcomer, *Sequoia Said to Value Scooter Company Bird at \$1 Billion*, BLOOMBERG (May 29, 2018), <https://www.bloomberg.com/news/articles/2018-05-29/sequoia-said-to-value-scooter-company-bird-at-1-billion> [<https://perma.cc/B3QU-C6FD>].

314. *Id.*

315. Nellie Bowles, *Bird, the Electric Scooter Start-Up, Is Said to Draw an Investment Frenzy*, N.Y. TIMES (June 12, 2018), <https://www.nytimes.com/2018/06/12/technology/bird-electric-scooter-investment.html> [<https://perma.cc/KX9A-LA5V>].

316. Yakowicz, *supra* note 302.

317. See Bowles & Streitfeld, *supra* note 304.

venture capital to flood the market with inventory. When Bird entered a new city, it would fill the sidewalks with its scooters to increase the chance that a prospective customer would find one nearby.³¹⁸

Bird's flood-the-market strategy was costly. The excess scooters that Bird left on the street were vulnerable to damage and theft. The company's own numbers showed that it lost about a quarter of the revenue from each ride to depreciation.³¹⁹ In fact, Bird's financial statements had to account separately for "accelerated depreciation"—scooters it had to write off because they were stolen.³²⁰ But as a venture predator, Bird could afford to trade off unit economics for growth. One of Bird's investors brazenly explained its predation plan to the *Los Angeles Times*: "There are very few unique companies for which you can build global scale really quickly and build a dominant market position before other people do, and for those rarefied companies scaling quickly matters more than short-term profits . . . [Bird] is one of those rarefied companies and markets."³²¹

Bird's flood-the-market strategy also had a non-financial cost. It infuriated local authorities, who did not appreciate the public sidewalks being used as unauthorized docking stations for Bird's scooters.³²² Some of these authorities fought back. Santa Monica charged Bird with a misdemeanor for operating without a license, and San Francisco sent the company a cease-and-desist letter.³²³ But Bird, like Uber, treated regulatory penalties as a cost of doing business. It understood that the cluttered sidewalks were a necessary byproduct of its rapid growth.

Bird's strategy might have succeeded, but like Uber, it encountered another venture predator. In February 2018, the bike rental company Lime deployed its own network of electric scooters.³²⁴ Lime was backed by the VC firm Andreessen Horowitz, and it had the cash to price below cost too.³²⁵ In fact, Lime initially priced its scooters even lower than Bird had—\$1 to unlock plus 10¢ for every ten minutes.³²⁶ Even worse, Lime was not Bird's only venture-backed competitor. Other startups named Scoot, Skip, and Spin had entered the market.³²⁷

318. *See id.* ("[C]ities have been shocked to discover that thousands of electric scooters have been dropped onto their sidewalks seemingly overnight."); *see also* Roose, *supra* note 303 (reporting that, on a trip to Santa Monica in 2018, Roose encountered more than 100 scooters "within a few blocks" of his hotel).

319. Amir Efrati & Cory Weinberg, *Hit by Big Loss, Bird Seeks \$300 Million in New Funds*, INFO. (July 11, 2019), <https://www.theinformation.com/articles/hit-by-big-loss-bird-seeks-300m-in-new-funds> [<https://perma.cc/WAK2-WDG5>].

320. *See id.*

321. Dean & Schleuss, *supra* note 305.

322. *See* Bowles & Streitfeld, *supra* note 304 (describing city officials' reaction to the rollout of Bird's scooter rental service).

323. *Id.*

324. Megan Rose Dickey, *LimeBike Is Also Getting into the E-Scooter Game*, TECHCRUNCH (Feb. 12, 2018), <https://techcrunch.com/2018/02/12/limebike-is-also-getting-into-the-e-scooter-game> [<https://perma.cc/49UN-EFMZ>]. LimeBike later changed its name to Lime.

325. *Id.*

326. *Id.*

327. *See* Yakowicz, *supra* note 302 (listing capital raised by Scoot, Skip, and Spin).

Uber and Lyft got into the scooter rental business too. Uber acquired the bike rental startup Jump and deployed its scooters.³²⁸ Lyft launched a scooter rental network of its own.³²⁹ One might have guessed that Bird would view Uber and Lyft as its main competitors. Yet interestingly, Bird did not see them as major threats. In a fundraising pitch deck leaked to the press, Bird argued that, because Uber and Lyft were “preparing for IPO,” they “won’t subsidize prices.”³³⁰ In other words, Uber and Lyft were no longer venture predators. The IPO process had defanged them.

Nevertheless, it soon became clear that Bird’s predation campaign had failed. When Bird raised another round of venture funding from Sequoia in June 2019, its valuation was only \$2.5 billion, reflecting less than 10% growth from a round it had raised the year before.³³¹ VanderZanden recognized that Bird needed to shift its strategy away from predation. He said at a tech conference: “2018 was about scaling. 2019 is about really focusing on the unit economics of the business.”³³²

Bird changed its strategy in three ways. First, it raised its prices, more than doubling its per minute use charge to 39¢.³³³ Second, it started to develop its own scooters in-house.³³⁴ VanderZanden admitted that “the unit economics didn’t work” on the Chinese scooters, but expressed confidence that the Bird-developed scooters would prove more durable.³³⁵ Third, it switched to a new business model, in which it would farm out the charging, deployment, storing, and repair of its scooters to third-party fleet managers.³³⁶

None of these changes delivered the growth that Bird had achieved during its predation campaign. Bird eventually went public via a SPAC in 2021 at a valuation of \$2.3 billion.³³⁷ Its financial statements showed losses of \$212 million in 2018, \$136 million in 2019, and \$24 million in 2020.³³⁸ Its unit economics were miserable. According to its own books, Bird incurred a net loss of \$9.66 for every \$10 of revenue it generated.³³⁹ The journalist Kevin Roose wrote: “Imagine a deli that charged \$10 for a sandwich whose ingredients cost \$19.66, and then imagine how long that deli would stay in business.”³⁴⁰

328. See Kirsten Korosec, *Lyft Launches Its Scooter Business in Denver*, TECHCRUNCH (Sept. 6, 2018), <https://techcrunch.com/2018/09/06/lyft-launches-its-scooter-business-in-denver> [https://perma.cc/4JWV-B3UH].

329. *Id.*

330. Amir Efrati & Cory Weinberg, *Inside Bird’s Scooter Economics*, INFO. (Oct. 23, 2018), <https://www.theinformation.com/articles/inside-birds-scooter-economics> [https://perma.cc/TZK8-TWAW].

331. See Erin Griffith, *Bird Is Said to Raise New Funding at \$2.5 Billion Valuation*, N.Y. TIMES (July 22, 2019), <https://www.nytimes.com/2019/07/22/technology/bird-scooters-valuation.html> [https://perma.cc/Z9TE-XPV8].

332. Dean & Schleuss, *supra* note 305.

333. Luz Lazo, *That Scooter Ride Is Going to Cost You a Lot More*, WASH. POST (Oct. 18, 2019), <https://www.washingtonpost.com/transportation/2019/10/18/that-scooter-ride-is-going-cost-you-lot-more> [https://perma.cc/K2XA-NSUS].

334. See Dean & Schleuss, *supra* note 305.

335. *Id.*

336. See Switchback II Corp., Current Report (Form 8-K), Exhibit 99.3 at 16 (May 11, 2021) (describing the new Fleet Manager business model).

337. Hari Weber, *Bird’s SPAC Deal Is Done: First Day on the NYSE Ends Virtually Flat*, DOT.LA (Nov. 5, 2021), <https://dot.la/bird-stock-nyse-first-day-2655507173.html> [https://perma.cc/F4BN-SXT7].

338. Switchback II Corp., *supra* note 336, Exhibit 99.3 at 30.

339. See *id.* at 26.

340. Roose, *supra* note 303.

Since going public, Bird's value has fallen further. In June 2022, the NYSE warned Bird that its stock price had fallen so low it risked being delisted.³⁴¹

Whether Bird's venture predation succeeded is, like WeWork's, a matter of perspective. It is unlikely that Accel—which bought its shares at a \$2 billion valuation in June 2018—made much profit. It is possible that Sequoia, which bought its shares a month earlier at a \$1 billion valuation, fared better. The real winner was Travis VanderZanden. He cashed out \$44 million of his shares in June 2018, right as the VCs were rushing to get in.³⁴² The VCs may regret that they did not follow VanderZanden and cash out while predation was still creating the impression that Bird could dominate its market and recoup its losses.

F. *Objections and Responses*

Taken together, the examples of Uber, WeWork, and Bird should put to rest the Supreme Court's assertion that predatory pricing is "rarely tried." But we imagine some readers might still suspect that these examples are anomalies rather than evidence of a distinctive, viable predation strategy. In this section, we respond to three objections to the theory of venture predation: (1) that it requires irrational decision-making; (2) that it overstates the anticompetitive intent of startups' below-cost pricing; and (3) that it does not require venture finance.

1. *Irrationality*

The irrationality objection starts with the observation that Uber, WeWork, and Bird turned out badly for *late-stage* investors. Public investors lost a lot of money on Uber.³⁴³ Late-stage private investors lost a lot on WeWork and possibly on Bird too.³⁴⁴ Given this experience, the objection goes, rational late-stage investors should be wary of venture-backed startups growing rapidly through below-cost pricing. They should be reluctant to cash out VCs on the mere impression of possible recoupment. If late-stage investors act rationally, VCs should not be able to dupe them into buying their shares. And if VCs expect that they will be unable to cash out at an attractive price, they should not be willing to fund predation at the outset.

This objection suffers from hindsight bias. It is easy to look at these companies now and argue that they never had a chance of recoupment. But their failure to recoup may have been highly contingent. Consider Uber. When Uber was growing rapidly, some independent analysts thought its predation strategy would succeed. For example, in 2014, Ben Thompson wrote that "Uber is well on its way to having monopoly power over not

341. Darrell Etherington, *Bird Gets a Warning from the NYSE Because Its Stock Price Is Too Low*, TECHCRUNCH (June 24, 2022), <https://techcrunch.com/2022/06/24/bird-gets-a-warning-from-the-nyse-because-its-stock-price-is-too-low> [https://perma.cc/NJ5L-VNX5].

342. Amir Efrati & Albert Lee, *One Year in, Bird Founder Sells Some Shares*, INFO. (June 17, 2018), <https://www.theinformation.com/articles/one-year-in-bird-founder-sells-some-shares> [https://perma.cc/784U-HWJV].

343. See Feiner, *supra* note 230 (reporting Uber's losses on its first day of trading).

344. See Dvorak & Fujikawa, *supra* note 296 (reporting SoftBank's \$4.7 billion WeWork loss).

just taxi services but a core piece of worldwide infrastructure.”³⁴⁵ Some of the factors that would influence whether Uber could recoup were hard to predict. In particular, it was not clear how consumers would view the switching costs. But, Thompson argued, “[c]ustomers tend to build allegiance to a brand and persist with that brand unless they are given a good reason to change; it’s simply not worth the time and effort to constantly compare services at the moment of purchase.”³⁴⁶

Uber only started losing significant market share to Lyft *after* scandals damaged its brand.³⁴⁷ If Uber’s CEO had been someone more responsible than Kalanick, Uber might not have created those scandals in the first place. If Uber had never let Lyft gain traction, it might have maintained its reputation as a lethal predator and deterred new entrants. Imagine if VCs had reacted to pitches from ridehailing founders in the same way that VCs reacted to pitches from Neuner, the NextSpace founder who wanted to challenge WeWork.³⁴⁸ Uber could have been seen as a juggernaut not worth fighting. If the lesson that late-stage investors draw from Uber is not that it failed to recoup (at least so far), but that it came close, they may still be willing to fund predation.

More generally, it can be rational for investors to bet on the possibility of recoupment even when the chance of success is low. Monopoly profits offer an unusually high reward that can justify the risk. The most valuable companies in the world each have a dominant share in at least one market—Amazon in e-commerce³⁴⁹ and cloud computing,³⁵⁰ Google in online search,³⁵¹ and Facebook/WhatsApp/Instagram in social networking.³⁵² And the mobile app store and mobile operating system markets are effectively Apple/Alphabet duopolies.³⁵³ The expected value of a company with a small chance to join that elite group could be high.

In some ways, late-stage investors betting on venture predators are actually making a *less* risky bet than early-stage VCs are. Early-stage VCs take on the risk that a venture predator might fail to develop a product, fail to gain traction with consumers, or fail to scale as fast as other venture-backed competitors. Focusing on the outcomes for investors in Uber, WeWork, and Bird can create survivorship bias. The venture predators that failed early and burned early-stage investors do not become household names. There is no magical point in a venture predator’s life when predation starts becoming a bad bet. For example, Menlo Ventures, which invested \$20 million in Uber in the round *after* Benchmark, later sold half of its shares in a secondary sale and locked in a 93x return on its investment.³⁵⁴

345. Ben Thompson, *Why Uber Fights*, STRATECHERY (Nov. 24, 2014), <https://stratechery.com/2014/uber-fights> [<https://perma.cc/R7CG-3BV5>].

346. *Id.*

347. *See* Molla, *supra* note 214.

348. *See* Duhigg, *supra* note 276.

349. H. COMM. ON THE JUDICIARY, 116TH CONG., REP. ON INVESTIGATION OF COMPETITION IN DIGITAL MARKETS: MAJORITY STAFF REP. & RECOMMENDATIONS 69–70 (2020).

350. *Id.* at 94.

351. *See id.* at 61–62.

352. *See id.* at 73–75.

353. *See id.* at 77–78.

354. *See* Tomio Geron, *Uber Bet Proved to Be Inflection Point for Longstanding Venture Firm Menlo*, WALL ST. J. (May 9, 2019), <https://www.wsj.com/articles/uber-bet-proved-to-be-inflection-point-for-longstanding-venture-firm-menlo-11557437447> [<https://perma.cc/RCF2-G99P>].

To be sure, venture predation may be more viable at certain points in the business cycle. It may not be a coincidence that venture predation became so popular in the late 2010s—a period of low interest rates, a frothy stock market, and an unprecedented amount of money pouring into venture capital.³⁵⁵ When there is too much money chasing too few deals, investors may be willing to bet on riskier strategies like predatory pricing. It is possible that a less frothy market will make venture predation rarer. Yet even in the tougher macroeconomic conditions of the early 2020s, there may be venture predators in our midst. A new group of venture-backed startups, with names like Getir and Gorillas, are promising to deliver groceries in minutes.³⁵⁶ In New York City, several of these startups are vying for market share.³⁵⁷ At least in some cases, they appear to be pricing below cost.³⁵⁸ The CEO of Getir told *The Wall Street Journal*: “In the early minutes of a plane taking off it consumes a lot of gas.”³⁵⁹ But, he added, “[o]nce Getir grows large enough, the business will become profitable.”³⁶⁰

2. Lack of Predatory Intent

Vcs might raise a different kind of objection to our theory. They might concede that some startups price below cost when they introduce a new product but insist that their intent is not predatory. Startups pricing below cost might be trying to solve the chicken-and-egg problem inherent in building a platform. Or they might simply need a critical mass of users to beta test a new product. After all, even though Google Search was a superior product built on the genuine innovation of the PageRank algorithm, Google effectively sold it below cost (specifically, for free) before it started generating advertising revenue. We want to be clear: not *all* below-cost pricing is predatory. In the world of brick-and-mortar retail, there is typically nothing illegal about promotional pricing, like a loss leader that gets a customer in the store. What makes venture predators’ below-cost pricing predatory is that it is targeted and sustained.

Uber, WeWork, and Bird targeted their below-cost pricing at specific competitors as part of a deliberate strategy to exclude them. Uber created fake Lyft accounts to learn Lyft’s prices, tracked the locations of Uber drivers who also drove for Lyft, and targeted those drivers with bonuses.³⁶¹ WeWork opened locations next to competing co-working spaces and tried to lure their members away with outrageously cheap deals.³⁶² Bird cluttered the

355. See John Divine, *Decade in Review: The Decade of the Bull*, U.S. NEWS & WORLD REP. (Nov. 29, 2019), <https://money.usnews.com/investing/stock-market-news/articles/2019-11-29/decade-in-review-2010s-was-the-decade-of-the-bull> [<https://perma.cc/VWE7-PJS3>] (analyzing interest rate trends of the 2010s).

356. See, e.g., GETIR, <https://getir.com> [<https://perma.cc/ZEY2-BPQD>] (“We deliver groceries in minutes.”); GORILLAS, <https://gorillas.io> [<https://perma.cc/WDN9-H9UH>] (“Get your groceries delivered in minutes.”).

357. See Eliot Brown & Preetika Rana, *Losses Mount for Startups Racing to Deliver Groceries Fast and Cheap*, WALL ST. J. (Jan. 30, 2022), <https://www.wsj.com/articles/losses-mount-for-startups-racing-to-deliver-groceries-fast-and-cheap-11643544004> [<https://perma.cc/A4T7-FHF3>].

358. *Id.* (stating that industry executives said, “losses are heavy given the high cost of prolific advertising and paying couriers to hand-deliver potato chips, soap and eggs in a short time frame Some of the companies are averaging a loss of over \$20 per order when factoring in costs like advertising”).

359. *Id.*

360. *Id.*

361. See ISAAC, *supra* note 26, at 166, 187–88.

362. See Duhigg, *supra* note 276; Ghosh, *supra* note 282.

sidewalks with its scooters, so they would be closer to prospective customers than their rivals' scooters were. These predators knew what they were doing.

Uber, WeWork, and Bird also sustained their predatory pricing for years. Bill Gurley was bragging about Uber's low prices on his blog back in 2014.³⁶³ Uber's prices only began to rise noticeably in 2018.³⁶⁴ WeWork likely started subsidizing prices around the same time Uber did. Neuner gave up competing with WeWork in 2014.³⁶⁵ The losses that WeWork reported in its S-1 strongly suggest that it was still subsidizing as late as 2019.³⁶⁶ It is true that Bird's predation did not last as long as the others. Bird started to raise its prices around April 2019, about sixteen months after it put its first scooters on the sidewalks of Santa Monica.³⁶⁷ But with Bird, of course, the interesting part of its below-cost pricing was on the cost side. Its flood-the-market strategy left it with strongly negative unit economics as late as its SPAC deal in 2021.³⁶⁸ Uber, WeWork, and Bird were not sustaining below-cost pricing for years as part of a beta test. Their strategy was predation.

3. Non-Uniqueness

One also could object that the "venture" part of our venture predation theory is superfluous.³⁶⁹ The strategy of funding predation and then cashing out before recoupment does not necessarily require venture finance. Imagine "private equity predation." In this strategy, a private equity firm takes a public company private through a leveraged buyout. Then it finances the newly private company's predation campaign. The private equity predator could take advantage of the secrecy of being a private company, just as a venture predator would. Once the predator excludes its rivals and achieves dominance, the private equity firm could take it public again and cash out its shares to public investors who anticipate recoupment. One could imagine other variants on this strategy, such as "convertible bond lender predation" or "eccentric billionaire predation."

We will happily concede that these strategies are theoretically viable. But we doubt that they will be attempted as often as venture predation has been. Our reasoning is that most investors are not flexible generalists who brainstorm new opportunities on a blank whiteboard. Most investors specialize by market, by risk profile, and by time horizon. The fit between venture capital and predatory pricing is especially tight. VCs are motivated to take risks that have a high likelihood of failure. They are comfortable with their portfolio companies running losses in the hundreds of millions. They are accustomed to being actively involved in the management of their portfolio companies and pushing their founders to adopt specific strategies. Other investors may have some of these traits, but the combination is unique to VCs. Even private equity managers have more sensitivity to downside risk.

The tight fit between conventional venture investing behavior and venture predation not only makes VCs more willing to attempt it—it also functions as a kind of camouflage.

363. Gurley, *supra* note 1.

364. See Evans, *supra* note 5.

365. Duhigg, *supra* note 276.

366. The We Co., *supra* note 271, at 63.

367. See Lazo, *supra* note 333.

368. Switchback II Corp., *supra* note 336, at 30.

369. We thank Eric Talley for raising this objection.

Consider cost-signaling predation. It might be easier for a company to persuade its competitors that it has invented a new way to cut costs if it has just raised money from investors known for betting on emerging technologies. WeWork's attempt to brand itself as a technology company failed. But Uber's technology branding has arguably succeeded, even though its app was basic, developed by contractors, and easy to replicate.

When venture-backed startups run up huge losses, there is less reason to be suspicious. It is common for startups to burn cash rapidly while they experiment with new technologies. When VCs sell their shares in the stock market, they can avoid the adverse inference that might otherwise attach to insiders cashing out. The limited lives of venture funds can require VCs to sell their shares even when they think the company still has strong growth potential. Of course, some investors might see through the camouflage. But it can create enough doubt to tempt VCs to finance predation.

IV. DETERRING VENTURE PREDATION

Our argument so far has been positive. We have sought to show that some venture-backed startups have attempted predatory pricing and that, from the VCs' perspective, they have succeeded. In this Part, we ask, is that a bad thing? And if so, what should be done about it? We argue that venture predation does impose real social costs. Then we consider reforms to antitrust law and securities regulation to deter venture predation.

A. Social Costs

Venture predation can impose social costs in three ways. First, it can harm consumer welfare by raising prices and reducing consumer choice. Second, it can harm the economy in a more subtle way by distorting the price signal and leading third parties to make economically irrational decisions. Third, it can harm society in the long run by misallocating capital to predatory pricing and away from genuine innovations.

1. Consumer Welfare

The harm that venture predation causes to consumers depends on whether the predator is able to dominate its market and on whether it is able to recoup the cost of predation. We distinguish among three possible scenarios: (1) *successful recoupment*, when the predator excludes or disciplines its rivals and fully recoups its losses; (2) *failed domination*, when the predator is unable to exclude or discipline its rivals; and, (3) *domination with uncertain recoupment*, when the predator has excluded or disciplined its rivals but it is not immediately able to recoup its losses.

In the *successful recoupment* scenario, the predator's below-cost pricing neutralizes its competition. The predator raises its prices to a supracompetitive level, recoups its losses, and enjoys monopoly (or oligopoly) profits. Consumers are harmed by having to pay supracompetitive prices. By definition, the costs of the higher prices that consumers pay in the recoupment stage exceed the benefits of the lower prices that they paid during the predation stage.

The absence of competition also harms consumers in other ways. Predatory pricing interferes with the market mechanisms that ensure that the most efficient firms win. The venture predator may have chased out the firm with the best product or the lowest costs in

the market. At a minimum, consumers have fewer firms' products to choose from than they would have if the predator had not excluded its rivals. They might miss out on innovations in product quality that would have happened if other firms in the market had not been crushed by predation.

In the *failed domination* scenario, the predator never acquires the market share that would enable it to raise its prices to a supracompetitive level. Consumers may be harmed—as we explain more below—but they are not harmed in the sense that antitrust law recognizes. During the predation stage, consumers benefit from venture-subsidized prices. After the predator gives up, they go back to paying the price set by a competitive market. The main effect of *failed domination* is a wealth transfer from investors to consumers—the millennial lifestyle subsidy.³⁷⁰ Bird fits this scenario. It never chased out its main competitors. The market for electric scooter rentals remains competitive. Bird's main effect on consumer welfare was a brief period of cheap and pervasive scooters funded by our friends at Accel and Sequoia.

In the *domination with uncertain recoupment* scenario, the predator is able to exclude its rivals or prevent them from competing on price but is not immediately able to recoup its losses. This scenario is not a stable equilibrium, so it should be transitory. But we treat it separately because the evidence suggests it can nonetheless endure for years. In this scenario, consumers as a class gain more from below-cost prices than they lose from supracompetitive prices. But to the extent that the predator is able to raise its prices to a supracompetitive level, individual consumers who pay those prices are harmed.³⁷¹ The consumers who are forced to pay the supracompetitive prices are not necessarily the same consumers who benefited from the earlier subsidy.

In addition, all consumers, even those who never pay supracompetitive prices, might also be harmed because a less efficient firm won out. Consumers will have reduced product choice and less opportunity to benefit from innovations in product quality, as long as new entrants do not emerge. Even the *Brooke Group* Court conceded that “unsuccessful predatory pricing may encourage some inefficient substitution toward the product being sold at less than its cost.”³⁷²

For now, the ridehailing market fits the *domination with uncertain recoupment* scenario. Uber and Lyft have chased out most of their competitors. Their combined market share is dominant.³⁷³ They have both raised their prices considerably.³⁷⁴ Yet it is not clear that they are pricing rides at a supracompetitive level that would generate consistent oligopoly profits. What explains the persistence of this seemingly unstable equilibrium?

One possibility is that Uber and Lyft are convinced that, if they raise their prices to an oligopoly level, new entrants will emerge. They know that the fixed costs of developing a ridehailing app are modest, and the cost of switching ridehailing apps is low. They might

370. See *Roose*, *supra* note 34.

371. *Leslie*, *supra* note 36, at 1742 (“Consumers paying monopoly prices in the post-predation period are injured even if the monopoly price is insufficient to recoup the investment in predatory pricing.”).

372. *Brooke Grp. Ltd. v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209, 224 (1993); see also *Hemphill & Weiser*, *supra* note 15, at 2054 (“The conclusion that unsuccessful predation is harmless is not quite right, because below-cost prices are distortive even when they do not exclude, a point the Court quietly acknowledged in part.”).

373. See *Schneider*, *supra* note 2.

374. See *Evans*, *supra* note 5.

worry that higher prices would create an opening for a new entrant to overcome the network effects of their platforms. As a consequence, they are treading water, charging competitive prices, and trying to maintain their tenuous dominance in the hope that market conditions change.

Another possibility is that the economics of ridehailing never made sense. There just might not be a sufficiently large set of consumers willing to pay for ridehailing at the price that would be set by a competitive market. If so, Uber and Lyft will never recoup their losses, and it is only a matter of time before the markets figure that out.

Consumers certainly benefited from subsidized Uber and Lyft rides for years. And it is not clear that any consumers have yet had to pay supracompetitive prices (though we think it is at least possible that some have, in certain markets). But Uber's predation may have harmed consumer welfare more indirectly. Consumers have less choice when they want to hail a ride. Sidecar, Juno, and many other ridehailing options died out during the predation years. Consumers also may have benefitted less from product innovation than they would have. The firms that died out might have built a more efficient app or business model had they not been crushed by predation. Finally, Uber's and Lyft's rising prices could mean that some consumers are paying supracompetitive prices now, even if the sum of these duopoly profits is not yet sufficient for Uber to fully recoup its losses.

WeWork falls in between the *failed domination* and *domination with uncertain recoupment* scenarios. WeWork's predation chased off some of its rivals, like NextSpace.³⁷⁵ But WeWork's dominance was fleeting. After its IPO unraveled, WeWork likely lost its predatory reputation. SoftBank transferred billions in wealth to freelancers who leased from WeWork during the predation years. For a brief period, consumers had less choice in the co-working market and less opportunity to benefit from innovative ideas in co-working. Now that competition is back, consumers should no longer be harmed.

We emphasize the *domination with uncertain recoupment* scenario deliberately. If venture predation only harmed consumers when venture predators successfully recouped, then existing antitrust doctrine might provide an adequate deterrent. The possibility that *domination with uncertain recoupment* could harm consumers, however, suggests a need for reform. A plaintiff might not be able to show that Uber has a "dangerous probability" of recouping its losses, even though consumers have been harmed.

2. *Distortion of the Price Signal*

Venture predation also imposes costs that the consumer welfare standard does not recognize. Prices convey information that organizes economic activity.³⁷⁶ They signal how much it costs to produce goods and services and how much consumers value them. Businesses deciding what to produce, consumers deciding what to buy, and workers deciding where to take a job all rely on the information contained in prices to make their decisions. Predatory pricing hijacks the price signal. It sends potentially misleading information out into the economy, and when decision-makers rely on it, they may make irrational decisions.

In the Introduction, we gave the example of a taxi driver who decides to buy a car to drive for Uber in the mistaken belief that the pay Uber drivers were receiving during the

375. See Duhigg, *supra* note 276.

376. See Hayek, *supra* note 35.

predation period reflected a market transaction. Drivers who made that decision between 2014 and 2018 may now find that they have an asset they can no longer afford. That is just the first downstream effect of the distortions that venture predation can produce. Imagine a local government deciding how much to invest in public transit. The availability of affordable, convenient Uber rides might have made the investment seem less valuable. Or imagine an employer considering where to locate an office or a family considering where to buy a home. When Uber was heavily subsidized, they may have underestimated the cost of a long commute. Sustained predatory pricing ripples throughout the economy, causing inefficiencies that no law is designed to deter.

3. *Capital Misallocation*

Venture predation's most important harm is reduced innovation. In a conventional consumer welfare analysis, like the one we offered above, the harms to innovation that count are market specific. Uber's predation harms innovation in ridehailing. WeWork's predation harms innovation in co-working. We think that this analysis is missing something important. VCs poured billions of dollars into the predation schemes at Uber, WeWork, and Bird. That capital could have been spent on innovations in other markets. Imagine all the startups that pitched Accel, Benchmark, Sequoia, and even SoftBank during the years that they were investing in predation. Some of these startups, we are willing to bet, were attempting to develop socially valuable technologies. On the margin, some of these startups never got the capital they needed because the VCs were burning money on predation.

Of course, all spending on predatory pricing is, by definition, a misallocation of capital in that it is not productive. But the argument is particularly strong in the venture capital context because even failed bets on startups can be socially valuable.³⁷⁷ When a startup tries to develop a new technology and fails to bring it to market or to make it profitable, it may still advance the state-of-the-art. The new knowledge created by the failed experiment may live on in patents, published research, or in human capital. A failed startup's employees can take that knowledge with them to their next project. By contrast, venture predation creates no positive spillovers. It is an infuriating waste of society's resources. For these reasons, we think venture predation should be deterred.

B. *Antitrust*

The credible threat of antitrust liability could be a powerful deterrent to venture predators. Venture predation only works if late-stage investors believe that recoupment is possible. If a private plaintiff were to win an antitrust claim against a venture predator, late-stage investors considering investing in other venture predators would start to worry that, even if the predator successfully recouped the costs of predation, the monopoly profits it generated might be eroded by antitrust damages. Should late-stage investors become reluctant to fund venture predators, VCs would be less confident they could cash out their shares and less willing to attempt predation in the first place. Government enforcement

377. Research suggests that venture-backed startups are more innovative than other businesses. See Sabrina T. Howell et al., *How Resilient Is Venture-Backed Innovation? Evidence from Four Decades of U.S. Patenting 2* (Nat'l Bureau of Econ. Rsch., Working Paper No. 27150, 2020) (finding that patents filed by venture-backed companies are more general, more original, and more highly cited than patents filed by other companies).

during the predation period would also cool VCs' enthusiasm for this strategy. The venture predation model could quickly unravel.

The problem is, as we have seen, the Supreme Court has made it difficult for plaintiffs to win predatory pricing claims.³⁷⁸ And we expect that plaintiffs would find it especially difficult to prevail against a venture predator. In this section, we describe the obstacles to a venture predation claim. Then we propose how courts could either reform current antitrust doctrine or apply it differently to address the threat of venture predation.

1. *Obstacles to Liability*

A plaintiff bringing a venture predation claim must overcome three obstacles: (1) proving the defendant's dominance in a nascent market; (2) distinguishing predatory pricing from lawful modes of below-cost pricing; and (3) satisfying the recoupment requirement.

First, a plaintiff bringing a venture predation claim might encounter skepticism because the defendant is operating in an emerging market and lacks a track record of dominance. A conventional predatory pricing defendant often has maintained a large market share for a sustained period before its predation campaign. By contrast, venture predators are likely to operate in nascent markets and often will have achieved their market share rapidly. They may not even control a significant share before rivals are excluded or disciplined. Courts may hesitate to intervene in rapidly developing markets and find defendants liable without at least some confidence that these firms can maintain their market power and recoup the costs of predation.³⁷⁹ It is easy to conjure examples of startups taking an early lead in an emerging market before losing out to competition—think of Yahoo or MySpace.

Second, it might be difficult for courts to distinguish between a market test, introductory price, or other legitimate uses of temporary below-cost pricing and venture predation. Venture-backed startups often use below-cost pricing for non-predatory reasons. For example, many startups will offer a beta version of their software for a low price—or even for free—to test consumer demand. The beta stage might last for years, as the startup experiments with different features. Indeed, the startup may decide to maintain its below-cost pricing for this entire period to induce customers to try various iterations of the product. A venture predator defendant can take advantage of the widespread practice of beta testing to create doubt about whether it was engaging in predatory pricing or conducting a market test. More broadly, firms sometimes offer temporary, introductory below-cost prices to persuade customers to try a new product, especially in nascent markets.³⁸⁰ If a firm quickly stops charging the introductory price once it attracts a

378. See *supra* Part II.B.

379. See C. Scott Hemphill & Tim Wu, *Nascent Competitors*, 168 U. PA. L. REV. 1879, 1880–81 (2020) (noting that “enforcers face a dilemma” when it comes to analyzing threats to competition involving “nascent competitors” because their “eventual significance is uncertain, given the environment of rapid technological change” in which they tend to emerge).

380. See Bolton, Brodley & Riordan, *supra* note 15, at 2278–79 (“A profit-maximizing firm with no exclusionary purpose might temporarily price below its cost in order to induce consumers to try a new product.”).

customer base, liability should not attach.³⁸¹ Only sustained below-cost pricing resulting in market power should qualify as venture predation, and there is no easy way to draw the line.

If the venture predator defendant is a platform company, courts are likely to find it especially difficult to differentiate between benign or even beneficial below-cost pricing and venture predation. As we have seen, subsidizing both sides of a two-sided transaction can solve the chicken-and-egg problem that many platforms face.³⁸² Below-cost pricing can increase both sides of a platform's user base rapidly. Certainly, Uber's ability to offer pricing well below that of traditional cabs (and below its own costs) was a key to building its platform.³⁸³ In this scenario, a defendant could argue that its pricing strategy is *pro-competitive* because it helped create a valuable new product or service.³⁸⁴ And when the company later raises its prices, it can plausibly contend that the increased number of users has enhanced the value of the platform and therefore justifies the higher price.

To be clear, we do not think that using below-cost pricing for beta testing or solving the chicken-and-egg problem should be illegal. Refining a new product and building up a network can be socially valuable.³⁸⁵ We just want to emphasize that evaluating venture predation claims involving the creation of a valuable network is likely to be difficult. Again, how long the defendant maintained the below-cost pricing is relevant. If the defendant needed to sustain it, then the network might not be that valuable. We hope that our discussion of Uber's, WeWork's, and Bird's predation provides examples of the types of evidence a plaintiff might use to distinguish between pro-competitive below-cost pricing and venture predation.

Third, even if a plaintiff persuades a court that a venture predator has come to dominate its market, the plaintiff still might struggle to prove that the defendant has the "reasonable prospect" or "dangerous probability" of recoupment that *Brooke Group* requires. As we have seen, the *domination with uncertain recoupment* scenario can linger for many years. Consider that Uber started its predation campaign a decade ago, but has yet to generate a meaningful profit, let alone recoup its costs. Of course, from the perspective of the Chicago School scholars, predation that does not result in recoupment does not need to be deterred because it is irrational. But venture predation shows how predatory pricing can be rational for VCs and costly for society even if the company never recoups. Accordingly, our suggestions for reforming the doctrine aim to make it easier for plaintiffs suing venture predators to satisfy the recoupment prong.

381. *Id.* at 2281 (arguing that a company employing below-cost promotional pricing should have a viable defense against a predatory pricing claim if, among other things, the promotional pricing lasts "no longer than appears reasonably necessary to inform consumers about product attributes").

382. *See supra* Part III.B.

383. *See supra* Part III.C.

384. *See* Bolton, Brodley & Riordan, *supra* note 15, at 2281 ("When network externalities are present, a profit-maximizing firm might initially price a product below cost in order to establish a large, installed base of users, and thereby increase demand for its product . . . [S]uch conduct may be procompetitive and welfare-enhancing.")

385. *See id.* at 2281–82 (arguing that below-cost pricing when "network externalities are present" might be procompetitive if "the period of below-cost pricing extends no longer than is reasonably necessary to achieve the installed-base network economies").

2. Rethinking Recoupment

Below-cost pricing with the aim of achieving market power appears to be a standard tool in the VC toolkit.³⁸⁶ This fact alone should have implications for antitrust doctrine, especially *Brooke Group*'s recoupment requirement. Several scholars have criticized the separate recoupment requirement as unnecessary and overly restrictive.³⁸⁷ If a firm is pricing below cost, they argue, it is likely it believes it can recoup those losses.³⁸⁸ Venture predation underscores the problems with the recoupment requirement. As we argue above, it is not uncommon for a VC-backed firm to price below its cost in an effort to gain market power. Even if that firm is unable to recoup every last dollar lost due to its below-cost prices, consumers are harmed, and markets are distorted. These are the types of competitive harms that the antitrust laws were designed to prevent. Therefore, our first-best solution to venture predation would be to dispense with the *Brooke Group* recoupment prong altogether.

However, since there does not yet appear to be any realistic chance that *Brooke Group* will be overruled, we propose a tweak to current doctrine: allow plaintiffs to satisfy the recoupment prong by proving that the venture predator's *investors* counted on a predation campaign to eliminate or discipline rivals and believed that the company had a "reasonable prospect" of recoupment. We think plaintiffs should be permitted to argue to a jury that they ought to infer a likelihood of recoupment from investors' willingness to sustain funding for an unprofitable company for an extended period, at least in the context of other facts suggesting venture predation.

The advantage of this approach is that it relies on the revealed preferences of financially motivated market actors.³⁸⁹ Rational investors would only put their money on the line to fund predation if either (1) they believe the predator has a reasonable prospect of recoupment or (2) they believe that subsequent investors will think that the predator has a reasonable prospect of recoupment. Early-stage VCs might be willing to gamble on a small chance of recoupment, but by the time the venture predator dominates its market, its most recent investors will be paying prices for their shares that could be justified only by a reasonable prospect of recoupment. These investors' beliefs could be inferred from facts that suggest there was no other realistic way for them to generate a return on their investment.

Letting plaintiffs satisfy the recoupment prong on the basis of investors' beliefs would address the timing problem created by the *domination with uncertain recoupment* scenario. Under current doctrine, a plaintiff might have to wait years before it becomes clear that the venture predator can sustain supracompetitive prices long enough to recoup—even when

386. See *supra* Part III.C–E.

387. See, e.g., Hemphill & Weiser, *supra* note 15, at 2055–56 (arguing that in a case with "clear documentary evidence of pricing below cost . . . [a] court applying the *Brooke Group* framework should conclude that such evidence outweighs equivocal expert evidence about whether the industry's market structure supports recoupment"); Leslie, *supra* note 36, at 1699 ("[T]he recoupment element is both unnecessary and counterproductive.").

388. See Hemphill & Weiser, *supra* note 15, at 2055 ("A price below cost is, in effect, prima facie evidence that the firm thought it could recoup its predatory price cut.").

389. Our proposal is analogous to an earlier proposal that, to establish financial market predation, plaintiffs should be permitted to introduce evidence that the prey struggled to find lenders willing to back them as they waited out predation. See Bolton, Brodley & Riordan, *supra* note 15, at 2290–92.

there is no reasonable doubt that is what the predator is attempting to do. During that time, consumers will be harmed, and the market will be distorted. The VCs who funded the predation will have long ago sold their shares. If a court can look to investors' beliefs about recoupment, they will be able to send a clearer deterrence signal to VCs who are tempted to fund it.

3. Network Effects

There are other ways that courts can apply existing doctrine to make the recoupment prong more sensible. Venture predators will often target markets subject to network effects. The goal of venture predation is to use below-cost pricing to tip a market to the predator, which is most likely to be possible in markets where the product or service exhibits network effects. These network effects implicate recoupment as well. Litigation about recoupment many times hinges on whether barriers to entry will protect the predator from competition while it raises its prices and recoup its costs. Venture predators and their financiers often count on network effects to create a barrier to entry which will let the predator charge supracompetitive prices to recoup its losses (or at least create the perception that recoupment is possible). This is the thinking behind venture predators developing a platform—use venture subsidies to exclude competition, become the dominant platform, and then raise prices to supracompetitive levels while the network effects deter new entrants.

In two cases against Uber, courts have addressed the issue of whether network effects can create a barrier to entry. In *DeSoto Cab Co. v. Uber*, the court rejected an argument from plaintiff Flywheel, another ridehailing startup, that Uber enjoyed barriers to entry in the ridehailing market.³⁹⁰ To prove that Uber benefitted from network effects, Flywheel alleged that no new competitors had entered the San Francisco ridehailing market in more than five years.³⁹¹ Flywheel also asserted that its financing had dried up because “investors learned of the ‘liquidity network effects at play’” and that Flywheel and other competitors “have been unable to raise capital because of those network effects.”³⁹² The *DeSoto* court found that Flywheel’s allegations were insufficient to show that Uber had market power or a danger of recoupment.³⁹³ The court was particularly troubled by what it viewed as Flywheel’s failure to allege facts showing why Lyft could not discipline Uber’s pricing.³⁹⁴

In contrast, the court in *SC Innovations, Inc. v. Uber* was persuaded by plaintiff Sidecar’s argument in opposition to Uber’s motion to dismiss that Uber enjoyed network effects that might allow it to exercise market power and recoup its losses from pricing below cost.³⁹⁵ The court understood that, “[w]hile Uber is correct that the alleged network

390. *De Soto Cab Co. v. Uber Techs., Inc.*, No. 16-cv-06385, 2021 WL 5860917, at *2 (N.D. Cal. Nov. 11, 2021).

391. *Id.*

392. *Id.*

393. *Id.* at *2–3.

394. *Id.* at *3 (“[U]nlike Flywheel’s allegations here, [in *SC Innovations v. Uber Technologies*] Sidecar included some facts about why Lyft was unable to act as a check on Uber’s alleged anticompetitive activity . . .”).

395. *SC Innovations, Inc. v. Uber Techs., Inc.*, No. 18-cv-07440, 2020 WL 2097611, at *10 (N.D. Cal. May 1, 2020) (“[T]he Court concludes that Sidecar has plausibly alleged that Uber could unilaterally raise the ‘price’

effects reward increasing output *if a ride-hailing company is able to*, the same effects could also prevent a smaller competitor from doing so, in much the same way they would prevent a new entrant from gaining a foothold.”³⁹⁶ It concluded that—due to the Uber platform’s network effects—even Lyft, a significant but nonetheless smaller rival, might not be able to constrain Uber’s prices in markets where Uber’s market share was larger than Lyft’s.³⁹⁷

We think that the *SC Innovations* opinion should serve as a model for courts facing this issue. Uber is undoubtedly benefiting from network effects now, and those network effects are deterring competition. We believe that courts should allow plaintiffs to survive a motion to dismiss on the recoupment element when they can demonstrate a probability of network effects, which are likely to be present in most cases stuck in the *domination with uncertain recoupment* scenario.

4. Reputation and Collusion

Defendants might argue that venture predation is irrational because it will not deter another VC or VCs from underwriting a rival firm to match the predator in a price war.³⁹⁸ After all, Lyft emerged to challenge Uber using the same below-cost pricing strategy. Of course, as the *SC Innovations* court recognized, even Lyft might not be able to discipline Uber’s prices in markets where Lyft is a distant second.³⁹⁹ And at the time Lyft entered the market, Uber was still competing with taxis and other ride-hailing startups. To gain a foothold today, a new entrant would need even greater venture subsidies.

Perhaps more important, it is not clear that rivals will always be able to find a VC to fund a price war. Reputation effects are key here, including the reputation of the VCs backing the predator. If those VCs are known to be willing to fund a lengthy price war to tip a market, other VCs may be reluctant to back a firm with plans to take on the predator—which has a first-mover advantage—especially in a market subject to network effects. Recall that when Jeremy Neuner pitched VCs on funding NextSpace in a price war against WeWork, he found no takers.⁴⁰⁰ Once a venture predator comes to dominate a market, other VCs may give would-be competitors the same answer that Neuner received. If

that it keeps for itself from ride-hailing transactions to supracompetitive levels . . . while insulated by network effects from Lyft or a new market entrant usurping Uber’s market share. In addition to showing market power, that provides a plausible means for Uber to recoup its losses from alleged predatory pricing.”).

396. *Id.* at *8 (emphasis in original).

397. *Id.* (“[I]n geographic markets where Lyft has a smaller market share than Uber—as Sidecar alleges is the case in all of the markets at issue here—Lyft would be expected to offer . . . less efficient matches between drivers and passengers than Uber, and some portion of drivers and passengers might not view Lyft as an acceptable substitute for Uber. Thus, with a sufficient disparity of market share, network effects could—as Sidecar alleges—prevent rather than enable Lyft increasing its output to counteract a reduction by Uber.”).

398. *See generally De Soto Cab Co.*, 2021 WL 5860917, at *2 (noting that the court had previously concluded that plaintiff’s allegations regarding barriers to entry, including the need for capital outlays to compete with Uber, were insufficient because plaintiff “did not allege it would have been more difficult for a new [competitor] to raise such capital than it would be for Uber to do so”). In response, plaintiff alleged that “capital markets no longer exist because investors have learned of ‘the liquidity network effects at play’” and that “established – and former – competitors, such as Sidecar, have been unable to raise capital because of those network effects.” *Id.*

399. *SC Innovations*, 2020 WL 2097611, at *8 (“[W]ith a sufficient disparity of market share [between Uber and Lyft], network effects could . . . prevent rather than enable Lyft increasing its output to counteract a reduction by Uber.”).

400. *See Duhigg*, *supra* note 276.

investors anticipate that the first mover will be protected by reputation effects, they will be more likely to fund predation.

A particularly lethal venture predator might not even want to take the chance that other VCs would test its predatory reputation. It could instead decide to buy them off directly. For example, Ryan Breslow, the founder of the payment startup Bolt, alleged that rival payment startup Stripe “had deliberately taken checks from nearly all the top-tier Silicon Valley investors in order to block new companies.”⁴⁰¹ And, he claimed that Stripe’s investors admitted as much and suggested it was “a great strategy.”⁴⁰²

We do not know if Breslow’s allegations are true. But we wonder if the tight-knit community of Silicon Valley VCs might be fertile ground for explicit or tacit agreements not to fund rivals to a successful venture predator. Such agreements could be facilitated by the venture predator itself or could result from collusion among VCs. If a plaintiff produces evidence that an alleged venture predator successfully tied up multiple leading VCs with the intent to dry up its rivals’ funding, they should be able to make a persuasive case that this conduct creates a barrier to entry. In some circumstances, it could be a profitable strategy for VCs to agree among themselves to back only one or two first-movers in a nascent market. An agreement among VCs not to fund competitors would be good evidence that venture predation is taking place, not to mention a potential Sherman Act section 1 violation.

Venture predation has significant implications for predatory pricing theory: it provides a real-world example of firms using below-cost pricing to achieve anticompetitive ends. The *domination with uncertain recoupment* scenario shows how consumers—and society more broadly—are harmed even when a predator does not recoup the entirety of its losses from a price war. We believe that the tweaks to current doctrine suggested here could provide venture predation plaintiffs the means to prevail in that scenario, even under *Brooke Group*. There is also a more indirect way to deter venture predation—by exposing it earlier.

C. Securities Regulation

Federal securities regulation divides the economy into public and private companies. Public companies must disclose their financial statements;⁴⁰³ private companies do not face a similar mandate. The justification for the different regulatory regimes is investor protection. Public companies can sell their shares to retail investors. Private companies can sell their shares only to investors who can “fend for themselves”—wealthy individuals and financial institutions.⁴⁰⁴ These investors are supposed to have enough access to information about the companies in which they invest, or enough sophistication to demand it, that they do not need to rely on public disclosures.⁴⁰⁵

401. See, e.g., Ryan Breslow (@theyanking), TWITTER (Jan. 24, 2022), <https://twitter.com/theyanking/status/1485784860425785347> [<https://perma.cc/DSM3-D8C5>].

402. *Id.*

403. See generally, Regulation S-K, 17 C.F.R. § 229 (2023).

404. SEC v. Ralston Purina Co., 346 U.S. 119, 125 (1953).

405. See *id.* at 127.

While securities regulation focuses on protecting investors, corporate disclosures create other positive social externalities.⁴⁰⁶ Companies closely follow their competitors' disclosures.⁴⁰⁷ When the value a company derives from access to its competitor's disclosures is counterbalanced by the value the competitor loses from having its information disclosed, there is no net change in social welfare. But when the disclosures help a company learn that its competitor is engaging in predatory pricing, they create a positive externality for consumers.

Securities regulation may deter predatory pricing by exposing a would-be predator's cost structure. Cost-signaling predation fails if your competitor knows your true costs. Financial market predation fails if your competitor's lender or investor knows them. To be sure, the cost figures disclosed in financial statements often aggregate costs from multiple lines of business or multiple markets. Clever accounting can obscure predation. But disclosure requirements would increase the risk that venture predation fails early and thereby make VCs less willing to fund it.

Venture predators are private companies, so they are not subject to disclosure requirements. It is hard for their competitors and the banks that finance their competitors to determine their cost structures. A venture predator's rival cannot easily tell if the predator's low prices result from cost efficiencies or predation. This is why venture predation campaigns sometimes unravel during the IPO process—required financial disclosures reveal that the company's valuation was built on unsustainable subsidies.

In the last decade, startups have been staying private longer. There are now over 1,200 unicorns—private companies valued at more than \$1 billion.⁴⁰⁸ Securities regulation scholars have started to ask whether the line between public and private companies needs to adjust to adapt to this new reality.⁴⁰⁹ In January 2022, it was reported that the SEC is considering requiring large, private companies to make basic financial disclosures.⁴¹⁰

The desirability of a disclosure mandate for large, private companies is a complex policy question. The SEC will need to weigh the benefits to investors, workers, consumers, and competitors; the cost of compliance; and the chilling effects, if any, on innovation. We think that the potential for disclosures to deter venture predation should be part of the policy analysis.

If venture predators were forced to disclose their finances while they were still private companies, competitors might be more willing to fight back. The predator's rivals might find it easier to obtain a loan or even equity finance to ride out the predation campaign. If VCs come to believe that startups are unlikely to achieve market dominance (or at least the appearance of market dominance) and the high valuation it brings, they will become less willing to fund venture predation in the first place. As the post-Chicago School scholars explained, predatory pricing succeeds because of imperfect information. Arming competitors with more and better information could undercut venture predation.

406. See Lipton, *supra* note 38, at 511–19 (explaining the benefits of corporate disclosures for groups other than investors).

407. See *id.* at 511–13.

408. See *The Complete List of Unicorn Companies*, CB INSIGHTS, <https://www.cbinsights.com/research-unicorn-companies> [<https://perma.cc/L6LZ-MPHQ>].

409. See Fan, *supra* note 38, at 609; Lipton, *supra* note 38, at 563.

410. Kiernan, *supra* note 37.

V. CONCLUSION

Current Supreme Court precedent assumes that predatory pricing is rarely tried and rarely successful, a misperception that supports the defendant-friendly *Brooke Group* test. Post-Chicago School economists have argued that predatory pricing is a rational strategy under certain circumstances but have been hard pressed to come up with real-world examples of their theories in action. We argue that venture predation is just such an example, one that refutes at least the “rarely tried” portion of the *Matsushita/Brooke Group* bromide.

Indeed, in the last decade, a series of startups squandered tens of billions of dollars of venture capital on predatory pricing. We hope, as some observers have suggested, that this was a passing trend. But we worry that, in the absence of judicial or regulatory intervention, it will continue. Some of the VCs who funded predation succeeded spectacularly, and the basic incentives of venture investing that tempt VCs to employ this strategy persist. The goal of antitrust law is to push businesses away from socially costly anticompetitive behavior and towards developing socially valuable efficiencies and innovations. We think that Silicon Valley could use a nudge in that direction.