ecgi

REWIRING CORPORATE LAW FOR AN INTERCONNECTED WORLD

Law Working Paper N° 572/2021
February 2022

Luca Enriques
University of Oxford, EBI and ECGI

Alessandro Romano
Bocconi University

ECGI Working Paper Series in Law

REWIRING CORPORATE LAW FOR AN INTERCONNECTED WORLD

Working Paper N° 572/2021
February 2022

Luca Enriques
Alessandro Romano

We are grateful to Ron Gilson for the fruitful discussions and the numerous comments on earlier drafts, and Henry Hansmann, Kenneth Khoo, Sebastián Guidi, and participants to the Bocconi Corporate Law Workshop for helpful comments. Giulia Ballerini, Margherita Corrado, and Georgios Pantelias provided excellent research assistance. We would also like to thank Zachary Jarvis, Adam McGovern, Garrett Hable, Mitchell Anderson, Daniel Bowman and the entire staff at Arizona Law Review for the impeccable editing. Usual disclaimers apply.

Abstract

The traditional focus of corporate law is on aligning managers' preferences with the interests of shareholders. We show that this view is premised on two assumptions that are no longer true: first, the idea that all shareholders want to maximize the net present value of the firm's earnings per dollar invested and, second, the view that microeconomic shocks do not produce macroeconomic consequences. The rise of institutional investors undermines the first assumption: large asset managers hold the entire market and have been shown to display a preference for maximizing the value of their portfolio as a whole rather than the performance of individual companies. That is, they are portfolio, rather than firm, value maximizers. At the same time, the increasing interconnectedness of the economy, and society more broadly, undermines the second assumption. There is ample empirical evidence that microeconomic shocks to a well-identified subset of "central" firms can propagate through the existing interconnections and generate catastrophic consequences.

We argue that corporate law should reflect these features of contemporary economies. On the one hand, it should aim to ensure that noncentral firms maximize their own value, despite the rise of portfolio value maximizers. On the other hand, central firms' corporate law should harness the preferences of portfolio value maximizing shareholders with the goal of minimizing the risk of catastrophic externalities like climate change or financial crises. We develop a framework to guide policymakers in the pursuit of this new, fundamental conception of corporate law and illustrate how this rewiring of corporate law could work out by taking ownership disclosure rules as an example.

Keywords: Common Ownership, Corporate Law, Corporate Governance, Universal Owners, Systemic Externalities, Ownership Disclosure, Hedge Fund Activism

JEL Classifications: G20, G28, G30, G34

Luca Enriques*
Professor of Corporate Law
University of Oxford, Faculty of Law
St. Cross Building, St. Cross Road
Oxford, OX1 3UL, United Kingdom
phone: +44 186 528 9751
e-mail: luca.enriques@law.ox.ac.uk

Alessandro Romano
Assistant Professor
Bocconi University, School of Law
Via Roentgen, 1
Milan, Milan 20136, Italy
e-mail: alessandro_romano@unibocconi.it

*Corresponding Author

REWIRING CORPORATE LAW FOR AN INTERCONNECTED WORLD

Luca Enriques* & Alessandro Romano**

The traditional focus of corporate law is on aligning managers' preferences with the interests of shareholders. We show that this view is premised on two assumptions that are no longer true: first, the idea that all shareholders want to maximize the net present value of the firm's earnings per dollar invested and, second, the view that microeconomic shocks do not produce macroeconomic consequences. The rise of institutional investors undermines the first assumption: large asset managers hold the entire market and have been shown to display a preference for maximizing the value of their portfolio as a whole rather than the performance of individual companies. That is, they are portfolio, rather than firm, value maximizers. At the same time, the increasing interconnectedness of the economy, and society more broadly, undermines the second assumption. There is ample empirical evidence that microeconomic shocks to a well-identified subset of "central" firms can propagate through the existing interconnections and generate catastrophic consequences.

We argue that corporate law should reflect these features of contemporary economies. On the one hand, it should aim to ensure that noncentral firms maximize their own value, despite the rise of portfolio value maximizers. On the other hand, central firms' corporate law should harness the preferences of portfolio value maximizing shareholders with the goal of minimizing the risk of catastrophic externalities like climate change or financial crises. We develop a framework to guide policymakers in the pursuit of this new, fundamental conception of corporate

---

* Professor of Corporate Law, University of Oxford and ECGI Fellow.

** Assistant Professor Bocconi Law School.

We are grateful to Ron Gilson for the fruitful discussions and the numerous comments on earlier drafts, and Henry Hansmann, Kenneth Khoo, Sebastián Guidi, and participants to the Bocconi Corporate Law Workshop for helpful comments. Giulia Ballerini, Margherita Corrado, and Georgios Pantelias provided excellent research assistance. We would also like to thank Zachary Jarvis, Adam McGovern, Garrett Hable, Mitchell Anderson, Daniel Bowman and the entire staff at Arizona Law Review for the impeccable editing. Usual disclaimers apply.

law and illustrate how this rewiring of corporate law could work out by taking ownership disclosure rules as an example.

TABLE OF CONTENTS

INTRODUCTION

Two secular trends are shaking the foundations of corporate law. On the one hand, reconcentration of share ownership in the hands of institutional investors is a *fait accompli*. The three largest among them, BlackRock, Vanguard, and State Street (now known as "the Big Three"), have over $16 trillion of assets under management[1] and are together the largest owners at 88% of the S&P 500 companies.[2] On the other hand, we live in an increasingly interconnected world in which the actions of individual firms can deeply affect the whole economy, and hence society as a whole. The largest current and looming threats to our society—

1. BlackRock manages roughly $7.5 trillion of assets, *see* BLACKROCK, INC., ANNUAL REPORT (FORM 10-K) 4 (2020), State Street $3.16 trillion, *see* STATE STREET, CORP., ANNUAL REPORT (FORM 10-K) 4 (2020), whereas Vanguard manages $7.2 trillion, s*ee Fast Facts about Vanguard*, VANGUARD, https://about.vanguard.com/who-we-are/fast-facts/ [https://perma.cc/24TC-EERP] (last visited Jan. 24, 2021).

2. *See* Jan Fichtner et al., *Hidden Power of the Big Three? Passive Index Funds, Re-Concentration of Corporate Ownership, and New Financial Risk*, 19 BUS. & POL. 298, 298 (2017).

namely the COVID-19 pandemic,[3] climate change,[4] and financial and macroeconomic crises[5]—are all instances in which interconnections among actors enable local shocks to propagate across the whole system.[6] In this Article, we suggest that these two trends warrant a fundamental rethink of corporate law.

Traditionally, the core goal of corporate law has been to align managers' preferences with the interests of shareholders.[7] This traditional view builds on four core

---

3. As of January 2022, COVID-19 had already caused over 5.5 million deaths around the globe. *See Coronavirus Resource Center*, JOHNS HOPKINS UNIV., https://coronavirus.jhu.edu/ [https://perma.cc/MDX2-2ME6] (last visited Jan. 31, 2021). Moreover, it is projected to cause a drop of 4% of the global GDP. *See* Maryla Maliszewska et al., *The Potential Impact of COVID-19 on GDP and Trade: A Preliminary Assessment* 17 (World Bank Pol'y Rsch. Working Paper, Paper No. 9211, 2020), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3573211 [https://perma.cc/82CQ-MU9R].

4. The economic consequences of climate change are estimated to be catastrophic. According to the Cambridge Center for Risk Studies, absent significant mitigation strategies, climate change could impose losses to the global economy of $19 trillion over a five-year period. *See* SCOTT KELLY ET AL., UNHEDGEABLE RISK: HOW CLIMATE CHANGE SENTIMENT IMPACTS INVESTMENT 3 (2015), https://www.jbs.cam.ac.uk/wp-content/uploads/2020/08/crs-unhedgeable-risk.pdf [https://perma.cc/76SR-CLK3]. Most importantly, as noted by a Special Report by the Intergovernmental Panel on Climate Change, not all losses caused by climate change can be monetized. Many of the consequences of climate change, such as loss of human lives, cultural heritage, and ecosystem services, cannot easily be translated into monetary terms, and hence are not captured by most estimates. *See* INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, GLOBAL WARMING OF 1.5^0 C, 11 n.10 (2019), https://report.ipcc.ch/sr15/pdf/sr15_spm_final.pdf [https://perma.cc/SF4Z-FG9X].

5. Only in the United States, the 2007–2009 financial crisis caused losses for $4.6 trillion, or 15% of GDP. To put it differently, it cost on average $70,000 to every single American. Besides its catastrophic economic impact, the crisis also had important political consequences. Gautam Mukunda, *The Social and Political Costs of the Financial Crisis, 10 Years Later*, HARV. BUS. REV. (Sept. 25, 2018), https://hbr.org/2018/09/the-social-and-political-costs-of-the-financial-crisis-10-years-later [https://perma.cc/LVA8-WFQY].

6. While human-driven climate change is a signature of our time, pandemics and financial crises have long existed. However, the speed at which pandemics and financial crises propagate at a global scale is unprecedented and in large part attributable to the fact that the world is increasingly interconnected. As noted by Professor Ian Goldin, "The spread of coronavirus around the world is alarming, but not surprising. Globalisation creates systemic risks. As trade, finance, travel, cyber and other networks grow in scale and interact, they become more complex and unstable . . . . The super-spreaders of the goods of globalisation, such as major airport hubs, are also super-spreaders of the bads. The 2008 global financial crisis provided a dramatic example of how contagion could spread from the US to global markets overnight." Ian Goldin, *Coronavirus Shows How Globalisation Spreads Contagion of All Kinds*, FIN. TIMES (Mar. 3, 2020), https://www.ft.com/content/70300682-5d33-11ea-ac5e-df00963c20e6; *see also* IAN GOLDIN & MIKE MARIATHASAN, THE BUTTERFLY DEFECT: HOW GLOBALIZATION CREATES SYSTEMIC RISKS, AND WHAT TO DO ABOUT ITI *passim* (2014) (providing numerous examples of systemic risks caused by increasing interdependence in the contemporary world).

7. *See* REINIER KRAAKMAN ET AL., THE ANATOMY OF CORPORATE LAW 22–24 (3d ed. 2017).

intuitions. First, although shareholders' goal is to maximize firm value,[8] they lack the information set and the knowledge required to achieve their goal without managers' help.[9] Second, managers have superior information and knowledge but, third, they also aim at maximizing their own payoffs instead of focusing on firm value maximization. Fourth, "as a consequence of both logic and experience . . . the best means to . . . [maximize aggregate social welfare] is to make corporate managers strongly accountable to shareholder interests and, at least in direct terms, *only* to those interests."[10] To put it simply, shareholders have a single, well-defined objective, namely "to maximize the net present value of the firm's earnings per dollar invested."[11] Managing companies in the interest of shareholders that aim at maximizing the net present value of their firm leads to a higher level of social welfare than any realistically available alternative. Within that framework, the goal of corporate law is straightforward: aligning managers' preferences to those of shareholders.

This defense of firm value maximization is tightly intertwined with the view, dating back to Robert Lucas, that shocks hitting a firm or a sector are unlikely to have more than negligible macroeconomic consequences because they will be diversified away.[12] Against this background, the idea that the best available means to increase social welfare is for firms to strive for the maximization of their own value seems reasonable. While it is acknowledged that firms can cause externalities in the pursuit of profits, these externalities are presumed to be contained at the micro level. This presumption, in turn, justifies the view that tort law and regulations allow,

---

8. *See* Milton Friedman, *A Friedman Doctrine - The Social Responsibility of Business Is to Increase Its Profits*, N.Y. TIMES MAG., 32, 33 (Sept. 13, 1970) (arguing that generally the goal of a company's shareholders "will be to make as much money as possible while conforming to the basic rules of the society"). This view has also long been endorsed by courts. *See, e.g.*, Dodge v. Ford Motor Co., 170 N.W. 668, 684 (Mich. 1919) ("A business corporation is organized and carried on primarily for the profit of the stockholders. The powers of the directors are to be employed for that end. The discretion of directors is to be exercised in the choice of means to attain that end and does not extend to a change in the end itself, to the reduction of profits, or to the nondistribution of profits among stockholders in order to devote them to other purposes.").

9. *See generally* Michael C. Jensen & William H. Meckling, *Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure*, 3 J. FIN. ECON. 305 (1976) (providing an agency theory account of corporate governance).

10. Henry Hansmann & Reinier Kraakman, *The End of History for Corporate Law*, 89 GEO. L.J. 439, 441 (2000) (emphasis added).

11. Henry Hansmann, *Ownership of the Firm*, 4 J. L. ECON. & ORG. 267, 283 (1988).

12. *See* Vasco M. Carvalho, *From Micro to Macro via Production Networks*, 28 J. ECON. PERSP. 23, 25 (2014) (summarizing the traditional account offered by Lucas). For the original formulation, see Robert E. Lucas, Jr., *Understanding Business Cycles*, (1978) *reprinted in* ESSENTIAL READINGS IN ECONOMICS 306, 318 (Saul Estrin & Alan Martin eds. 1995) ("[[I]n a complex modern economy, there will be a large number of such shifts in any given period, each small in importance relative to total output. There will be much 'averaging out' of such effects across markets.").

however imperfectly and partially, for the internalization of firms' externalities.[13] And the externalities that are not thus internalized are perceived to be an acceptable price to pay for having aggressive competition among firms attempting to maximize their own value.

To summarize, the traditional view is therefore premised on two fundamental assumptions: events at the micro level do not have systemic consequences, and shareholders are firm value maximizers. The unprecedented interconnectedness of our economies and the rise of institutional ownership undermine both assumptions.

First, a robust literature has shown that local dynamics can have important consequences at an aggregate level, both for the economy and for the environment.[14] In an interconnected economy in which a few large firms coexist with many small firms, idiosyncratic shocks hitting single firms or sectors can cause macroeconomic fluctuations.[15] Similarly, the emissions of a few major carbon emitters propagate in the atmosphere and have significant impact on climate change at the global level.[16]

Second, to reap the benefits of diversification, institutional investors own significant stakes in a wide array of companies, and indirectly, so do the individuals investing through them.[17] At the most general level, as institutional investors own the vast majority of stocks of U.S. corporations, this implies that most shareholders' goal is no longer to maximize the present value of each firm separately. Instead, they aim at maximizing the aggregate value of their portfolio. Many papers show that institutional investors in fact take interfirm spillovers into account when acting *qua* shareholders and hence do not behave like firm value maximizers.[18] In other words, present-day shareholders are predominantly "portfolio value maximizing" ("PVM") shareholders. To be sure, we do not claim that institutional investors never act consistently with each individual portfolio firm's goal of maximizing its own value.[19] Yet there is robust evidence that they do at times act as portfolio value maximizers,[20] and it stands to reason that individual companies are more likely than in the past to deviate from firm value maximization under the influence of ever larger PVM shareholders. As reconcentration of shares in the passively invested portfolios

---

13. Stephen M. Bainbridge, *In Defense of The Shareholder Wealth Maximization Norm: A Reply to Professor Green*, 50 WASH. & LEE L. REV. 1423, 1431 (1993) (noting that there is a variety of mechanisms to induce shareholders to internalize the negative externalities they create).

14. *See infra* Section III.B.

15. *See infra* notes 129–45 and accompanying text.

16. *See infra* notes 146–50 and accompanying text.

17. Because beneficial owners currently have no voice with respect to their portfolio companies, we can ignore them throughout our analysis. Suffice it to say here that it is ultimately they who, as owners of a diversified portfolio of shares, (should) have a preference for the exercise of shareholder voice consistent with a portfolio valuemaximization objective.

18. *See infra* Section II.A.

19. *See infra* Part I.

20. *See infra* Section II.A.

of a few massive asset managers relentlessly proceeds,[21] institutional owners can be expected to ever more often have (and express) PVM preferences.

But why does it matter that institutional investors increasingly act as PVM shareholders? Consider the case of climate change, which is arguably the biggest challenge currently facing humanity. Market economies appear not suited to mitigate its effects. As leading policymakers have suggested, corporations that exclusively focus on maximizing shareholder value have limited incentives to address issues that cause significant externalities,[22] even more so given the shield of limited liability.[23] In fact, a firm that reduces its carbon emissions will bear the full cost of this strategy but only internalize a minimal fraction of the positive externality for the planet. Therefore, firms that aim at maximizing their own value will have an excessive level of carbon emissions.

The large, diversified institutional investors that dominate today's corporate landscape, such as the Big Three, arguably have different preferences. They hold significant stakes in virtually every firm in the economies of a number of countries on behalf of hundreds of thousands of beneficial owners.[24] Consequently, their preferences might be closer to those of society at large when it comes to decide questions such as how to reduce greenhouse gas emissions.[25] They would thus seem to be the ideal conduits for the internalization of a large fraction of the negative

---

21. *See* Lucian Bebchuk & Scott Hirst, *The Specter of the Giant Three*, 99 B.U. L. REV. 721, 723 (2019) (noting that "[o]ver the last decade, more than 80% of all assets flowing into investment funds has gone to the Big Three, and the proportion of total funds flowing to the Big Three has been rising through the second half of the decade" and concluding that "the Big Three will likely continue to grow into a 'Giant Three,' and that the Giant Three will likely come to dominate voting in public companies").

22. *See* Andrew Ross Sorkin et al., *Democratic Senators Prepare to 'Fundamentally Reform' Capitalism*, N.Y. TIMES (Oct. 30 2020), https://www.nytimes.com/2020/10/30/business/dealbook/democrats-warren-capitalism.html [https://perma.cc/7HMX-AHXJ] ("'Short-term financial pressure often pushes corporations to forgo necessary long-term investments, ignore the threat of climate change and concentrate opportunity in ways that exclude too many of our communities,' . . . senators [Tammy Baldwin, Tom Carper, Mark Warner and Elizabeth Warren] said in a statement. 'We will work together on ways we can fundamentally reform corporate governance in America.'").

23. *See* Henry Hansmann & Reinier Kraakman, *Toward Unlimited Shareholder Liability for Corporate Torts*, 100 YALE L. J. 1879, 1932 (1991) (arguing that limited liability allows for "substantial externalization of costs").

24. BlackRock alone is the largest shareholder of one-third of FTSE 100 companies and a top-five shareholder in 89 of them, *see* Martin C. Schmalz, *Common-Ownership Concentration and Corporate Conduct*, 10 ANN. REV. FIN. ECON. 413, 417 (2018), and in 2019 it cast votes at 16,124 meetings around the globe, *see* BLACKROCK, 2019 INVESTMENT STEWARDSHIP ANNUAL REPORT 24 (2019), https://www.blackrock.com/corporate/literature/publication/blk-annual-stewardship-report-2019.pdf [https://perma.cc/H2G9-U7LX].

25. *See* Madison Condon, *Externalities and the Common Owner*, 95 WASH. L. REV. 1, 17–18 (2020) ("For indexers and quasi-indexers whose investment strategy is to match the market . . . this ability to influence the market beta itself is unprecedented. This uniqueness can explain why institutional investors have taken on the role of proactive overseers of management and undertaken many of the climate-related corporate engagements discussed in the following section.").

externalities caused by carbon emissions. In other words, large institutional investors are less concerned than undiversified shareholders with the performance of individual portfolio companies and more interested in the state of the whole economy. Intriguingly, large institutions appear to have pushed competing firms to reduce carbon emissions,[26] and there is even evidence that they have successfully done so.[27] These findings raise the question: are PVM shareholders going to help save the world from climate change and other similar threats to our lives and livelihoods?

Most would probably answer this question with a resounding no.[28] If anything, a number of leading scholars have been vocal in suggesting that, if left unchecked, institutional investors' preferences can lead to socially harmful outcomes:[29] institutional investors that own shares in competitors might have a stronger interest than a nondiversified shareholder in reducing the level of competition among those firms so as to maximize the joint value of their portfolio assets at the industry level. In turn, as scholars have suggested, anticompetitive behavior of this kind would have negative consequences ranging from hindering economic growth to increasing income and wealth inequality.[30] From this perspective, the question would rather seem to be: are PVM shareholders going to destroy our economies?

The answers to these questions may also hinge on how corporate law evolves in response to the fact that the assumptions on which it was grounded are

---

26. *See* Gillian Tett, *In the Vanguard: Fund Giants Urge CEOs to Be 'Force for Good,'* FIN. TIMES (Feb. 1, 2018), https://cecp.co/wp-content/uploads/2018/02/FT_Investor_Letter_2.1.18.pdf [https://perma.cc/8QEN-8NHK].

27. *See* José Azar et al., *The Big Three and Corporate Carbon Emissions Around the World*, 142 J. FIN. ECON. 674, 674 (2021) (observing "a strong and robust negative association between Big Three ownership and subsequent carbon emissions among MSCI index constituents, a pattern that becomes stronger in the later years of the sample period as the three institutions publicly commit to tackle ESG issues"). *See also* Alexander Dyck et al., *Do Institutional Investors Drive Corporate Social Responsibility? International Evidence*, 131 J. FIN. ECON. 693, 694 (2019) (finding that "greater institutional ownership is associated with higher firm—level E&S scores. Not only is this result statistically significant, but it is also economically meaningful"); Condon, *supra* note 25, at 2–3 (describing how a coalition of institutional investors persuaded Royal Dutch Shell to embark in a massive program to reduce its net carbon footprint that had been defined by the CEO as "cumbersome and onerous").

28. *See, e.g.*, Giovanni Strampelli, *Can BlackRock Save the Planet? The Institutional Investors' Role in Stakeholder Capitalism*, 11 HARV. BUS. L. REV. ONLINE 1, 19 (2021) (finding it "illusory to assume that institutional investors will accept the burden of pursuing objectives of general interest, essentially acting in place of the state, especially with regard to issues related to sustainability, and more particularly environmental protection and social policies").

29. *See, e.g.*, Einer Elhauge, *Horizontal Shareholding*, 129 HARV. L. REV. 1267 (2016); Eric A. Posner, Fiona M. Scott-Morton & E. Glen Weyl, *A Proposal to Limit the Anti-Competitive Power of Institutional Investors*, 81 ANTITRUST L. J. 669 (2017); Fiona M. Scott-Morton & Herbert J. Hovenkamp, *Horizontal Shareholding and Antitrust Policy*, 127 YALE L. J. 2026 (2018). All of them analyze the ways in which horizontal shareholding provides powerful incentives to engage in anticompetitive behavior.

30. *See, e.g.*, Elhauge *supra* note 29, at 1281–1301.

no longer true. This Article suggests that corporate law reacts by moving beyond the traditional one-size-fits-all rules in favor of a two-pronged system. For a subset of firms, namely those that can produce significant externalities at the aggregate level ("central firms"[31]), corporate law should be structured in a way that gives more voice to PVM shareholders than to firm value maximizing ("FVM") shareholders. For all other firms it should be the other way round.

Importantly, we remain agnostic as to whether large PVM institutions currently have too much or too little voice in corporate governance. Therefore, ours is a call neither to increase their power nor to limit their clout. Instead, we make a subtler point, namely that their power *qua* shareholders should vary depending on whether their portfolio company is central or not. Thus, policymakers who believe that large and diversified institutional investors have too much influence on portfolio companies should curtail these investors' role more in noncentral firms than in central firms. Vice versa, if policymakers believe that large and diversified institutional investors should be more involved in the governance of their portfolio companies, they should increase such investors voice more in central firms than in noncentral firms.

Our two-pronged approach would allow policymakers to get the best of both worlds. In noncentral firms, FVM shareholders will have stronger incentives to push firms to compete aggressively. In central firms, PVM shareholders will be better positioned to counter the preferences of FVM shareholders that are oblivious to systemic externalities. We illustrate how rules on ownership disclosure could be reshaped to reflect these criteria.

Before we proceed, we address one anticipated objection to the policy implications we draw from our analysis: corporate governance and corporate law are not the right tools to address catastrophic externalities, and that it should be policymakers' job to tackle them with better targeted policy measures.

Note, though, that we do not suggest that PVM shareholders should be *the*, let alone *the only*, bastion against climate change and similar threats. Similarly, we do not imply that corporate law should be *the*, let alone *the only*, policy response to those threats. Rather, we argue that both PVM shareholders and corporate law may and should, respectively, do their part.[32] In many instances PVM shareholders will have better information than policymakers on the best possible course of action for their portfolio companies. They may thus fare better at identifying the most effective and least intrusive ways to contain the risk of catastrophic externalities. At the same time, many of the catastrophic threats we face reach well beyond jurisdictional

---

31. For further discussion of central firms, see *infra* Section III.C.

32. The Nobel Prize economist Elinor Ostrom emphasized the importance of having a polycentric approach to climate change, in which public and private actors play a role. *See* Elinor Ostrom, *Nested Externalities and Polycentric Institutions: Must We Wait for Global Solutions to Climate Change Before Taking Actions at Other Scales?*, 49 ECON. THEORY 353, 355–56 (2012) (defining a polycentric approach as "multiple public and private organizations at multiple scales jointly affect collective benefits and costs," and then suggesting that such polycentric approach is necessary to tackle climate change).

boundaries.[33] Consequently, (national) policymakers have suboptimal incentives to take action.[34] Admittedly, PVM shareholders are themselves likely to have suboptimal incentives because they are mostly concerned with negative spillovers hitting their portfolio firms and will be oblivious to externalities that fall onto consumers and nonlisted companies that are not in their portfolios. But the point is that we should view PVM shareholders and policymakers as complements: the former will, however partially,[35] account also for interjurisdictional externalities, whereas the latter, if and when they act, and however imperfectly, will also account for externalities that fall onto consumers and nonlisted companies.

The Article is organized as follows. In Part I, we discuss the rise of institutional ownership and introduce the intuition that institutional investors may pressure portfolio companies to adopt strategies consistent with portfolio rather than firm value maximization. Part II reviews the empirical evidence showing that institutional investors do, at least at times, act as portfolio value maximizers. Part III explores the respective vices and virtues of FVM and PVM shareholders. After briefly discussing three of the main threats faced by modern society, namely climate change, systemic risk, and macroeconomic risk, we show that for each of these threats a clearly identifiable subset of central firms can be identified that plays a disproportionately large role in creating the risk of catastrophic negative externalities. In Part IV, we illustrate how corporate law could be reshaped to provide differentiated rules for listed companies, depending on whether they are peripheral or central firms, using the examples of ownership disclosure rules. Part V explains why the two-pronged approach to corporate law cannot be used to help prevent catastrophic pandemics like the COVID-19 one, but it might play a role in helping mitigate their effects. Part VI concludes.

I. PORTFOLIO VALUE MAXIMIZATION BY INSTITUTIONAL SHAREHOLDERS: DOES IT MATTER?

In this Part, we introduce the key players in today's corporate governance environment, namely institutional investors, and show which among them may act as portfolio value maximizers in their interactions with investee companies and to what extent, based mainly on their investment style and regulation. The theoretical claim is that at least in some instances institutional investors exercise their influence as shareholders of individual portfolio companies to induce them to internalize part of the externalities that negatively affect the performance of the investors' portfolio

---

33. *See* Mariana Pargendler, *The Rise of International Corporate Law* 4 (Eur. Corp. Governance Inst. - L. Working Paper, Paper No. 555/2020, 2020), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3728650 [https://perma.cc/56B2-PBWK].

34. *Id.*

35. There are many reasons why institutional investors might only partially account for interjurisdictional externalities. For instance, it is a well-documented fact that investors are affected by home bias, because they overinvest in domestic equity. *See, e.g.*, Joshua D. Coval & Tobias J. Moskowitz, *Home Bias at Home: Local Equity Preference in Domestic Portfolios*, 54. J. FIN. 2045, 2046 (1999) (discussing the possible reasons behind home bias in investing).

as a whole. Part II will in turn summarize the empirical evidence supporting this claim.

Our starting point is the general observation that individual corporations' strategies (over what products to develop, how to produce them, how much to control emissions, etc.) can be consistent with the maximization of: (a) both their own value and the value of their institutional shareholders' portfolios, which we call "privately optimal strategies" because they maximize the value for both FVM and PVM shareholders but not necessarily social welfare;[36] (b) the corporations' institutional shareholders' portfolio value but not the corporations' own value; (c) the corporations' own value but not portfolio value; or (d) neither. Table 1 captures these four scenarios.

Table 1: Possible Effects of Corporate Strategies

	The strategy of a given portfolio company maximizes the value of that company		
		No	Yes
The strategy of a given portfolio company maximizes the value of a wider portfolio	No	Wasteful strategy	FVM-only strategy
	Yes	PVM-only strategy	Privately optimal strategy

Intuitively, the interests of FVM and PVM shareholders are aligned most of the time. More precisely, FVM and PVM shareholders' preferences are the same for both wasteful and privately optimal strategies. For instance, both FVM and PVM shareholders would dislike a loss-making project that diverts resources from a company to its management or an acquisition creating no synergies but rather motivated by managerial hubris. Similarly, a merger that increases the value of the companies involved is likely to be in the best interest of both PVM and FVM shareholders. Yet there can be instances in which institutional investors prefer, support and obtain the implementation of individual-company strategies that maximize the value of the investors' portfolio but not of the individual company (PVM-only strategies). To understand the extent to which this can be the case, it will help if we first outline what institutional investors actually do and what services they perform.

Institutional investors can be defined as businesses specializing in the management of other people's money by investing in securities and other asset classes.[37] While their products come in many forms, including as insurance policies and banks' trust services, the most common legal structure for asset management implies a separation between the asset manager and the investors' funds, which are

---

36. *See infra* text preceding notes 74–75.

37. *See, e.g.*, Amil Dasgupta et al., *Institutional Investors and Corporate Governance* 4–5 (Eur. Corp. Governance Inst. – Fin. Working Paper, Paper No. 700/2020, 2020), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3682800 [https://perma.cc/Y44S-TDQG].

pooled into separate legal entities known as investment funds.[38] Given the dominance of this legal form on the market, we focus our attention on investment funds and their asset managers, starting with a brief description of their mechanics.

The asset manager and the fund stipulate a contract under which the former provides the personnel and services that are necessary to run the latter and retains full authority to manage it.[39] The asset manager then raises capital by selling fund shares to investors.[40] The monies thus raised are then invested in securities and other assets, with the investment fund usually paying a fee for the management and other services rendered by the asset managers.

This structure creates a dual agency relationship.[41] On the one hand, institutional investors are agents of the investors who buy shares of their funds, owing them (or, formally, each of the funds they manage) fiduciary duties,[42] including the duty to maximize the funds' returns according to the risk profile identified and disclosed to potential investors in the management contract.[43] On the other, as shareholders of their portfolio companies, institutional investors are principals of the managers of such companies[44] and, given their prominence, may have an influence on how companies are run.

Investment funds have different management styles. A fundamental distinction is between passively and actively managed funds. The former merely track indexes,[45] while in the latter case asset managers attempt to identify which

---

38. *See* John Morley, *The Separation of Funds and Managers: A Theory of Investment Fund Structure and Regulation*, 123 YALE L.J. 1228, 1238–40 (2013).

39. *Id.* at 1239.

40. *Id.*

41. *See* Ronald J. Gilson & Jeffrey N. Gordon, *The Agency Costs of Agency Capitalism: Activist Investors and The Revaluation of Governance Rights*, 113 COLUM. L. REV. 863, 874–88 (2013) (describing the dual agency relationship characterizing asset managers).

42. *See* John D. Morley, *Too Big to Be Activist*, 92 S. CAL. L. REV. 1407, 1417 (2019) ("Like a lawyer who represents multiple clients at the same time, an investment manager has a fiduciary responsibility—rooted in the laws of agency, trusts, corporations, and contract—to serve the interests of each client individually without sacrificing the interests of that client for the benefit of any other.").

43. *See* Max M. Schanzenbach & Robert H. Sitkoff, *Reconciling Fiduciary Duty and Social Conscience: The Law and Economics of ESG Investing by a Trustee*, 72 STAN. L. REV. 381, 400–03 (2020) (discussing the fiduciary duty of asset managers).

44. In some cases, for instance when pension funds buy fund shares, the agency relationship can even become multilayered. Dasgupta et al., *supra* note 37, at 38.

45. Passive funds do not attempt to outperform the market, but merely to match its performance. The main advantages of this investment strategy are that it minimizes trading costs and tax liability. *See* John C. Coffee, *The Future of Disclosure: ESG, Common Ownership, and Systematic Risk* 3 n.6 (Eur. Corp. Governance Inst. – L. Working Paper, Paper No. 541/2020, 2021), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3678197 [https://perma.cc/T3H2-BY2M].

companies will outperform the market and thus invest significant resources in gathering information about those companies.[46]

Among actively managed funds, some are regulated as mutual funds and some are not. Mutual funds issue securities to all sorts of investors, including retail, and for that reason need to register with the Securities and Exchange Commission and comply with the Investment Company Act of 1940. This statute provides *inter alia* for minimal diversification rules and regulates how asset managers can be compensated for their services.[47] Instead, hedge funds only issue securities to institutional investors and sophisticated individuals and are hence subject to much lighter regulation, including on diversification and compensation.[48]

The differences in management style (active vs. passive funds) and regulation (mutual vs. hedge funds) affect institutions' inclination to focus on firm versus portfolio value maximization. At one extreme, an institution exclusively managing passive funds will be virtually indifferent to the performance of *individual* companies in its portfolio. Pursuant to its business model, the passively managed fund does not chase alpha, but instead chases beta by holding a portfolio replicating the entire market.[49] Yet with revenues coming in the form of management fees (however small) calculated on assets under management[50] and from stock lending,[51] an asset manager will still have an interest in the market as a whole providing returns on their clients' investment. Without returns, clients may reduce investment,[52]

---

46. As noted by Kenneth French, active funds are unlikely to outperform passive funds. Kenneth French, *Presidential Address, The Cost of Active Investing*, 63 J. FIN. 1537, 1561 (2008). In fact, more and more assets are migrating towards passive funds, and in 2019 for the first time the funds tracking broad U.S. equity indexes had more assets by value than stock-picking rivals. Dawn Lin, *Index Funds Are the New Kings of Wall Street*, WALL ST. J. (Sept. 18, 2019), https://www.wsj.com/articles/index-funds-are-the-new-kings-of-wall-street-11568799004.

47. Investment Companies Act of 1940, 15 U.S.C. §§80a-5(b)(1), a-35(b) (2018).

48. Title IV of the Dodd-Frank Act defines as "private funds" the funds that are exempted from registration under the Investment Company Act of 1940 because they offer their securities to qualifying clients only. Hedge funds and private-equity funds usually fall under this definition. Hedge fund managers enjoy more flexibility with respect to the assets they invest in and can take short positions, borrow, and use exotic derivatives. *See generally* Rene M. Stulz, *Hedge Funds: Past, Present, and Future*, 21 J. ECON. PERSP. 175, 177 (2007);*see also* Lucian A. Bebchuk et al., *The Agency Problems of Institutional Investors*, 31 J. ECON. PERSP., 89, 104 (2017).

49. On the capital asset pricing model and the distinction between alpha and beta see, for example, André F. Perold, *The Capital Asset Pricing Model*, 18 J. ECON. PERSP. 3, 14 (2004).

50. *See* John Morley & Quinn Curtis, *Taking Exit Rights Seriously: Why Governance and Fee Litigation Don't Work in Mutual Funds*, 120 YALE L.J. 84, 92, 98–99 (2010) (explaining fund advisors' compensation).

51. *See* Edwin Hu et al., *Index-Fund Governance: An Empirical Study of the Lending-Voting Tradeoff* 22 n.5 (N.Y.U. L. & Econ. Rsch. Paper, Paper No. 20-52, 2020), https://ssrn.com/abstract=3673531 [https://perma.cc/5Z9B-NSWC] (detailing how institutional investors draw significant revenues from lending shares).

52. *See* Jill Fisch et al., *The New Titans of Wall Street: A Theoretical Framework for Passive Investors*, 168 U. PA. L. REV. 17, 32 (2019) (noting that passive funds are

leading to lower management (and other services) fees and fewer shares to lend.[53] In other words, a wholly passive manager does care about portfolio value maximization. At the same time, however, a similar institution will be rationally reticent, that is, have weak incentives to actively influence portfolio companies in order to improve its funds' performance, because competitor passive fund managers will equally gain from its effort.[54] Rational reticence prevents passive fund managers from engaging with individual companies to improve these companies' performance (which would be anyhow inconsistent with their beta-focused management style). But, similarly, it will be rational for passive fund managers to do nothing to induce portfolio companies to internalize externalities, especially where quantifying the interfirm effects of such externalities across their portfolios requires significant investment in information gathering and processing.[55]

In turn, an institution only managing active mutual funds picks a subset of the shares available on the market and is therefore overweighted in its portfolio companies. It also earns a management fee calculated on its funds' portfolio size that is generally higher than the fee charged by passive mutual funds.[56] In the long run, the institution's ability to attract client funds will depend, at least in part, on a track record showing that it can consistently beat the market. Hence, such an institution will indeed care about the performance of individual companies in its portfolio and may even have sufficient incentives to use its voice to influence the individual companies' management. Yet the regulatory requirements against

---

competing with other forms of investments to attract capital, and hence are interested in the performance of their portfolio); *see also* Bernard S. Black, *Agents Watching Agents: The Promise of Institutional Investor Voice*, 39 UCLA L. REV. 811, 879–81 (1992) (making a similar point).

53. With management fees down to close to zero due to competition (if not zero: see Ryan Vlastelica, *Fidelity Announces Zero-Fee Funds, in a Big Milestone for the Industry*, MARKETWATCH (Aug. 1, 2018, 5:23 PM), https://www.marketwatch.com/story/fund-fees-hit-milestone-as-fidelity-announces-products-charging-0-2018-08-01 [https://perma.cc/3WP6-L6EA] (discussing Fidelity's zero-fee funds)), stock lending is one of the main sources of revenues for managers of passive funds. Hu et al., *supra* note 51, at 7. *See also* Lucian A. Bebchuk & Scott Hirst, *Index Funds and the Future of Corporate Governance: Theory, Evidence, and Policy*, 119 COLUM. L. REV. 2029, 2054–55 (2019) ("The average expense ratios for the Big Three—the combined fees and expenses that they receive for their services as a percentage of assets under management—are 0.30%, 0.09%, and 0.17% for BlackRock, Vanguard, and SSGA, respectively, and the fee percentages are even lower as these figures also include expenses.").

54. *See* Gilson & Gordon, *supra* note 41, at 867.

55. *Cf.* Anna Christie, *The Agency Costs of Sustainable Capitalism: Responsible Activists, Index Investors, and the Big Three*, 55 U.C. DAVIS L. REV. 875, 946–54 (2021); Jeffrey N. Gordon, *Systematic Stewardship* 33–36 (Eur. Corp. Governance Inst - L. Working Paper, Paper No. 566/2020, 2021). Both acknowledge the rational reticence problem in this setting but argue that passive funds may respond to climate-focused activists' campaigns and get informed. Still, as Gordon notes, activist funds cannot be expected to address the externalities arising from excessive risk-taking by systemically important financial institutions. Gordon, *supra*, at 55.

56. *See* INV. CO. INST., 2018 INVESTMENT COMPANY FACT BOOK 126 (58th ed. 2018) (showing that index funds have a much lower average expense ratio than active equity funds).

excessive concentration of holdings in individual companies limit a mutual fund asset manager's ability to be overweighted on individual stocks. In addition, its fiduciary duty is to maximize the value of a fund's portfolio.[57] Therefore, institutions with such business models might not act as firm value maximizers either. While they are unlikely to systematically favor strategies that maximize stock market returns as a whole to the detriment of individual portfolio companies' value, mutual fund asset managers may well be overweighted in the shares of companies within an individual industry. In that case, they may have a preference for maximizing such companies' *joint* returns even at the expense of the returns of some among them.

Last, institutions specializing in hedge fund management are not subject to regulatory limits on concentrating bets on individual companies and may charge fees that are both more sensitive to their portfolio's performance and higher than those typically charged by active funds.[58] As a consequence, hedge fund managers, even if they are much smaller than mutual fund managers, play a disproportionally large role in corporate governance,[59] especially those among them that engage with portfolio companies in oft adversarial activist campaigns aimed to obtain changes in strategy, governance, or both. Importantly, in order to win their campaigns, activist hedge funds must push for strategies that a sufficient number of active and passive institutions will find consistent with their interests and duties.[60] Table 2 summarizes these considerations.

Table 2: Different Kinds of Institutional Investors

	Revenues	Percentage of assets invested in each portfolio company	Preference for market-wide PVM policies	Incentives to engage with individual companies
Hedge Funds	High fees, aligned to investors' interests	High	Low	High
Active Mutual Funds	Medium fees, weakly aligned to investors' interests	Medium	Medium	Medium
Passive Mutual Funds	Low if not zero fees, stock lending fees	Low	High	Low

Most institutions do not fully specialize in one form of asset management or the other. The largest institutional investors manage families of passive as well as active mutual funds; some of them have departments managing hedge funds too. For

57. *See* Schanzenbach & Sitkoff, *supra* note 43, at 400–03.

58. William Fung & David A. Hsieh, *A Primer on Hedge Funds*, 6 J. EMPIRICAL FIN. 309, 310 (1999).

59. *See* Dasgupta et al., *supra* note 37, at 12 ("[A]ctivist hedge funds . . . have wielded a disproportionate influence on corporate governance in the recent two decades.").

60. Gilson & Gordon, *supra* note 41, at 897 (noting that in many instances hedge funds can be successful only if they persuade enough mutual funds to support their campaign).

example, BlackRock has $4.9 trillion in passive funds, $1.9 trillion in active funds,[61] and $38 billion in hedge funds.[62] Smaller institutions, however, are unlikely to also offer passive funds because of the economies of scale in the passive management business. .

Institutional investors are required to act as maximizers of returns of each separate portfolio within the fund family. *Qua* shareholders in portfolio companies, however, they may be more or less inclined to exercise their voice in the pursuit of a portfolio value maximization goal, depending on factors beyond their individual business models and their fiduciary duties toward beneficiaries.

First, institutions may economize on the costs of gathering information on how to vote and engage with portfolio companies by centralizing, as they mostly do, the relevant function at the level of the family of funds rather than at the individual-fund level.[63]

Second, even institutions specializing in passive fund management may exercise their voice at individual companies according to the preferences of the employees in charge of actively managed funds. That may happen both because those employees are more likely to have company-specific knowledge that will be hard to ignore and because actively managed funds may contribute more than passive funds to the asset manager's bottom line.[64]

Third, individual stances toward portfolio companies may be the outcome of interactions among individual employees or departments within institutions (and across them).[65] Interactions of this kind may lead to swaying passively managed funds' voting behavior in the direction of FVM strategies or, conversely, to making actively managed funds more sensitive to market-wide issues than their portfolios would warrant.

To complicate things further, estimating interfirm spillovers can be a very complex endeavor, especially for institutional investors that hold stakes in thousands of corporations. Consequently, in many instances an institutional investor may not know in which quadrant of Table 1 a given strategy will fall. Similarly, the distinction between a company's FVM strategies and PVM strategies is not always clear, especially to anyone outside the firm: it is perfectly plausible that a PVM institution supports FVM-only strategies because it mistakenly perceives them as purely PVM or as both PVM and FVM.

---

61. *See* BLACKROCK, INC., *supra* note 1, at 4.

62. *See Why BlackRock for Hedge Funds*, BLACKROCK, https://www.blackrock.com/institutions/en-us/strategies/alternatives/hedge-funds#blackrock-team [https://perma.cc/2KMK-KLPC] (last visited Jan. 24, 2021).

63. *See, e.g.*, Fisch et al., *supra* note 52, at 42 ("It is common for fund sponsors to coordinate the engagement and voting activities of their active and passive funds through a centralized governance or stewardship committee, a measure designed, at many fund families, to increase information flow between active and passive funds.").

64. *Id*. at 43, 65–66.

65. *See* Luca Enriques & Alessandro Romano, *Institutional Investor Voting Behavior: A Network Theory Perspective*, 2019 U. ILL. L. REV. 223, 243–54 (outlining the network effects across institutional investors that can lead to more coordination among them than standard economics would predict).

To conclude, all institutional investors have a legal duty to act as portfolio value maximizers at the level of each individual fund, but a number of factors will interact in determining whether and to what extent: (1) that will in fact be the case; (2) their PVM preferences translate into stewardship advocating PVM-only strategies; (3) portfolio companies do implement those strategies; (4) courts and investors can in fact ascertain that asset managers breached their duty. These are empirical questions that a burgeoning literature on institutional investors' role in corporate governance and on "common ownership" (i.e., the phenomenon where competing firms have shareholders with significant stakes in common) has started to answer.

II. INSTITUTIONAL SHAREHOLDERS' INFLUENCE AS PORTFOLIO VALUE MAXIMIZERS

That institutional owners influence companies is well-known.[66] In this Article, however, we are concerned with the narrower claim that, consistent with their goal of maximizing returns at the portfolio level, institutional investors induce investee companies to internalize at least some interfirm effects. The next Section describes the empirical evidence in support of this claim. An important caveat is that in practice the distinction between PVM and FVM strategies is not always clear-cut, which means that some of the empirical evidence presented below can be interpreted either way.

66. *See, e.g.*, Ian R. Appel et al., *Passive Investors, Not Passive Owners*, 121 J. FIN. ECON. 111, 134 (2016) (finding that "ownership by passively managed mutual funds is associated with more independent directors on a board, fewer takeover defenses, and more equal voting right"); Alan D. Crane et al., *The Effect of Institutional Ownership On Payout Policy: Evidence From Index Thresholds*, 29 REV. FIN. STUD. 1377, 1377 (2016) (showing that "higher institutional ownership causes firms to pay more dividends"); Philippe Aghion et al., *Innovation and Institutional Ownership*, 103 AM. ECON. REV. 277, 277 (2013) (finding that "greater institutional ownership is associated with more innovation"); *see also* Andrew Bird & Stephen A. Karolyi, *Do Institutional Investors Demand Public Disclosure?*, 29 REV. FIN. STUD. 3245, 3245 (2016) (finding that an increase in institutional ownership is associated with Form 8K filings that are longer and contain more graphical information); Mozaffar Khan et al., *Institutional Ownership and Corporate Tax Avoidance: New Evidence*, 92 ACCT. REV. 101, 101 (2017) (finding that higher institutional ownership is associated with more tax avoidance).

A. Empirical Evidence

Figure 1 summarizes the main areas in which the available evidence suggests that institutional investors with stakes in multiple companies might be inducing their portfolio companies to internalize part of the externalities produced by their activity.

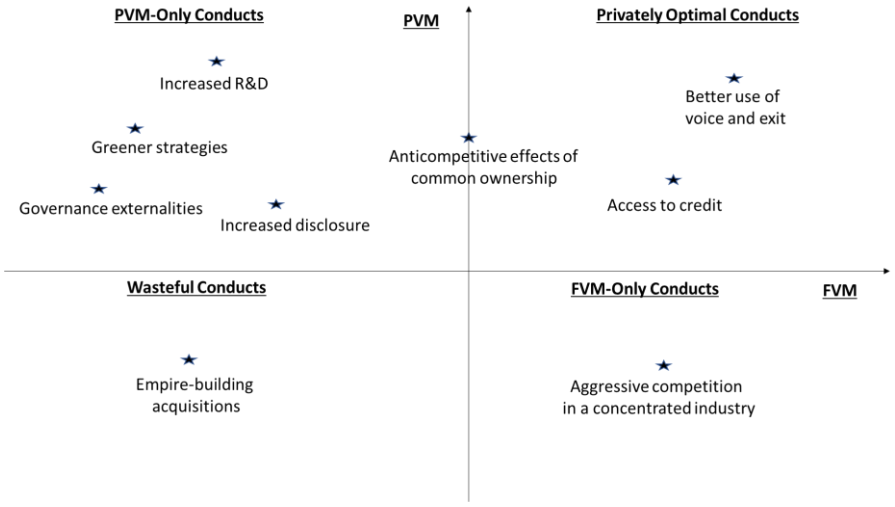

Figure 1: A Summary of the Empirical Evidence that Common Ownership Affects Corporate Strategies Along Various Dimensions

The anticompetitive effects of common ownership are the most debated manifestation of corporate-level strategy consistent with institutional investors' PVM preferences. In virtually all oligopolistic markets, large institutional investors own significant stakes in the main horizontal competitors. To maximize the aggregate value of their stakes in the horizontal competitors, they may prefer a lower level of competition in their markets. In a seminal paper, Azar, Schmalz, and Tecu showed that this relationship holds in the airline industry, as higher values of common ownership are associated with prices at the route level that are 3% to 7% higher.[67] Other papers have found similar results in other markets. For instance,

67. José Azar et al., *Anticompetitive Effects of Common Ownership*, 73 J. FIN. 1513, 1517 (2018). Their seminal paper spurred an intense debate. Two empirical papers questioned their results. Patrick Dennis et al., *Common Ownership Does Not Have Anti-Competitive Effects in the Airline Industry*, J. FIN. (forthcoming) (manuscript at 2), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3063465 [https://perma.cc/K4YJ-S2FR] (presenting "evidence that suggests the positive correlation between the measure of common ownership concentration and airline ticket fares documented in the AST paper does not reflect a causal relationship"); Pauline Kennedy et al., *The Competitive Effects of Common Ownership: Economic Foundations and Empirical Evidence*, SSRN 4 (July 24, 2017), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3008331 [https://perma.cc/WL5V-UL9Y] ("In contrast to AST, we find no evidence in our price regressions and structural model estimation that common ownership raises prices."). The authors of the original studies

Torshizi and Clapp found that horizontal shareholding significantly contributed to an increase in soy, corn, and cotton seed prices,[68] while a study from Azar, Raina, and Schmalz suggested that common ownership might be lowering the level of competition in retail banking.[69] Additionally, a study ordered by the European Commission found that the merger between BlackRock and another institutional investor—which resulted in an increase in common ownership—increased market power in the beverage industry.[70] Similarly, Xie and Gerakos found that common ownership affects the competition between branded and generic drugs.[71] Looking at the issue from a different angle, Anton and coauthors suggested that horizontal shareholding could lead to compensation packages that give top executives weaker incentives to compete.[72]

These studies suggest that at least in some instances and some markets, institutional investors might prefer a lower level of competition among firms in their portfolios because aggressive competition by one of their portfolio firms would negatively affect other firms in their portfolio.[73] In other words, competition

---

reacted to these criticisms by defending their findings. José Azar et al., *Reply to: 'Common Ownership Does Not Have Anti-Competitive Effects in the Airline Industry,'* SSRN (Apr. 24, 2018), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3168095 [https://perma.cc/A6XW-M9L8]; José Azar et al., *Research on the Competitive Consequences of Common Ownership: A Methodological Critique*, 66 ANTITRUST BULL. 113 (2021).

68. Mohammad Torshizi & Jennifer Clapp, *Price Effects of Common Ownership in the Seed Sector*, 66 ANTITRUST L. BULL. 39, 41 (2021) (finding that "that approximately 6.2%–14.6% of maize, soybean, and cotton seed price increases over the 1997–2017 period are attributable to common ownership").

69. José Azar et al., *Ultimate Ownership and Bank Competition*, 2021 FIN. MGMT. 1, 40 (finding that indicators accounting for ownership structure—and in particular of common ownership—better predicts market outcomes like interest rates, maintenance fees, and fee thresholds.). *But see* Jacob Gramlich & Serafin Grundl, *Estimating the Competitive Effects of Common Ownership* 2 (FEDS Working Paper, Paper No. 2017-029, 2017), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2940137 [https://perma.cc/EXP9-KWRR] (proposing an alternative methodology to measure common ownership and finding that the impact of common ownership on price and quantities depends on the specification of the model and is "quite small").

70. NICOLETTA ROSATI ET AL., COMMON SHAREHOLDING IN EUROPE 167–204 (2020).

71. Jin Xie & Joseph Gerakos, *The Anticompetitive Effects of Common Ownership: The Case of Paragraph IV Generic Entry*, 110 AM. ECON. ASSOC. PAPERS & PROC. 569, 569 (2020).

72. Miguel Antón et al., *Common Ownership, Competition, and Top Management Incentives* (Eur. Corp. Governance Inst. (ECGI) – Fin. Working Paper, Paper No. 511/2017, 2016), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2802332 [https://perma.cc/8V9G-9B2P]. *But see infra* note 113 for references to works criticizing their result.

73. Even two of the staunchest opponents of the idea that common ownership can lead to anticompetitive effects concede that in some instances common shareholders can facilitate coordination among competitors. *See* Edward B. Rock & Daniel L. Rubinfeld, *Common Ownership and Coordinated Effects*, 83 ANTITRUST L.J. 201, 201 (2020) (discussing cases in which coordinated anticompetitive effects from common ownership are "plausible").

outcomes in such markets appear to be consistent with the preferences of PVM shareholders.

Yet this debate also highlights how it is often impossible for an outside observer to discriminate between instances in which shareholders are acting as portfolio value maximizers and instances in which they are acting as firm value maximizers. To illustrate why, let us take the evidence suggesting that common ownership leads to lower competition as conclusive. Facing a lower level of competition in a market is generally good for the individual firm, but common ownership may affect the level of competition both consistently with the individual firms' value maximization goal and in contrast to it.

On the one hand, each of the firms may *independently* prefer a lower level of competition, in which case common ownership is merely a way to facilitate coordination. This puts a weak competition strategy in the privately optimal strategy quadrant of Table 1, that is, the preferred strategy in terms of both firm value maximization and portfolio value maximization.[74] Importantly, this strategy is optimal for the firms' shareholders, but not necessarily socially optimal. In fact, a low level of competition is generally associated with welfare losses.[75]

On the other hand, suppose that one particularly strong and innovative firm within the relevant industry would be able to maximize firm value by competing aggressively.[76] Its PVM shareholders, though, might still prefer a lower level of competition in order to benefit all their portfolio companies operating in the market. If PVM shareholders prevailed, the firm's strategy would be situated in the PVM-only quadrant. For an external observer, however, it may be virtually impossible to distinguish between the case in which common ownership merely facilitates coordination towards the anticompetitive equilibria preferred by each of the firms, and the case in which common ownership leads firms to prefer a lower level of competition. Therefore, Figure 1 indicates that the anticompetitive effects of

---

74. For the sake of simplicity, we have not included the possibility of intermarket spillovers in this simplified example. If the negative intermarket spillovers that are associated with a lower level of competition are sufficiently large, it might be that a lower level of competition is in the interest of FVM shareholders, but not of PVM shareholders. *See* Alessandro Romano, *Horizontal Shareholding and Network Theory*, 38 YALE J. ON REG. 363, 406–07 (2020).

75. *See, e.g.*, PAUL KRUGMAN & ROBIN WELLS, MICROECONOMICS 347-48, 366–70 (2005) (making the point that "[m]onopoly causes a net loss for the economy" and then showing how cartels may achieve the same outcome as a monopoly).

76. *Cf*. Schmalz, *supra* note 24, at 414. Schmalz describes some examples of FVM shareholders:

> Richard Branson was the largest shareholder of Virgin America, Warren Buffett controls Berkshire Hathaway, Jeff Bezos is by far the largest shareholder of Amazon, and the Waltons control Walmart. If these firms act in their largest shareholders' financial interest, they should indeed maximize their own value — and disregard the impact their actions may have on other firms' bottom lines. The basis for this intuition is that the largest shareholders don't also have significant holdings in other firms, and that holdings in other firms by diversified minority shareholders (e.g., BlackRock and Vanguard) have no significant influence on corporate strategy.

common ownership can be the result of the preferences of both PVM and FVM shareholders.

Some studies have found a correlation between ownership by large and diversified institutional investors and variables that serve as a proxy for firms' inclination to internalize externalities related to the environment. Dyck and coauthors found that higher levels of institutional ownership lead firms to have higher environmental and social ("E&S") scores.[77] More specifically, they found that this result is not driven by the fact that institutional investors are selecting into firms with good E&S scores.[78] Instead, "investors convey their preferences for improved E&S by engaging with firms they already own."[79]

In a similar vein, Azar and coauthors found a strong negative association between Big Three ownership and carbon emissions.[80] Moreover, this association became stronger recently when the three institutions publicly affirmed their intention to address environmental issues.[81] To be sure, in some instances an FVM shareholder might also profit if her company reduces its carbon footprint. Note that the study shows how an increased presence of the Big Three—which implies a lower presence of less diversified shareholders—results in an *additional* reduction in carbon emissions. It is then reasonable to assume that this additional reduction is due to concerns associated with the negative externalities caused by such emissions. Anecdotal evidence also supports this interpretation. For instance, the CEO of Royal Dutch Shell initially opposed a project to reduce the net carbon footprint of the company 35% by 2035 and 50% by 2050, calling it "onerous and cumbersome."[82] After pressure from a coalition of institutional investors controlling $34 trillion of assets under management, Royal Dutch Shell capitulated and agreed to the ambitious plan.[83] Here, the friction between an FVM approach and a PVM approach was apparent. The CEO of Royal Dutch Shell considered the plan too onerous because his company could only appropriate a minimal fraction of the benefits associated with a reduction in carbon footprint. But widely diversified investors can internalize a much larger portion of the positive externalities via their other portfolio companies, and hence supported the plan.

The Big Three's public statements would seem to lend credit to this interpretation. For example, in his 2020 annual letter to CEOs, BlackRock Chairman and CEO Larry Fink affirmed that climate change is "a defining factor in companies' long-term prospects"[84] and that "climate risk is compelling investors to reassess core

---

77. Alexander Dyck et al., *Do Institutional Investors Drive Corporate Social Responsibility? International Evidence*, 131 J. FIN. ECON. 693, 693 (2019).

78. *Id.* at 694.

79. *Id.*

80. Azar et al., *supra* note 27, at 681.

81. *Id.*

82. Sarah Kent, *Shell to Link Carbon Emissions Targets to Executive Pay*, WALL ST. J. (Dec. 3, 2018, 8:24 AM), https://www.wsj.com/articles/shell-to-link-carbon-emissions-targets-to-executives-pay-1543843441 [https://perma.cc/PA6Q-6YAU].

83. *See* Condon, *supra* note 25, at 1, 20–21.

84. Laurence D. Fink, *A Fundamental Reshaping of Finance* (2020), https://www.blackrock.com/corporate/investor-relations/2020-larry-fink-ceo-letter [https://perma.cc/K8MM-9A78].

assumptions about modern finance,"[85] thus suggesting that tackling climate change will be a core issue for BlackRock.[86] Similarly, in the 2020 letter to BlackRock's clients, Fink argued that sustainability should be BlackRock's new standard for investing and explained possible strategies to place sustainability at the center of BlackRock's business model.[87]

BlackRock is not alone. Krueger, Sautner, and Starks surveyed leading institutional investors and found that 32% of them proposed specific actions to manage climate risk issues, 30% submitted shareholder proposals related to climate risk, and 30% voted against management on proposals related to climate risk.[88] This evidence, combined with the fact that environmental, social, and governance ("ESG") considerations are increasingly becoming a crucial determinant of asset managers' investment strategies,[89] suggests that asset managers are using a variety of mechanisms to pressure their portfolio companies to account for climate risk.

Notably, not all institutional investors push in the same direction. There is empirical evidence that hedge funds consider high corporate social responsibility ("CSR") scores as a sign of wasteful behavior: firms with higher CSR scores are in fact more likely to become targets of activist campaigns.[90] This is consistent with

---

85. *Id.*

86. Similar words have been pronounced by leading figures at the remaining Big Three. *See, e.g.*, *Tackling Climate Change Risk: A conversation with Ron O'Hanley and Mike Bloomberg*, STATE ST. (July 2019), https://www.statestreet.com/ideas/articles/ohanley-bloomberg-climate-change.html [https://perma.cc/HU99-3UMM] (featuring Ron O'Hanley, State Street's CEO, explaining that climate change is a key factor in State Street's investment strategies); Ross Kerber & Sinead Cruise, *Exclusive: Vanguard Names Names and Backs Some Calls for Climate Steps*, REUTERS (June 18, 2020, 4:09 AM), https://www.reuters.com/article/us-climatechange-vanguard-exclusive/exclusive-vanguard-names-names-and-backs-some-calls-for-climate-steps-idINKBN23P1T1 [https://perma.cc/46EE-AN57] (paraphrasing the statements of Vanguard principal, Glenn Booraem, contending that companies and businesses should account for the risks posed by climate change).

87. *See* Laurence D. Fink, *Sustainability as BlackRock's New Standard for Investing*, BLACKROCK (2020), https://www.blackrock.com/corporate/investor-relations/2020-larry-fink-ceo-letter [https://perma.cc/K8MM-9A78]. *But see* Lucca De Paoli & Alastair Marsh, *BlackRock, Vanguard Show Little Favor for Shareholder ESG Votes*, BLOOMBERG (Dec. 1, 2020, 12:01 AM), https://www.bloomberg.com/news/articles/2020-12-01/blackrock-vanguard-show-little-favor-for-shareholder-esg-votes?sref=7iliGpFt (showing that BlackRock and Vanguard rarely vote in support of ESG proposals).

88. *See* Philipp Krueger et al., *The Importance of Climate Risks for Institutional Investors*, 33 REV. FIN. STUD. 1067, 1071 (2020).

89. *See* Schanzenbach & Sitkoff, *supra* note 43, at 387 (reporting that "[a]s of November 2019, over 1,900 asset managers have signed the [Principles for Responsible Investment]'s statement of principles on ESG investing, including many of the world's leading institutional investors"); Jennifer G. Hill, *The Conundrum of Common Ownership*, 53 VAND. J. TRANSNAT'L L. 881, 904–05 (2020) (discussing how the growing importance of ESG considerations for large institutional investors might affect the debate on common ownership).

90. *See* Mark R. DesJardine et al., *Why Activist Hedge Funds Target Socially Responsible Firms: The Reaction Costs of Signaling Corporate Social Responsibility*, 64 ACAD. OF MGMT. J. 851, 851 (2021).

the idea that it is large and diversified PVM shareholders that are driving the internalization of climate externalities, whereas less diversified FVM shareholders can have opposing goals.

This evidence suggests that green strategies pursued by diversified institutional investors reflect their role as PVM shareholders and can be included in the PVM-only quadrant of Table 1.

Common ownership also influences firms' attitudes towards innovation. In a seminal paper, Bloom, Schankerman, and John Van Reenen found that the (gross) social rate of return to research and development ("R&D") exceeds the private return by a very large margin (34.3%).[91] As a consequence, companies might have incentives to underinvest in innovation, given that they can only capture part of the returns on their investments. However, when investors also own shares in the innovating firm's competitors, suppliers, and customers, they will be able to internalize a larger fraction of the positive externalities. In turn, this should imply that higher levels of common ownership lead to greater innovation. Both theoretical and empirical studies support this conclusion.[92] Empirical evidence also supports the idea that common ownership facilitates the diffusion of innovation among firms.[93] Once again, more innovation can be positive also from the perspective of FVM shareholders. However, these papers suggest that common ownership leads to *additional* investment in R&D, which in turn suggests that the effect is driven by the possibility for common owners to internalize a larger portion of the positive externalities associated with innovation. Hence, pro-innovation strategies can also be included in the PVM-only quadrant of Table 1.

A similar logic can be applied to the finding that common ownership positively affects voluntary disclosure. It is well established in the empirical literature that disclosure by one firm produces spillovers on the other firms in the

---

91. *See* Nicholas Bloom et al., *Identifying Technology Spillovers and Product Market Rivalry*, 81 ECONOMETRICA 1347, 1384 (2013).

92. *See* Ángel L. López & Xavier Vives, *Overlapping Ownership, R&D Spillovers, and Antitrust Policy*, 127 J. POL. ECON. 2394 *passim* (2019) (showing under which conditions overlapping ownership can lead to higher R&D and to higher social welfare); *see also* Miguel Anton et al., *Innovation: The Bright Side of Common Ownership?*, SSRN *passim* (May 25, 2021), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3099578 [https://perma.cc/7VL8-B6DS] (finding evidence that in certain instances common ownership leads to more innovation); Paul Borochin et al., *Common Ownership Types and Their Effects on Innovation and Competition* SSRN 4 (May 14, 2020), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3204767 [https://perma.cc/H7DE-MHNF] (finding that "[h]igher common ownership by 'dedicated', or focused and long-horizon, financial institutions promotes innovation"); Kaijuan Gao et al., *The Power of Sharing: Evidence from Institutional Investor Cross-Ownership and Corporate Innovation*, 63 INT'L REV. ECON. & FIN. 284, 285 (2019) (finding that institutional investors common ownership enhances innovation).

93. Leonard Kostovetsky & Alberto Manconi, *Common Institutional Ownership and Diffusion of Innovation*, SSRN 5 (Apr. 15, 2020), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2896372 [https://perma.cc/7A4U-UBFZ] (finding that common owners can be a vehicle for the diffusion of innovation).

industry in terms of cost of capital and liquidity.[94] Common ownership allows investors to internalize part of these spillovers and therefore leads firms to disclose more.[95] The direction of causality—from common ownership to voluntary disclosure—reveals that portfolio firms account for the preferences of their PVM shareholders.

Additionally, common ownership influences how much firms monitor management. In an influential paper, Acharya and Volpin showed that firms competing for talent in the managerial labor market might reach an equilibrium in which governance quality is inefficiently low.[96] The basic intuition is that firms have two main channels to reduce managerial agency problems: setting a high level of compensation and strengthening governance. A firm that invests heavily in governance will have less resources to compensate managers and therefore might lose out in the competition for managerial talent against firms that underinvest in governance. The result is that firms will underinvest in governance because they do not internalize the benefits that a high investment in governance generates for competitors.[97] Recent research shows that common ownership ameliorates this issue. Common owners partially internalize this externality and hence prefer close monitoring of their portfolio companies' managers.[98]

Last, Shekita documented, in detail, thirty instances in which common owners engaged with their portfolio companies with the goal of altering the companies' conduct and showed that some instances also involved production processes and pricing strategies.[99] For instance, he describes a meeting organized by leading institutional investors like T. Rowe Price and Fidelity in which several top executives of the pharmaceutical industry were pushed to do a better job to "defend[] their pricing."[100]

---

94. *See, e.g.*, Anat R. Admati & Paul Pfleiderer, *Forcing Firms to Talk: Financial Disclosure Regulation and Externalities*, 13 REV. FIN. STUD. 479, 480 (2000) (noting that firms only internalize a fraction of the social value of the information they disclose).

95. *See* Jihwon Park et al., *Disclosure Incentives When Competing Firms Have Common Ownership*, 67 J. ACCT. & ECON. 387, 387–89 (2019) (providing empirical evidence for the finding that "common ownership is positively associated with the likelihood and frequency of issuing earnings and capex forecasts"). *But see* Andrea Pawliczek et al., *Facilitating Tacit Collusion: A New Perspective on Common Ownership and Voluntary Disclosure*, SSRN 1 (May 8, 2019), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3382324 [https://perma.cc/3X6R-MFL9] (finding evidence that the relationship between common ownership increased disclosure might be driven be the intention to facilitate tacit collusion.).

96. *See* Viral V. Acharya & Paolo F. Volpin, *Corporate Governance Externalities*, 14 REV. FIN. 1, 2 (2010).

97. *Id.*

98. *See* Jie Jack He et al., *Internalizing Governance Externalities: The Role of Institutional Cross-Ownership*, 134 J. FIN. ECON. 400 (2019).

99. *See* Nathan Shekita, *Interventions by Common Owners*, SSRN 3–22 (Dec. 15, 2020), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3658726 [https://perma.cc/T6NL-W4LX] (providing details of 30 instances in which common owners interfered with portfolio companies).

100. *Id.* at 5.

Common ownership also affects firms' strategies on a wide array of other conducts that are consistent with the preferences of both PVM and FVM shareholders. For example, common ownership also improves coordination among firms by facilitating within-industry joint ventures and alliances[101] and increases the chances that two firms will merge.[102] Further, common ownership across suppliers and customers leads to longer-term supply chain relationships.[103] Finally, common ownership facilitates access to credit: Ojeda found that an increase in common ownership leads to a decrease in interest rate and an increase in loan size, and that this effect is larger for smaller firms.[104]

While this group of articles refers to firm conduct that is in line with the preferences of both FVM and PVM shareholders and hence not belonging to the PVM-only quadrant in Table 1, it provides additional evidence that diversified investors can influence firms' strategies.

Our brief overview of the literature on common ownership reveals that we are beyond the point where one can reasonably cast doubt on institutional investors acting as portfolio value maximizers and affecting the way portfolio companies are managed. At least in some instances, common ownership leads firms to internalize spillovers.

B. The Debate on the Mechanisms

One important question is how institutional investors can induce portfolio firms to adopt strategies in line with PVM preferences. Looking for a one-size-fits-all answer to this question would be the wrong way to proceed. To begin with, different institutional investors can be expected to adopt different strategies to influence their portfolio firms, depending on their characteristics. For example,

---

101. *See* Jie Jack He & Jiekun Huang, *Product Market Competition in a World of Cross-Ownership: Evidence from Institutional Blockholdings*, 30 REV. FIN. STUD. 2674, 2676 (2017) (providing explanations for the proposition that common ownership "improve[s] the level and efficiency of collaboration between same-industry firms beyond what these firms can achieve on their own").

102. *See* Chris Brooks et al., *Institutional Cross-Ownership and Corporate Strategy: The Case of Mergers and Acquisitions*, 48 J. CORP. FIN. 187, 189 (2018) (providing evidence for the proposition that "the presence of institutional cross-ownership between two firms increases the probability of a merger pair formation").

103. Kayla Freeman, *Overlapping Ownership Along the Supply Chain*, SRRN 1 (Dec. 31, 2021), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2873199 [https://perma.cc/Y8GZ-9HME] (providing causal evidence that overlapping ownership by institutional investors "strengthens supply chain ties, leading to longer, stronger relationships").

104. Waldo Ojeda, *Common Ownership in The Loan Market*, WALDO OJEDA 38 (Jan. 31, 2018), https://waldotekampa.me/files/JMP.pdf [https://perma.cc/XG3S-WQ85] (finding that "firms can obtain better loan terms from banks under a common ownership structure"); *see also* Jie He et al., *Networking Behind the Scenes: Institutional Cross-industry Holdings and Information Frictions in Corporate Loans*, SSRN 28 (Mar. 22, 2021), SSRN https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3486597 [https://perma.cc/2BUQ-G689] (finding that when institutional investors own shares in both an industrial firms and a financial firms this "can significantly lower borrowers' cost of loans, especially when cross-holding institutions hold significant stakes in both parties").

index funds cannot use "exit" because they are locked in their investment.[105] Therefore, they must rely on voting,[106] public statements about their preferences,[107] and behind-the-scenes interventions.[108] At the other extreme, hedge funds generally adopt much more aggressive strategies like proxy contests.[109]

Another fundamental difference is that some PVM strategies are socially harmful, if not plainly illegal, whereas others are desirable. Consider the difference between promoting anticompetitive behavior and incentivizing portfolio firms to lower their emissions. Firms coordinating their actions with competitors with the aim of reducing competition is the very definition of a cartel; thus, shareholders cannot openly push in this direction. Hence, any mechanism connecting common ownership with portfolio firms' anticompetitive behavior must be invisible or at least hard to detect. Promoting green strategies, instead, is a perfectly legitimate goal and its pursuit is likely to improve the reputation of the PVM shareholders.[110] Thus, in this case the mechanism chosen is likely to be as visible as possible.[111]

Against this background, it is unsurprising that less information is available on the mechanisms behind the alleged connection between common ownership and a lower level of competition in product markets than on how institutional investors try to induce their portfolio companies to account for climate risk.

With respect to the anticompetitive effects of common ownership, Anton et al. found that compensation schemes of firms' executives operating in markets characterized by higher levels of common ownership give less weight to relative

---

105. *See* Suren Gomtsian, *Voting Engagement by Large Institutional Investors*, 45 J. CORP. L. 659, 676 (2020) (noting that index funds 'abandon' their exit rights when they choose to mimic market indexes).

106. *See* Appel et al., *supra* note 66 (showing that institutional investors influence their portfolio companies through voting).

107. *See supra* notes 84–87 and accompanying text.

108. *See* Joseph A. McCahery et al., *Behind the Scenes: The Corporate Governance Preferences of Institutional Investors*, 71 J. FIN. 2905, 2906 (2016) (carrying out a survey among large institutional investors and finding that institutional investors consider behind-the-scenes intervention particularly important).

109. *See* Marcel Kahan & Edward B. Rock, *Hedge Funds in Corporate Governance and Corporate Control*, 155 U. PA. L. REV. 1021, 1028–70 (2007) (describing the role played by hedge funds in corporate governance).

110. *See* Michal Barzuza et al., *Shareholder Value (s): Index Fund Activism and the New Millennial Corporate Governance*, 93 S. CAL. L. REV. 1243, 1303–10 (2020) (discussing how millennials can push passive funds to engage with companies on sustainability and inclusion matters).

111. *See* Marcel Kahan & Edward B. Rock, *Index Funds and Corporate Governance: Let Shareholders be Shareholders*, 100 B.U.L. REV. 1771, 1798 (2020) ("Given the historical suspicion of concentrated economic power in the United States, BlackRock's CEO must worry about the prospect of regulation. The best way to avoid regulation is to be viewed by relevant audiences as a responsible steward." (citations omitted)). The recent case of Engine No. 1's successful proxy contest at ExxonMobile is a case in point. *See* Bernard S. Sharfman, *The Illusion of Success: A Critique of Engine No. 1's Proxy Fight at ExxonMobil*, SSRN 8-15 (Nov. 4, 2021), https://ssrn.com/abstract=3898607 [https://perma.cc/A8SD-TTXY] (describing the proxy contest).

performance indicators.[112] Such compensation arrangements would give executives weaker incentives to engage in aggressive competition. However, both theoretical and empirical papers have questioned this finding.[113]

Other scholars have suggested that firms' executives who want to maximize the chance of being re-elected spontaneously account for the preferences of their common owners and hence for the externalities that an aggressive competitive strategy would impose on other firms in their shareholders' portfolios.[114] Last, some have suggested that for common owners it is sufficient not to pressure their portfolio firms to compete to produce anticompetitive effects.[115] However, these hypotheses are not immune from criticism and remain very hard, if not impossible, to prove or disprove.[116] Thus, whether there is an effective mechanism that allows common owners to influence competition in product markets is an open question that is unlikely ever to be answered in a compelling manner.

III. FIRM VERSUS PORTFOLIO VALUE MAXIMIZATION IN AN INTERCONNECTED WORLD

In this Part, we present the traditional arguments in favor of firm value maximization. Based on these arguments, we suggest that it is generally desirable to enhance the voice of FVM shareholders, but with one important carve-out. As we argue, the voice of PVM shareholders is especially important for a specific subset of firms: those that can be expected to affect the entire economy (and beyond) with their behavior. This includes major carbon emitters, systemically important financial institutions ("SIFIs") and firms with a central place in an interconnected economy.

A. The Virtues of Firm Value Maximization

Any microeconomic textbook starts with the formal proof that social welfare is maximized when firms compete against each other to maximize their own

---

112. *See* Antón et al., *supra* note 72, at 4.

113. *See, e.g.*, David I. Walker, *Common Ownership and Executive Incentives: The Implausibility of Compensation as an Anticompetitive Mechanism*, 99 B.U.L. REV. 2373, 2390–91 (2019) (arguing, *inter alia*, that the largest institutional investors explicitly endorsed relative performance indicators, hence playing an active role in their diffusion); Heung Jin Kwon, *Executive Compensation Under Common Ownership*, FIN. MGMT. ASS'N 2 (Nov. 29, 2016), http://fmaconferences.org/Boston/ExecutiveCompensationunderCommonOwnership.pdf [https://perma.cc/7YGL-QC4K] (finding that common ownership leads to giving more weight to relative performance indicators and concluding that executive compensation is "unlikely to be the mechanism between common ownership and less competitive outcomes in product markets").

114. *See* Einer Elhauge, *The Causal Mechanism of Horizontal Shareholding*, 82 OHIO ST. L.J. 1, 10–13 (2021).

115. *See* José Azar & Martin C. Schmalz, *Common Ownership of Competitors Raises Antitrust Concerns*, 8 J. EUR. COMPETITION L. & PRAC. 329, 330 (2017) (arguing that "antitrust risks persist even when funds remained perfectly passive with respect to corporate governance other than voting their shares").

116. *See generally* Romano, *supra* note 74, at 379–81 (critically reviewing the debate on how common ownership could lead to a lower level of competition).

value.[117] This is captured by the famous quote from Adam Smith: "It is not from the benevolence of the butcher, the brewer, or the baker that we expect our dinner, but from their regard to their own interest."[118] In an attempt to increase their own wealth, economic agents produce valuable outputs.

In principle, this argument applies to a local bakery as well as to a corporation that produces artificial intelligence software. Because the owner of the bakery and the shareholders of the corporation both want to maximize the value of their investment,[119] they will attempt to ensure that the bakery and the corporation realize good products that meet demand.[120] As a result, society will enjoy good bread and advanced artificial intelligence software.

One key advantage of having competition among self-interested businesses is that it allows society to exploit the disaggregated information held by many economic agents. As noted by Hayek, "the economic problem of society is mainly one of rapid adaptation to changes in the particular circumstances of time and place."[121] And no one knows better than the baker or the corporation how to constantly adapt their product to dynamic circumstances with the resources available to them.[122] Admittedly, decentralized decision-making is also plagued with

---

117. This is captured by the fundamental theorems of welfare economics. The first theorem states that under certain assumptions "the competitive economy is always Pareto efficient." The second theorem states that "every Pareto efficient allocation can be attained through the price system." *See* Joseph E. Stiglitz, *The Invisible Hand and Modern Welfare Economics* 2–3 (Nat'l Bureau of Econ. Rsch., Working Paper No. 3641, 1991), https://www.nber.org/papers/w3641 [https://perma.cc/CNX6-9BVA]. For the original formulation of the theorems, see Kenneth J. Arrow, *An Extension of the Basic Theorems of Classical Welfare Economics*, PROCEEDINGS OF THE SECOND BERKELEY SYMP. (1951).

118. ADAM SMITH, AN INQUIRY INTO THE NATURE AND CAUSES OF THE WEALTH OF NATIONS 19 (Penn State Electronic Classics Series 2005) (1776).

119. The new orthodoxy is to view organizations as entities with a multitude of stakeholders, ideally coordinating to maximize their aggregate welfare. For the purposes of our paper, we do not think it is essential to dig into the question of whether *firm* value maximization is merely about shareholder welfare maximization or comprises the welfare of other constituencies as well and, especially, what the consequences of this approach would be for our core claims. That is because the multistakeholder model is, practically speaking, incapable of reaching its goals. *See* Ronald J. Gilson & Curtis J. Milhaupt, *Shifting Influences on Corporate Governance: Capital Market Completeness and Policy Channeling* 71–76 (Eur. Corp. Governance Inst. – L. Working Paper, Paper No. 546/2020, 2021), https://scholarship.law.columbia.edu/cgi/viewcontent.cgi?article=3709&context=faculty_scholarship [https://perma.cc/4GNJ-SCKU].

120. To be sure, as Smith himself preconized, SMITH, *supra* note 118, at 606–07, corporations are not as effective as individuals at pursuing their shareholders' welfare, due to the necessary intermediation of agents (the directors) with their own conflicting interests and the imperfect tools available to align such interests to those of shareholders. That is what much of corporate governance and corporate law are about.

121. Friedrich A. Hayek, *The Use of Knowledge in Society*, 35 AM. ECON. REV. 519, 524 (1945).

122. *Id.*

problems,[123] and hence some degree of centralization, in the form of collective decision-making of one kind or the other, is generally warranted. However, a centralized decision-maker would have neither more accurate knowledge nor better incentives to plan a complex economy. Hence, competition among FVM firms that harvest disaggregated information seems the best-available mechanism to increase social welfare.

But imagine that all bakeries in a city are owned by the same investor (the "Common Investor").[124] The Common Investor will now have incentives to maximize the aggregate profits of all the bakeries, instead of pushing each to maximize its own by competing aggressively. As a result, competition among bakeries will be weak, prices will increase, and there might be less product innovation. Moreover, the Common Investor will not have detailed information on the tastes and preferences of people in the different neighborhoods, so it might not be able to quickly adapt and innovate to the changing circumstances in the different parts of the city. Additionally, while the Common Investor will be interested in maximizing the value of all bakeries, they will not have an interest in maximizing the value for customers, the bakeries employees, or firms that operate in different sectors.

This simplified example captures the three main issues associated with the emergence of gigantic and diversified institutional investors. First, when they own stakes in horizontal competitors, they might have an interest in lowering competition in the product market. Second, a single institution with thousands of portfolio companies might have limited knowledge about each company's specific characteristics[125] and hence might support inefficient one-size-fits-all solutions. Third, despite institutional investors being widely diversified, they only have stakes in a subset of the economy. Thus, they do not internalize the losses imposed on nonportfolio firms, final consumers, and so on.[126]

When considering the specific features of institutional investors, there is an additional issue that further complicates matters: asset managers' compensation depends quite loosely on the returns of their beneficiaries, and hence asset managers are unlikely to have interests that are aligned to those of their beneficiaries.[127]

---

123. An obvious example is the famous tragedy of the commons. *See* Garrett Hardin, *The Tragedy of the Commons*, 162 SCI. 1243, 1244 (1968) (explaining that individuals will deplete resources that are open to everyone).

124. A similar example is introduced also in Elhauge, *supra* note 29, at 1269.

125. For a discussion, see Dorothy S. Lund, *The Case Against Passive Shareholder Voting*, 43 J. CORP. L. 493, 515–16 (2018) (providing data suggestive of the fact that the Big Three might be dedicating insufficient resources to monitor the corporate governance of their portfolio companies).

126. Condon, *supra* note 25, at 67 (noting that "the world's largest investors are not "universal owners" of the entire economy; they are "universal owners" of investment assets, which is not the same thing. They care about how externalized costs affect their portfolio, not how they affect consumers, or employees, or subsistence farmers on the other side of the world.").

127. *See* Bebchuk et al., *supra* note 48, at 96–97 (showing that institutional investors only capture a minimal part of the benefits they create when they engage in stewardship and increase the value of portfolio companies).

For all these reasons, as a general rule FVM shareholders should play a key role—their voice should be preserved in the face of the growing power of PVM shareholders.

B. When the Voice of Portfolio Value Maximizing Shareholders Should Matter

Firm value maximization implicitly rests on the standard idea that a firm-level shock is unlikely to result in macroeconomic consequences.[128] Firms can cause externalities, but these are presumed to be contained at the local level and hence internalized, in part at least, via tort law. The externalities that cannot be internalized are perceived to be an acceptable price to pay for the benefit of having aggressive competition among firms. When these conditions hold, firm value maximization is justified.

When the externalities produced by a small subset of firms can have a catastrophically large macroeconomic impact, a pure FVM approach poses significant problems. This has already been acknowledged in the case of SIFIs. SIFIs are too big and/or too interconnected to fail because their default endangers the entire economy.[129] Therefore, policymakers must bail out SIFIs whenever they are in distress.[130] This creates a moral-hazard problem. Because SIFI shareholders know that governments will cover at least part of their losses in case risky investments turn out badly, they have incentives to engage in excessive risk-taking[131] and to refrain from monitoring.[132] Aware of these perverse incentives and of the risks they pose,[133] policymakers have recognized the need to implement a wide range of

---

128. *See supra* note 12–13 and accompanying text.

129. On the notion of "too-big-to-fail," see GARY H. STERN & RON J. FELDMAN, TOO BIG TO FAIL: THE HAZARDS OF BANK BAILOUTS (2004). On the idea of "too-interconnected-to fail," see Anne-Caroline Hüser, *Too Interconnected to Fail: A Survey of the Interbank Networks Literature* (SAFE Working Paper, Paper No. 91, 2015), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2577241 [https://perma.cc/KWL9-CUEL].

130. *See* Peter Conti-Brown, *Elective Shareholder Liability*, 64 STAN. L. REV. 409, 423–25 (2012) (discussing the impossibility of "Never Again" for bailouts, because they are a necessary evil).

131. *See* Saule T. Omarova, *The "Too Big To Fail" Problem*, 103 MINN. L. REV. 2495, 2500 (2019) ("The well-known notion of 'moral hazard' captures the economic inefficiencies associated with this implicit subsidy: large firms shielded from the negative consequences of their risk-taking have an incentive to take greater risks than they otherwise would."). *See also* Jonathan R. Macey, *Commercial Banking and Democracy: The Illusive Quest for Deregulation*, 23 YALE J. ON REG. 1, 6 (2006) ("[B]ankers will try to transfer wealth from the government's insurance fund to themselves by increasing the riskiness of their activities once the deposit insurance scheme is in place.").

132. *See* Adam J. Levitin, *In Defense of Bailouts*, 99 GEO. L. J. 435, 490 (2011) ("[I]f either or both creditors and shareholders of such a [too-big-to-fail] institution believe they will be made whole in a bailout--or not bear all the losses--they will have a reduced incentive to monitor the [too-big-to-fail] institution's risk-taking, and they will not demand as great of a risk premium when they extend credit.").

133. *See* Janet L. Yellen, Vice Chair, Bd. of Governors of the Fed. Rsrv. Sys., *Macroprudential Supervision and Monetary Policy in the Post-Crisis World*, Speech at the Annual Meeting of the National Association for Business Economics, Denver, Colorado (Oct.

measures to mitigate the risk that SIFIs create systemic negative externalities in the pursuit of firm value maximization.[134]

Importantly, a recent strand of research shows that SIFIs are not the only firms that can generate aggregate fluctuations.[135] Gabaix found that idiosyncratic shocks hitting the largest-100 firms explain one-third of U.S. GDP aggregate fluctuations.[136] The key problem is that modern economies are characterized by few very-large firms and many smaller ones. Thus, idiosyncratic shocks hitting firms or sectors may well fail to be diversified away and result in macroeconomic consequences.[137]

Many studies have confirmed this insight while emphasizing the importance of intersectoral linkages. For instance, Acemoglu et al. found that when sectors have heterogeneous interconnectedness and size, a shock hitting the largest and most interconnected sectors can affect many sectors and result in significant drops in GDP.[138] In another paper, Acemoglu and coauthors found that when one accounts for interconnections among sectors and network effects, the impact of

---

11, 2010), https://www.federalreserve.gov/newsevents/speech/yellen20101011a.htm [https://perma.cc/5WYG-89DF] ("The emergence of [risky] behavior among the largest and most interconnected financial institutions is particularly dangerous, since these institutions are linchpins in our financial system and their failure could cause significant damage to large numbers of counterparties and the system as a whole.").

134. *See* Daniel K. Tarullo, *Macroprudential Regulation*, 31 YALE J. ON REG. 505, 513 (2014) (noting that regulations should account for the fact that "there would be very large negative externalities associated with the disorderly failure of any systemically important financial institution (SIFI), distinct from the costs incurred by the firm, its stakeholders, and the federal deposit insurance fund."); *see also* Alessandro Romano, Luca Enriques & Jonathan Macey, *Extended Shareholder Liability for Systemically Important Financial Institutions*, 69 AM. U. L. REV. 967, 969 ("It is understood that the risk of a national or global economic meltdown attributable to the failure of a systemically important financial institution justifies aggressive regulation as well as significant departure from ordinary and customary corporate governance norms for SIFIs.").

135. *See* Carvalho, *supra* note 12, at 36–38 (offering an overview of the literature that uses network theory to investigate how shocks at the micro level can have consequences at the macro level).

136. *See* Xavier Gabaix, *The Granular Origins of Aggregate Fluctuations*, 79 ECONOMETRICA 733, 736 (2011).

137. *Id.* at 735 ("[I]t is critical to show that . . . diversification does not occur in an economy with a fat-tailed distribution of firms."); *see also* Julian di Giovanni et al., *Firms, Destinations, and Aggregate Fluctuations*, 82 ECONOMETRICA 1303, 1304 (2014) (reporting that "firm-specific components contribute substantially to aggregate fluctuations").

138. *See* Daron Acemoglu et al., *Microeconomic Origins of Macroeconomic Tail Risks*, 107 AM. ECON. REV. 54, 54–57 (2017). On a similar note, *see* Daron Acemoglu et al., *The Network Origins of Aggregate Fluctuations*, 80 ECONOMETRICA 1977, 1977–78 (2012) (showing that local shocks can propagate through input-output relationships among firms and have aggregate consequences); Jean-Noël Barrot & Julien Sauvagnat, *Input Specificity and the Propagation of Idiosyncratic Shocks in Production Networks*, 131 Q. J. ECON. 1543, 1544 (2016) (finding large negative spillovers from suppliers that are hit by a natural disaster to their customers).

sectoral shocks is magnified and affects multiple sectors.[139] In a similar vein, Atalay found that industry-specific shocks explain at least *half* of the aggregate GDP fluctuations,[140] while Baqaee and Farhi confirmed that shocks to critical sectors can have "disproportionate macroeconomic effects."[141]

Both policymakers and industry leaders are aware of these intersectoral interdependencies. For instance, during his congressional testimony during the 2008 crisis, Ford's Chief Executive Officer asked the government to bail out *its competitors*:

> If any one of the domestic companies should fail, we believe there is a strong chance that the entire industry would face severe disruption. Ours is in some significant ways an industry that is uniquely interdependent—particularly with respect to our supply base, *with more than 90 percent commonality among our suppliers*. Should one of the other domestic companies declare bankruptcy, the effect on Ford's production operations would be felt within days—if not hours. Suppliers could not get financing and would stop shipments to customers. Without parts for the just-in-time inventory system, Ford plants would not be able to produce vehicles.[142]

And the government did bail out the main car manufacturers.[143] Similarly, during the current COVID-19 crisis, the government quickly intervened to bail out airline companies,[144] based on the view that "[v]ast segments of our economy are built on the expectation that tourists can fly to their destinations, businesses can host

---

139. *See* Daron Acemoglu et al., *Networks and the Macroeconomy: An Empirical Exploration*, 30 NBER MACROECONOMICS ANN. 273, 277 (2016) (finding that the network multiplier, i.e. "the size of the total impact relative to the direct impact of the shock," is 6.4. Therefore, the consequences of a shock are over 6 times larger when one accounts for inter-sectoral connections.).

140. *See* Enghin Atalay, *How Important Are Sectoral Shocks?*, 9 AM. ECON. J.: MACROECONOMICS 254, 254 (2017).

141. David Rezza Baqaee & Emmanuel Farhi, *The Macroeconomic Impact of Microeconomic Shocks: Beyond Hulten's Theorem*, 87 ECONOMETRICA 1155, 1155 (2019).

142. *Examining the State of the Domestic Automobile Industry--Part I: Hearing on Examining the State of the U.S. Domestic Automotive Industry and Its Overall Impact on the Nation's Economy, the Automotive Workers, and the Companies Involved in the Supply Chain and Their Employees*, 110th Cong. 85 (2008) (statement of Alan Mulally) (emphasis added). Other countries have also acknowledged the systemic importance of the car industry and have decided to bail out its key players. *See, e.g.*, *France Unveils €6bn Auto Sector Bail-Out*, FIN. TIMES (Feb. 9, 2009), https://www.ft.com/content/68f24efa-f694-11dd-8a1f-0000779fd2ac [https://perma.cc/7BNR-39LX].

143. *See* Kimberley Amadeo, *Auto Industry Bailout: Was the Big 3 Bailout Worth It?*, THE BALANCE, https://thebalance.com/auto-industry-bailout-gm-ford-chrysler-3305670 [https://perma.cc/78K2-NQBR?type=image] (Nov. 27, 2018).

144. The website "COVID Bailout Tracker" offers detailed information on governments' bailouts during COVID-19. For information on the airline industry, see *Airline Industry Bailout*, ACCOUNTABLE.US: COVID BAILOUT TRACKER https://covidbailouttracker.com/program/airline-industry-bailouts [https://perma.cc/2XFT-35QL] (last visited Jan. 23, 2022).

face-to-face meetings, and shippers can deliver the latest smartphones and fresh flowers to stores."[145]

Against this background, the idea that central firms should behave as pure FVM is less intuitive than for noncentral firms. On the one hand, unless the gigantic externalities they can produce are effectively tackled, whether via regulation or macroeconomic policies, it is inconsistent with the social welfare maximization goal that such firms' managers should conduct their business according to norms and duties allowing them, on their face, to overlook such externalities. On the other hand, exactly because of the key role of these firms, governments have strong incentives to bail them out when they are in distress, effectively *rewarding* them if they take excessive risks that, in turn, increase systemic and macroeconomic risk.

A similar logic applies to climate change. Market prices fail to reflect the costs of emissions that contribute to climate change.[146] Thus, FVM shareholders have clear incentives to push firms to produce levels of emissions above the social optimum. But the costs of climate change, to which these emissions contribute, are enormous. The World Health Organization estimates that climate change will cause around 250,000 deaths per year between 2030 and 2050,[147] while according to a study published on *Nature* there is over a 50% chance that climate change will reduce global GDP by over 20% by the end of the century.[148] At the same time, a recent report shows that the top twenty companies have accounted for 30% of all energy-related carbon dioxide (CO_2) and methane worldwide.[149] Given that man-caused CO_2 and methane emissions are having a catastrophic impact on the planet,[150]

---

145. *See* Adie Tomer & Joseph W. Kane, *We Should Bail out Airlines During the Coronavirus Pandemic—but on Taxpayers' Terms*, BROOKINGS (Mar. 18, 2020), https://www.brookings.edu/research/we-should-bail-out-airlines-during-the-coronavirus-pandemic-but-on-taxpayers-terms/ [https://perma.cc/FN94-FNZE].

146. *See* William Nordhaus, *Climate Change: The Ultimate Challenge for Economics*, 109 AM. ECON. REV. 1991, 1992 (2019).

147. *See Climate Change and Health*, WORLD HEALTH ORG. (Oct. 30, 2021), https://www.who.int/news-room/fact-sheets/detail/climate-change-and-health [https://perma.cc/EFJ7-TD56].

148. *See* Marshall Burke et al., *Global Non-Linear Effect of Temperature on Economic Production*, 527 NATURE 235, 238 (2015). An online page, based on the work by Burke et al., allows users to calculate the impact of climate change on the GDP of various countries and at a global scale. *See Economic Impact of Climate Change on the World*, STAN. (2015), https://web.stanford.edu/~mburke/climate/map.php [https://perma.cc/RNB8-8GCW].

149. *See* Richard Heede, *Carbon Majors: Updating Activity Data, Adding Entities, & Calculating Emissions: A Training Manual*, CLIMATE ACCOUNTABILITY INST. 35 (2019), https://climateaccountability.org/pdf/TrainingManual%20CAI%2030Sep19lores.pdf [https://perma.cc/MCW6-7PE3]. Note also that none of these twenty companies is headquartered in the areas in Africa, where most of the deaths caused by climate change will concentrate. *See Climate Change*, WORLD HEALTH ORG., https://www.who.int/heli/risks/climate/climatechange/en/ [https://perma.cc/Y442-GA37] (last visited Jan. 24, 2021).

150. Intergovernmental Panel on Climate Change, *Climate Change 2021: The Physical Science Basis*, IPCC 5–15 (Aug. 7, 2021, 5:00 PM), https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_Full_Report.pdf [https://perma.cc/9BYU-EGPS].

and that it is impossible for these firms to internalize this harm, the idea that pure FVM is the most efficient approach for these twenty firms is not a foregone conclusion.

We have thus identified three instances of local dynamics that can generate system-wide externalities: systemic risk, macroeconomic risk, and climate change. We do not claim that this list is exhaustive, but it captures three of the most widely recognized threats to our economies.

C. Central Firms

Having defined the three sources of risk, the next step is identifying the subset of firms that play a key role in propagating it.

To begin with, the subset of firms that create financial risk are already identified by policymakers.[151] Every year, the Financial Stability Board—in consultation with the Basel Committee on Banking Supervision, national authorities, and the International Association of Insurance Supervisors—defines a list of financial institution that are systemically important.[152]

Firms that can contribute to macroeconomic risk can be identified using the tools of network theory. The burgeoning network-theory literature has developed various measures of centrality that would allow policymakers to identify the firms that contribute the most to the creation of macroeconomic risk.[153]

Finally, as noted above, firms that contribute to climate risk can be identified by measuring the emissions produced. For instance, firms like Chevron, ExxonMobil, ConocoPhillips, and Peabody Energy are among the major emitters worldwide[154] and hence can be considered climate-central firms.

For these three categories of central firms, a pure firm value maximization approach gives them weaker incentives to internalize the gigantic externalities that they can create. Consequently, corporate law should be two pronged. It should preserve the voice of FVM shareholders in peripheral firms, but at the same reflect the view that in central firms PVM shareholders can play an important role.

The idea of special rules for central firms is already well-established in financial regulation: systemically important financial institutions are subject to a detailed set of rules in order to minimize the risk of catastrophic harm which may result from their actions.[155] In the next Part we explore how this idea can be extended to different types of systemic externalities, maintaining our focus on corporate law and giving one specific example of how it could be tweaked to account for the fact

---

151. *See, e.g.*, Luca Enriques et al., *Network-Sensitive Financial Regulation*, 45 J. CORP. L. 351, 366–68 (2020).

152. *See Global Systemically Important Financial Institutions (G-SIFIs)*, FIN. STABILITY BD. (Nov. 23, 2021), https://www.fsb.org/work-of-the-fsb/policy-development/addressing-sifis/global-systemically-important-financial-institutions-g-sifis/ [https://perma.cc/UF2R-B5HD].

153. For a discussion of centrality measures in a legal context, see Carvalho, *supra* note 12, at 36–38 (discussing various measures of centrality and their importance in the study of macroeconomic phenomena).

154. *See* Heede, *supra* note 149, at 35.

155. *See generally* Enriques et al., *supra* note 151, at 366–69.

that some firms are central and others are not.[156] What justifies the focus on corporate law is the ample empirical evidence that common owners are effective in inducing their portfolio firms to internalize interfirm spillovers. Thus, our intuition is that PVM shareholders should have relatively more power in firms in which such spillovers can produce systemic consequences than in other firms.

IV. OWNERSHIP DISCLOSURE RULES

This Part provides a concrete example of how the two-pronged system we advocate could be implemented by focusing on ownership disclosure rules and how they affect the interplay between hedge funds and mutual funds.

Despite their relatively small size, hedge funds play a key role in modern financial markets. Unlike mutual funds, hedge funds tend to acquire significant stakes in a relatively small number of companies to try and influence their business strategies.[157] Given that hedge funds are significantly less diversified than the large mutual funds, they can generally be assumed to be FVM shareholders.

In many instances, as described in a seminal paper by Gilson and Gordon, hedge funds play an important complementary role to that of the large mutual funds.[158] The large mutual funds tend to be rationally reticent, that is, to have weak incentives to become proactively involved in the corporate governance of their portfolio institutions. On the contrary, hedge funds are "governance entrepreneurs" that try to generate returns by becoming involved in the corporate governance of their portfolio companies and altering their strategies.[159] However, as hedge funds are more likely to be pure FVM and mutual funds sometimes act as PVM, the objectives of the two kinds of funds might diverge. Hedge funds might prefer FVM-only projects, whereas mutual funds might be interested also in the spillovers that such projects create onto their other portfolio companies. The framework developed in this Article suggests that in these circumstances corporate law should grant relatively more voice to PVM mutual funds in central firms, whereas it should grant relatively more voice to FVM hedge funds for all other firms.

The ability of a hedge fund to influence portfolio firms crucially depends on how many shares it can buy before the market learns about its intentions. In particular, an activist campaign generally starts with the hedge fund buying a significant stake in the target company at a price unaffected by the activist's plans. When the hedge fund crosses the 5% threshold, it has 10 days to file a Schedule 13D statement disclosing its position in the target company.[160] After this disclosure, it becomes much more expensive to buy additional shares of the target company. Even assuming that the hedge fund can buy additional shares, it will reap lower profits

---

156. Tweaks to corporate law rules for systemically important financial institutions have been proposed in the past. *See* John Armour & Jeffrey N. Gordon, *Systemic Harms and Shareholder Value*, 6 J. LEGAL ANALYSIS 35, 64–76 (2014) (discussing *Caremark* duties in systemically important financial institutions).

157. *See* Gilson & Gordon, *supra* note 41, at 867.

158. *Id.* at 897–98.

159. *Id.* at 897.

160. 17 C.F.R. § 240.13d-1(a) (2020) (requiring any person acquiring beneficial ownership of any equity security of more than 5% to file with the Securities and Exchange Commission a Schedule 13D statement within ten days of the acquisition).

from the sale of those shares at the end of the activist campaign. Consequently, disclosure rules play a pivotal part in determining the role of hedge funds in corporate governance. Decreasing the threshold above which a hedge fund must disclose its position—and/or reducing the time lag between the purchase and the disclosure—would lower the voice of hedge funds activists. The opposite would be true if the threshold or the disclosure window went up.

Against this background, consider four kinds of strategies, consistent with the partition summarized in Table 1.[161]

Hedge funds may push for strategies that are in the interest of both the firm and PVM shareholders. This situation fits squarely into the description given by Gilson and Gordon in their article on the agency costs of agency capitalism,[162] because in such cases hedge funds and mutual funds play complementary roles:[163] hedge funds identify an opportunity to increase the value of a company, and mutual funds lend their voice to help hedge funds achieve that goal. The wasteful strategies quadrant is also uncontroversial. A hedge fund should not generally be interested in promoting a strategy that harms the firm in which it is investing. One might argue that hedge funds could promote strategies that increase short-term value to the detriment of long-term value.[164] In this case, PVM shareholders that have long-term stakes (*and* are well-informed) would oppose the strategic move.

A hedge fund would not normally agitate in favor of a PVM strategy that does not concomitantly increase the value of the firm.[165] Once again, the interplay, or more often lack thereof in this case, between hedge funds and large mutual fund would lead to the right outcome for the individual firm.

On the other hand, hedge funds might have an interest in promoting FVM strategies that are not also PVM, but PVM investors will be unwilling to support them. Here, the outcome will depend on the relative balance of power between the two kinds of institutional investors. More stringent ownership disclosure requirements increase the relative power of universal owners and reduce the incentive for activists to initiate challenges, thus allowing universal owners to block FVM strategies that are not also PVM. Less stringent disclosure requirements boost the relative power of hedge funds, thus increasing the likelihood that FVM strategies are passed despite the opposition of portfolio value maximizers.

Our framework suggests that ownership disclosure rules should be tailored differently for central and peripheral firms: for central firms, which play a key role in preventing the harms identified in Section III.B, ownership disclosure obligations should be relatively more stringent, thus giving more voice to PVM shareholders. For firms that cannot play a systemic role, disclosure obligations should be relatively less stringent, thus giving more voice to FVM shareholders. To be sure, we do not

---

161. *See supra* text following note 36.

162. Gilson & Gordon, *supra* note 41.

163. *See* Ian R Appel et al., *Standing on The Shoulders of Giants: The Effect of Passive Investors on Activism*, 32 REV. FIN. STUD. 2720 *passim* (2019).

164. Kahan & Rock, *supra* note 109, at 1083 (describing hedge funds as the "archetypal short-term investor").

165. Notable exceptions might be campaigns such as the one targeting ExxonMobil by hedge fund Engine No.1. For a discussion, see Christie, *supra* note 55, at 924–27.

attempt to identify the "optimal" level of disclosure obligations and we remain agnostic as to whether current rules are too stringent or too lax. However, we emphasize that the optimal level of ownership-disclosure obligations is bound to be different for central and noncentral firms. Hence a two-pronged regime should reflect this.

While we have focused mainly on hedge funds in this Section, the arguments presented here similarly apply to the traditional main target of ownership disclosure rules, namely prospective takeover bidders[166]: because takeovers have a disciplining effect on managers, focusing them on firm value maximization, more- and less-stringent disclosure obligations would fit, respectively, central and peripheral firms from a market-for-corporate-control perspective as well.

V. A POSSIBLE EXTENSION: COVID-19 AND PORTFOLIO VALUE MAXIMIZERS

The COVID-19 pandemic has some important similarities with climate change, macroeconomic risk, and systemic risk. It is a catastrophic event in which local dynamics have global consequences and in which interconnections are key. In fact, the virus can propagate only because of interconnections among individuals, and the rate of propagation of the virus depends crucially on how interconnected society is.[167] Therefore, one might be tempted to suggest that our framework should apply also when the goal is to prevent pandemics. However, while it is easy to envisage a role for institutional investors in preventing systemic risk or even in slowly but steadily pushing their portfolio firms to lower their carbon emissions, it is harder to imagine how they can play a role in the prevention of future pandemics. This seems to be a role for which health authorities and governments are better suited.[168]

But there is an important caveat: institutional investors might play an important role in *mitigating* the effects of catastrophic events such as COVID-19. It is possible that a vaccine or a cure for serious contagious illnesses can come to fruition faster if pharma companies cooperate and exchange information than if they work separately. The social-welfare gains from a vaccine or a cure are orders of magnitude greater than the profits for the individual pharma company developing them. Therefore, firms may invest in the research and development of a vaccine or a cure and exchange information less than would be socially optimal. Corporate behavior may change as a consequence of the fact that institutional investors own stakes in all companies working for a vaccine or a cure and in many other firms that would benefit from their development. That is, diversified institutional investors

166. *See, e.g.*, Jonathan R. Macey & Jeffry M. Netter, *Regulation 13D and the Regulatory Process*, 65 WASH. U. L. Q. 131, 133 (1987).

167. *See* Goldin, *supra* note 6.

168. There are, however, some ways in which corporate behavior could help reduce the risk of future zoonotic diseases emerging. For example, experts warn that deforestation is one of the main causes of zoonotic diseases, because they force wild animals to new environments in which new opportunities for interspecies virus mutation arise. *See* Andrew P. Dobson et al., *Ecology and Economics for Pandemic Prevention*, 369 SCI. 379, 379 (2020) (noting that there is a "clear link between deforestation and virus emergence").

want a remedy, not a winner.[169] Intriguingly, there is evidence that large institutions pushed firms to collaborate to develop a vaccine during the pandemic's first wave.[170]

That does not mean that institutional investors had a role in accelerating the development of COVID-19 vaccines. It is very likely that they didn't. What we intend to suggest is that PVM shareholders not only have incentives to prevent catastrophic events from happening, but also to mitigate their consequences. It is therefore worth exploring how to leverage their preferences in exceptional times such as the ones we are living in. One possibility could be enhancing the voice of PVM-shareholders in firms that can play a key role in mitigating a catastrophic harm, but only for the time in which the efforts to mitigate the harm are required. In the case of COVID-19 this would have meant enhancing the role of PVM shareholders in pharmaceutical companies and key-related businesses until a vaccine was developed and distributed.

Yet the practical implementation and the political challenges of switching from a FVM to a PVM model of corporate law for companies in a given sector would be daunting. That is why we stop short of analyzing the pros and cons of such a switch, let alone of providing a template for how to implement it.

CONCLUSION

In this Article we suggest that the traditional view of corporate law is premised on two assumptions that are no longer true: all shareholders are firm value maximizers, and local shocks do not produce aggregate consequences. In today's world both assumptions are false. This implies that corporate law should be fundamentally revisited: given the dangers for competition from a prevalence of PVM preferences, corporate law should not deviate from its traditional firm-value-maximization focus for corporations that do not pose a systemic threat to the economy. On the contrary, for firms that do, a deviation from a FVM focus by giving a comparatively greater voice to PVM shareholders may be warranted. We have suggested that corporate law should have a different focus for central and peripheral firms. In noncentral firms, it should enhance the voice of firm value maximizing shareholders, but in central firms it should acknowledge the fact that portfolio value maximizing shareholders are affected by the negative externalities central firms may produce and may therefore exercise their voice to curb such externalities. We have offered one illustration of how this can be achieved, namely by tweaking the rules on ownership disclosure to preserve the voice of PVM shareholders in central firms and to allow for FVM activists to play a role in peripheral firms.

---

169. *See* Matt Levine, *Investors Want a Cure Not a Winner*, BLOOMBERG (Apr. 24, 2020, 9:13 AM), https://www.bloomberg.com/opinion/articles/2020-04-24/investors-want-a-cure-not-a-winner [https://perma.cc/2TCH-EZN3].

170. *See* Attracta Mooney & Donato P. Mancini, *Drugmakers Urged to Collaborate on Coronavirus Vaccine*, FIN. TIMES (Apr. 24, 2020), https://www.ft.com/content/b452ceb9-765a-4c25-9876-fb73d736f92a [https://perma.cc/93WQ-6A6Z] (discussing how BlackRock and other institutional investors pushed pharmaceutical companies to collaborate, even with competitors, to the development of a vaccine).

european corporate governance institute

about ECGI

The European Corporate Governance Institute has been established to improve *corporate governance through fostering independent scientific research and related activities.*

The ECGI will produce and disseminate high quality research while remaining close to the concerns and interests of corporate, financial and public policy makers. It will draw on the expertise of scholars from numerous countries and bring together a critical mass of expertise and interest to bear on this important subject.

www.ecgi.global

ECGI Working Paper Series in Law

https://ecgi.global/content/working-papers

Electronic Access to the Working Paper Series

The full set of ECGI working papers can be accessed through the Institute's Web-site (https://ecgi.global/content/working-papers) or SSRN:

Finance Paper Series	http://www.ssrn.com/link/ECGI-Fin.html
Law Paper Series	http://www.ssrn.com/link/ECGI-Law.html