Rewiring Corporate Law for an Interconnected World

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Rewiring Corporate Law for an Interconnected World

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Abstract

The traditional focus of corporate law is on aligning managers’ preferences to 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. 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 non-central firms maximize their own value, despite the rise of portfolio value maximizers. On the other hand, in central firms it 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

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ABSTRACT

The traditional focus of corporate law is on aligning managers’ preferences to 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. 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 non-central firms maximize their own value, despite the rise of portfolio value maximizers. On the other hand, in central firms it 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.

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**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&P500 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,

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and hence society as a whole. The largest current and looming threats to our society, namely the COVID-19 pandemic, climate change, and financial and macroeconomic crises are all instances in which interconnections among actors enable local shocks to propagate across the whole system.

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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. 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, 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° C, 11 n.10 (2018), https://report.ipcc.ch/sr15/pdf/sr15_spm_final.pdf.

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. See Gautam Mukunda, The Social and Political Costs of the Financial Crisis, 10 Years Later, HARV. BUS. REV. (Sep. 25, 2018), https://hbr.org/2018/09/the-social-and-political-costs-of-the-financial-crisis-10-years-later.

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
In this article, we suggest that a fundamental rethink of corporate law is called for as a result of these two trends. Traditionally, the core goal of corporate law has been to align managers’ preferences to the interests of shareholders.\footnote{See Reinier Kraakman et al., The Anatomy of Corporate Law 22-24 (3d ed. 2017).}

The traditional view builds on the idea that shareholders’ goal is to maximize firm value\footnote{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):} but lack the information set and the knowledge required to achieve their goal without managers’ help.\footnote{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).} At the same time, managers have been assumed to have superior information and knowledge but also to aim at maximizing their own payoffs instead of focusing on firm value maximization. Therefore, managers might act opportunistically by, for example, investing in pet projects or diverting value from the firm to their own pockets. Further, the traditional view has been that, “as a consequence of both logic and 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.”

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."\textsuperscript{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."\textsuperscript{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.\textsuperscript{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 in the pursuit of profits firms can cause externalities, these are presumed to be contained at the micro level. This presumption, in turn, justifies the view that tort law and regulations allow, however imperfectly and partially, for the internalization of firms’ externalities.\textsuperscript{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.

\textsuperscript{12} See Vasco M. Carvalho, \textit{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., \textit{Understanding Business Cycles}, (1978) \textit{reprinted in Essential Readings in Economics} 306, 318 (Saul Estrin & Alan Martin eds. 1995) (arguing that “in 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”).
\textsuperscript{13} Stephen M. Bainbridge, \textit{In Defense of The Shareholder Wealth Maximization Norm: A Reply to Professor Green}, 50 WASH. & LEE L. REV. 1423 (1993) (noting that there is a variety of mechanisms to induce shareholders to internalize the negative externalities they create).
To summarize, the traditional view is therefore premised on two fundamental assumptions: (i) events at the micro level do not have systemic consequences; (ii) 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. 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. Similarly, the emissions of a few outsized major carbon emitters propagate in the atmosphere and have significant impact on climate change at the global level.

Second, to reap the benefits of diversification, institutional investors own significant stakes in a wide array of companies, and so do indirectly the individuals investing through them. 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 that of maximizing 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 inter-firm spillovers into account when acting qua shareholders and hence do not behave like firm value maximizers. In other words, present-day shareholders are predominantly “portfolio value maximizing” (hereinafter, “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. Yet, there is robust

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14 See infra section III.D.
15 See infra notes 127-143 and accompanying text.
16 See infra notes 144-147 and accompanying text.
17 Because beneficial owners have currently no voice with respect to their portfolio companies, we can ignore them throughout our analysis. Suffice it to say here that it is ultimately them who, as owners of a diversified portfolio of shares, (should) have a preference for the exercise of shareholder voice consistent with a portfolio value maximization objective.
18 See infra section II.A.
19 See infra Part I.
evidence that they do at times act as portfolio value maximizers, 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 increasingly passively invested portfolios of a few massive asset managers relentlessly proceeds, 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? Consider the case of climate change, 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, even more so given the shield of limited liability. 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

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20 See infra section II.A.
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 (“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.’”).
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. 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. They
would thus seem to be the ideal conduits for the internalization of a
large fraction of the negative 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, and there is even
evidence that they have successfully done so. These findings beg the

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,

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.

26 See Gillian Tett, In the Vanguard: Fund giants urge CEOs to be ‘Force for Good’,
FIN. TIMES (1 Feb. 2018), https://cecp.co/wp-

27 See José Azar et al., The Big Three and Corporate Carbon Emissions Around the
World, J. FIN. ECON. (forthcoming) (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
“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 Error! Bookmark not defined. at 1 (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 “cumbersome and onerous”).
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 non-diversified 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 no longer true. This article suggests that corporate law react 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 (hereinafter “central firms”31), corporate law should be structured in a way that gives more voice to PVM shareholders than to firm value maximizing (hereinafter “FVM”) shareholders. For all other firms it should be the other way round.

28 See e.g. Giovanni Strampelli, Can BlackRock Save the Planet? The Institutional Investors’ role in Stakeholders Capitalism, HARV. BUS. L. REV. (forthcoming) (“it is illusory to assume that institutional investors can be charged with the task of pursuing objectives of general interest, such as fighting climate change (thus essentially acting in place of the state), where such a task is not aligned with their clients’ and their own interest in improving risk-adjusted returns”).


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

31 For a more formal definition of central firms see infra Section III.E.
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 their role more in non-central 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 non-central firms.

Our two-pronged approach would allow policymakers to get the best of both worlds. In non-central 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, namely that 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. PVM shareholders may be part of the solution because in many instances they will have better

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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 (2012).
information than policymakers on the best possible course of action for their portfolio companies and hence might be able to identify 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 boundaries. Consequently, (national) policymakers have suboptimal incentives to take action. Admittedly, PVM shareholders are themselves likely to have suboptimal incentives, as they are mostly concerned with negative spillovers hitting their portfolio firms and will be oblivious to externalities that fall onto consumers and non-listed 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, 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 non-listed companies.

The Article is organized as follows. In Part I we discuss the rise of institutional ownership and introduce the intuition that they 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

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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, as 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).
are peripheral or central firms, using the examples of ownership disclosures rules. Part V explains why the two-pronged approach to corporate law cannot be used to help prevent catastrophic pandemics as 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 their portfolio 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 its institutional shareholders’ portfolios which, we call “privately optimal strategies,” as they maximize the value for both FVM and PVM shareholders but not necessarily social welfare;36 (b) their institutional shareholders’ portfolio value, but not their own value; (c) their own value, but not portfolio value; (d) neither. Table 1 captures these four scenarios.

<table>
<thead>
<tr>
<th>The strategy of a given portfolio company maximizes the value of that company</th>
<th>No</th>
<th>Yes</th>
</tr>
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<tbody>
<tr>
<td>No</td>
<td>Wasteful strategy</td>
<td>FVM-only strategy</td>
</tr>
</tbody>
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36 See infra, text preceding notes 75-76.
Intuitively, the interests of FVM and PVM shareholders are aligned most of the time. More precisely, for both wasteful and privately optimal strategies FVM and PVM shareholders’ preferences are the same. 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 hybris. 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 their portfolio but not of the individual company (PVM-only strategies). To understand the extent to which this can be the case, it will help, first, if we outline what institutional investors (asset managers) 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. 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 pooled into separate legal entities known as investment funds. 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.

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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 in the management contract and disclosed to potential investors.\(^{43}\) 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

\(^{39}\) Morley, supra note 38 at 1239.

\(^{40}\) Id.


\(^{42}\) 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.”).


\(^{44}\) In some cases, for instance when pension funds buy fund shares, the agency relationship can even become multi-layered. Dasgupta, Fos & Sautner, 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:
managers attempt to identify which companies will outperform the market and thus invest significant resources in gathering information about them.\(^4\)

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, which provides inter alia for minimal diversification rules and regulates how asset managers can be compensated for their services.\(^4\) 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.\(^4\)

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.

\(^{46}\) As noted by Kenneth French, active funds are unlikely to outperform passive funds, see 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, see 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.


\(^{48}\) Title IV of the Dodd-Frank Act defines as “private funds” the funds that are exempted from registration under the Investment Company Act 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, Alma Cohen & Scott Hirst, The Agency Problems of Institutional Investors, 31 J. Econ. Persp., 89, 104 (2017).
Pursuant to its business model, it does not chase alpha but beta by holding a portfolio replicating the entire market. Yet, with revenues coming in the form of management fees (however small) calculated on assets under management and from stock lending, 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, leading to lower management (and other services) fees and fewer shares to lend. 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. Note that

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) (discussing Fidelity’s zero-fee funds)), stock lending is one of the main sources of revenues for managers of passive funds, see Hu, Mitts & Sylvester, 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, 2054-2055 (“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.
rational reticence should prevent passive fund managers from engaging with individual companies not only to improve these companies’ performance (which would be anyhow inconsistent with their beta-focused management style) but also to induce them to internalize externalities, especially where quantifying the inter-firm 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, its 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 their management. Yet, the regulatory requirements against 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, also institutions with such business model might not act as firm value maximizers. While they are unlikely to be systematically in favor of strategies that maximize the returns of the stock market as a whole to the detriment of those of individual portfolio companies, they may well be overweighted in the shares of companies within an individual


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).

industry and care about maximizing such companies’ *joint* returns even at the expense of the returns of some among them.

Last, institutions specializing in hedge fund management are subject to no 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. As a consequence, hedge fund managers, even if they are much smaller than mutual fund managers, play a disproportionately large role in corporate governance, 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.

Table 2 summarizes these considerations.

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59 See Dasgupta, Fos & Sautner, *supra* note 37 at 7 (“[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).
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 example, BlackRock has $4.9 trillion in passive funds, $1.9 trillion in active funds, and $38 billion in hedge funds. Because of the economies of scale in the passive management business, though, smaller institutions are unlikely to also offer passive funds.

While institutional investors are required act as maximizers of returns of each separate portfolio within the fund family, their actions *qua* shareholders in portfolio companies 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, they may economize on the costs of gathering information on how to vote and engage with portfolio companies by

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<th>Table 2: Different Kinds of Institutional Investors</th>
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<td><strong>Revenues</strong></td>
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<td>Hedge Funds</td>
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<td>Passive Mutual Funds</td>
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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 asset managers 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, both because they are more likely to have company-specific knowledge that will be hard to ignore and because the contribution of actively managed funds to the bottom line of the asset manager may well be greater than that of passive funds.64

Third, individual stances toward portfolio companies may be the outcome of interactions among individual employees or departments within institutions (and across them),65 which 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 inter-firm 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 ones 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.

To conclude, all institutional investors have a legal duty to act as portfolio value maximizers at the level of each individual fund, but

63 See e.g. Fisch, Hamdani & Solomon, 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 See 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).
a number of factors will interact in determining: (1) whether that will in fact be the case; (2) to what extent their PVM preferences translate into stewardship advocating PVM-only strategies; (3) portfolio companies do implement those strategies; (4) whether 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. In this article, however, we are concerned with a narrower claim. Namely, that, consistent with their goal of maximizing returns at the portfolio level, institutional investors induce investee companies to internalize at least some inter-firm effects. The next section describes the empirical evidence in support of this claim. An important disclaimer 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, Todd A. Gormley & Donald B. Kim, 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, Sébastien Michenaud, & James P. Weston, The Effect of Institutional Ownership On Payout Policy: Evidence From Index Thresholds, 29 REV. FIN. STUD. 1377 (2016) (showing that “higher institutional ownership causes firms to pay more dividends”); Philippe Aghion, John Van Reenen & Luigi Zingales, 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 2016, Do Institutional Investors Demand Public Disclosure?, 29 REV. FIN. STUD. 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, Suraj Srinivasan & Liang Tan, Institutional Ownership and Corporate Tax Avoidance: New Evidence, 92 ACCT. REV. 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](image)

The most debated manifestation of corporate-level strategy consistent with institutional investors’ PVM preferences are the anticompetitive effects of common ownership. In virtually all oligopolistic markets large institutional investors own significant stakes in the main horizontal competitors. In order 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 show 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 percent higher.67

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67 See José Azar, Martin C. Schmalz & Isabel Tecu, Anticompetitive Effects of Common Ownership, 73 J. Fin. 1513, passim (2018). Their seminal paper spurred an
Other papers have found similar results in other markets. For instance, Torshizi and Clapp find that horizontal shareholding significantly contributed to the increase in soy, corn and cotton seed prices, while a study from Azar, Raina and Schmalz suggests that common ownership might be lowering the level of competition in retail banking. Additionally, a study commissioned 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. Similarly, Xie and Gerakos find that common ownership affects the competition between branded and generic drugs. Looking at the intense debate. Two empirical papers questioned their results. See Patrick Dennis, Kristopher Gerardi & Carola Schenone, Common Ownership Does Not Have Anti-Competitive Effects in the Airline Industry 2, passim (2021), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3063465 (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 4 (2017), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3008331 (“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 reacted to these criticisms by defending their findings, see José Azar, Martin C. Schmalz & Isabel Tecu, Reply to: “Common Ownership Does Not Have Anti-Competitive Effects in the Airline Industry” (2018), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3168095; José Azar, Martin Schmalz & Isabel Tecu, Research on the Competitive Consequences of Common Ownership: A Methodological Critique, 66 ANTITRUST BULL. 113, passim (2021).


70 See Nicoletta Rosati et al., Common Shareholding in Europe 167-204 (2020).


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.\footnote{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”).} In other words, competition outcomes in such markets appear to be consistent with the preferences of PVM.

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 also for the individual firm, but common ownership may affect the level of competition both consistently with the industry’s 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 one in terms of both firm value maximization and portfolio value maximization.\footnote{For the sake of simplicity, we have not included the possibility of inter-}
optimal, that is, optimal from the perspective of 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 they 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 a level of competition. Therefore, Figure 1 indicates that the anticompetitive effects of common ownership can be the resultant of the preferences of both PVM and FVM shareholders.

Some studies have found a correlation between ownership by large and diversified institutional investors and measures of a firm’s inclination also leads firms to internalize externalities related to the market spillovers in this simplified example. If the negative inter-market 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. REG. 363 (2020).

75 See supra text preceding note 36.
76 Cf. Schmalz, supra note 24, at 414, describing some examples of FVM shareholders:

“Richard Branson was until recently the largest shareholder of Virgin America, Warren Buffett controls Berkshire Hathaway, Jeff Bezos is by far the largest shareholder of Amazon, and the Walton family controls 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. For example, Walmart and Amazon can increase their value by competing aggressively against rivals. The basis for this intuition is that the largest shareholders do not 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.”
environment. Dyck and coauthors find that higher levels of institutional ownership lead firms to have higher environmental and social (E&S) scores. More specifically, they find that this result is not driven by the fact that institutional investors are selecting into firms with good E&S scores. Instead, “investors convey their preferences for improved E&S by engaging with firms they already own.”

In a similar vein, Azar and coauthors find a strong negative association between Big Three ownership and carbon emissions. Moreover, this association became stronger recently when the three institutions publicly affirmed their intention to address environmental issues. To be sure, in some instances also a FVM shareholder might 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 by 35% by 2035 and by 50% by 2050, calling it “onerous and cumbersome.” 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. Here, the friction between a 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.

78 Id. at 694.
79 Id.
80 Azar et al., supra note 27, at 31.
81 Id.
83 See Condon, supra note Error! Bookmark not defined. at 1, 20-21.
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 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 ESG considerations are increasingly


\(^{85}\) Id.

\(^{86}\) Similar words have been pronounced by leading figures at the remaining Big Three. See e.g. STATE STREET, TACKLING CLIMATE CHANGE RISK: A CONVERSATION WITH RON O’HANLEY AND MIKE BLOOMBERG (2019), https://www.statestreet.com/ideas/articles/ohanley-bloomberg-climate-change.html (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 (Jun. 18, 2020), https://www.reuters.com/article/us-climatechange-vanguard-exclusive/exclusive-vanguard-names-names-and-backs-some-calls-for-climate-steps-idINKBN23P1T1 (paraphrasing the statements of Vanguard principal, Glenn Booraem, contending that companies and businesses should account for the risks posed by climate change).


\(^{88}\) See Philipp Krueger, Zacharias Sautner & Laura T. Starks, The Importance of Climate Risks for Institutional Investors, 33 REV. FIN. STUD. 1067, 1071 (2020).
becoming a crucial determinant of asset managers’ investment strategies,\(^8^9\) 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 are in fact more likely to become a target of activist campaigns.\(^9^0\) This is consistent with the idea that it is large and diversified PVM 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’ attitude towards innovation. In a seminal paper, Bloom, Schankerman and John Van Reenen find that the (gross) social rate of return to R&D exceeds the private return by a very large margin (34.3%).\(^9^1\) 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 own shares also in competitors, suppliers and customers of the innovating firm, 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.

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\(^{8^9}\) 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, 904-905 (2020) (discussing how the growing importance of ESG considerations for large institutional investors might affect the debate on common ownership).

\(^{9^0}\) See Mark R DeJardine, Emilio Marti & Rodolphe Durand, Why Activist Hedge Funds Target Socially Responsible Firms: The Reaction Costs of Signaling Corporate Social Responsibility, 64 Academy of Management J. 851 (2021).

\(^{9^1}\) See Nicholas Bloom, Mark Schankerman & John Van Reenen, Identifying Technology Spillovers and Product Market Rivalry, 81 Econometrica 1347, 1384 (2013).
Both theoretical and empirical studies support this conclusion. Empirical evidence also supports the idea that common ownership facilitates the diffusion of innovation among firms. 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 industry in terms of cost of capital and liquidity. Common ownership allows investors to internalize part of these spillovers and therefore leads firms to disclose more. The direction of causality—from common ownership

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95 See Jihwon Park et al., *Disclosure Incentives When Competing Firms Have Common Ownership*, 67 J. ACCOUNTING ECON. 387 (2019) (providing empirical
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 show 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: (i) setting a high level of compensation; (ii) 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 documents in detail thirty instances in which common owners engaged with their portfolio companies with the goal of altering their conduct and shows 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 evidence for the finding that “common ownership is positively associated with the likelihood and frequency of issuing earnings and capex forecasts,” id at 389). But see Andrea Pawliczek, A. Nicole Skinner & Sarah L.C. Zechman, Facilitating Tacit Collusion: A New Perspective On Common Ownership and Voluntary Disclosure (2019), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3382324 (suggesting that an alternative and more cynical explanation for the relationship between common ownership and increased disclosure is that more disclosure facilitates tacit collusion).

96 See Viral V. Acharya & Paolo F. Volpin, Corporate Governance Externalities, 14 REV. FIN. 1 (2010).
97 Id.
98 See Jie Jack He, Jiekun Huang & Shan Zhao, Internalizing Governance Externalities: The Role of Institutional Cross-Ownership, 134 J. FIN. ECON. 400 (2019).
pharmaceutical industry were pushed to do a better job to “defend their pricing.”

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 and increases the chances that two firms will merge. Further, common ownership across suppliers and customers leads to more innovative collaboration, greater inventory management efficiency and more financial cooperation. Finally, common ownership facilitates access to credit: Ojeda finds 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.

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100 Id. at 5.

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 (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,” id. at 2676).


104 Waldo Ojeda, Common Ownership in The Loan Market (2018), https://waldotekampa.me/files/JMP.pdf. See also Jie He, Lantian Yang, Hui Wang & Hang Xia, Networking Behind the Scenes: Institutional Cross-industry Holdings and Information Frictions in Corporate Loans (2019), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3486597 (finding that common ownership by institutional investors reduces informational frictions between banks and portfolio firms, which reduces borrowing costs); Gjergji Cici, Scott Gibson & Claire M. Rosenfeld, Cross-Company Effects of Common Ownership: Dealings Between Borrowers and Lenders with a Common Blockholder (2015), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2705856 (finding that borrowers are significantly more likely to enter into repeat interactions with a lender when an institutional investor is a blockholder in both companies and that this result is driven by instances in which the common owner is an active investor).
While this group of articles refers to firm conduct that are 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, index funds cannot use “exit” because they are locked in their investment. Therefore, they must rely on voting, public statements about their preferences and behind-the-scenes interventions. At the other extreme, hedge funds generally adopt much more aggressive strategies like proxy contests.

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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 chose 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 McCahery, Sautner & Starks, supra note 87. See also Shenje Hshieh, Jiasun Li & Yingcong Tang, How Do Passive Funds Act as Active Owners? Evidence from Mutual Fund Voting Records, J. CORP. FIN. (forthcoming) (providing suggestive evidence that behind-the-scenes intervention is more likely in firms in which passive funds hold larger stakes).

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. Pressuring managers to coordinate their actions with competitors with the aim of reducing competition is illegal. 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. Thus, in this case the mechanism chosen is likely to be as visible as possible.

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. find that compensation schemes of firms’ executives operating in markets characterized by higher levels of common ownership give less weight to relative performance indicators. Such compensation arrangements would give executives weaker incentives to engage in aggressive competition.

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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, HARV. BUS. L. REV. ONLINE passim (forthcoming, 2021), available at https://ssrn.com/abstract=3898607 (describing the proxy contest).

112 See Antón et al., supra note 72.
However, both theoretical and empirical papers have questioned this finding.\textsuperscript{113}

Other scholars have suggested that firms’ executives that 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.\textsuperscript{114} Last, some have suggested that for common owners it is sufficient not to pressure their portfolio firms to compete to produce anticompetitive effects.\textsuperscript{115} However, also these hypotheses are not immune from criticism and remain very hard, if not impossible, to prove or disprove.\textsuperscript{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

\textsuperscript{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 (2019) (arguing, inter alia, that the largest institutional investors explicitly endorsed relative performance indicators, hence playing an active role in their diffusion); and Heung Jin Kwon, Executive Compensation Under Common Ownership (Department Econ. U. Chi. 2016) http://www.fmaconferences.org/Boston/ExecutiveCompensationunderCommonOwnership.pdf (finding that common ownership leads to compensation arrangements that increase the incentives to compete).


\textsuperscript{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”).

\textsuperscript{116} See generally Alessandro Romano, Horizontal Shareholding and Network Theory, 38 Yale J. Reg. 363, 379-81 (2020) (critically reviewing the debate on how common ownership could lead to a lower level of competition).
with one important carve-out. As we argue, the voice of PVM shareholders is especially important for a specific subset of firms, namely those that can be expected to affect the entire economy (and beyond) with their behavior, be they major carbon emitters, systemically important financial institutions (hereinafter, SIFIs) or 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 value.\footnote{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, \textit{The Invisible Hand and Modern Welfare Economics}, 2-3 (Nat’l Bureau of Econ. Rsch., Working Paper No. 3641, 1991), \url{https://www.nber.org/papers/w3641}. For the original formulation of the theorems see Kenneth J. Arrow, \textit{An Extension of the Basic Theorems of Classical Welfare Economics}, PROCEEDINGS OF THE SECOND BERKELEY SYMPOSIUM (1951).} 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.”\footnote{See ADAM SMITH, \textit{AN INQUIRY INTO THE NATURE AND CAUSES OF THE WEALTH OF NATIONS} 19 (Penn State Electronic Classics Series 2005) (1776).} 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 modern 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,\footnote{The new orthodoxy is to view organizations as entities with a multitude of stakeholders, ideally co-ordinating 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 \textit{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, \textit{Shifting Influences on Corporate Governance: Capital Market Completeness and Policy Channeling} (2020), \url{https://scholarship.law.columbia.edu/faculty_scholarship/2705/}.} they will attempt to ensure that the bakery and the company realize
good products that meet the needs of the demand. 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.” And no one knows better than the baker or the corporation how to constantly adapt their product to the mutated circumstances with the resources available to them. Admittedly, decentralized decision-making is also plagued with problems, 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 baker”). The common baker 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 baker will not have detailed information on the tastes and preferences of people in the different neighborhoods, so

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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.

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.
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 baker 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, and hence might support inefficient one-size-fits-all solutions. Third, despite their being widely diversified, institutional investors only have stakes in a subset of the economy. Thus, they do not internalize the losses imposed on non-portfolio firms, final consumers, and so on.

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 they are unlikely to have interests that are aligned to those of their beneficiaries.

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.

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125 For a discussion see Dorothy S. Lund, The Case against Passive Shareholder Voting, 43 J. CORP. L. 493, 515-516 (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 See Bebchuk, Cohen & Hirst, 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).
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 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, since their default endangers the entire economy. Therefore, policymakers must bail out SIFIs whenever they are in distress. This creates a moral hazard problem. As 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 and to refrain from monitoring. Aware of these perverse incentives and of the risks they pose,
policymakers have recognized the need to implement a wide range of measures to mitigate the risk that SIFIs create systemic negative externalities in the pursuit of firm value maximization.\textsuperscript{132}

Importantly, a recent strand of research shows that SIFIs are not the only firms that can generate aggregate fluctuations.\textsuperscript{133} Gabaix finds that idiosyncratic shocks hitting the largest 100 firms explain one third of U.S. GDP aggregate fluctuations.\textsuperscript{134} 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.\textsuperscript{135}

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\textsuperscript{132} See Daniel K. Tarullo, Macroprudential Regulation, 31 YALE J. 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”).

\textsuperscript{133} See Carvalho, supra note 12 at 36-38 (2014) (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).


\textsuperscript{135} 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, Andrei A. Levchenko, & Isabelle Mejean, Firms, Destinations, and Aggregate Fluctuations, 82 ECONOMETRICA 1303, 1304 (2014) (reporting that “firm-specific components contribute substantially to aggregate fluctuations”).
Many studies have confirmed this insight while emphasizing the importance of intersectoral linkages. For instance, Acemoglu et al. find 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. In another paper, Acemoglu and coauthors find that when one accounts for interconnections among sectors and network effects, the impact of sectoral shocks is magnified and affects multiple sectors. In a similar vein, Atalay finds that industry-specific shocks explain at least half of the aggregate GDP fluctuations, while Baqaee and Farhi confirm that shocks to critical sectors can have “disproportionate macroeconomic effects.”

Both policymakers and industry leaders are aware of these intersectoral interdependencies. For instance, during his congress 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

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137 See Daron Acemoglu, Ufuk Akcigit & William Kerr, *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).


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.\textsuperscript{140}

And the government did bail out the main car manufacturers.\textsuperscript{141} Similarly, during the current COVID-19 crisis, the government quickly intervened to bail out airline companies,\textsuperscript{142} 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 face-to-face meetings, and shippers can deliver the latest smartphones and fresh flowers to stores.”\textsuperscript{143}

Against this background, the idea that firms that pose systemic and macroeconomic risk should behave as pure FVM is less intuitive than for non-central 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

\textsuperscript{140} Alan Mulally, \textit{Examining the State of the Domestic Automobile Industry}, Hearing, United States Senate Committee on Banking, Housing, and Urban Affairs (Nov. 18, 2008) (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., \textit{France Unveils €6bn Auto Sector Bail-Out}, FIN. TIMES (Feb. 9, 2009), https://www.ft.com/content/68f24efa-f694-11dd-8a1f-0000779fd2a.


\textsuperscript{143} See Adie Tomer & Joseph W. Kane, \textit{We Should Bail out Airlines During the Coronavirus Pandemic—but on Taxpayers’ Terms} (Mar. 18, 2020), https://www.brookings.edu/research/we-should-bail-out-airlines-during-the-coronavirus-pandemic-but-on-taxpayers-terms/.
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.\textsuperscript{144} 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,\textsuperscript{145} while according to a study published on *Nature* there are over 50\% chances that climate change will reduce global GDP by over 20\% by the end of the century.\textsuperscript{146} At the same time, a recent report shows that the top twenty companies have accounted for 35\% of all energy-related carbon dioxide (CO\textsubscript{2}) and methane worldwide.\textsuperscript{147} Given that man caused CO\textsubscript{2} and methane emissions are having a catastrophic impact on the planet,\textsuperscript{148} and that it is impossible for these firms to internalize

\begin{itemize}
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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

After having defined the three sources of risk, the next step is identifying the subset of firms that play a key role in propagating it. We call these firms “central.”

To begin with, the subset of firms that create financial risk are already identified by policymakers. 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.

Firms that can contribute to macroeconomic risk can be identified using the tools of network theory. A burgeoning 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.

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

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are among the major emitters worldwide,\textsuperscript{152} 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.\textsuperscript{153} 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 that some firms are central and others are not.\textsuperscript{154} What justifies the focus on corporate law is the ample empirical evidence that common owners are effective in inducing their portfolio firms to internalize inter-firm 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 rule 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

\textsuperscript{152} See Heede, \textit{supra} note 147, at 35.
\textsuperscript{153} See generally Enriques, Romano & Wetzer, \textit{supra} note 149, at 366-69.
\textsuperscript{154} Tweaks to corporate law rules for systemically important financial institutions have been proposed in the past. See John Armour & Jeffrey N. Gordon, \textit{Systemic Harms and Shareholder Value}, 6 J. LEGAL ANALYSIS 35, 64-76 (2014) (discussing Caremark duties in systemically important financial institutions).
to acquire significant stakes in a relatively small number of companies to try and influence their business strategies. 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. 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. However, as hedge funds are more likely to be pure FVM while 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 funds 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. 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 from the sale of those shares at the end of the activist campaign. Consequently, disclosure

155 See Gilson & Gordon, supra note 41, at 867.
156 Id. at 897-898.
157 Id. at 897.
158 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).
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 1.159

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,160 because in such cases hedge
funds and mutual funds play complementary roles:161 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.162 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.163
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.

159 See supra text following note 36.
160 Gilson & Gordon, supra note 41.
161 See Ian R Appel, Todd A. Gormley & Donald B. Keim, Standing on The
Shoulders of Giants: The Effect of Passive Investors on Activism, 32 REV. FIN. STUD. 2720
(2019).
162 Kahan & Rock, supra note 109, at 1083 (describing hedge funds as the
“archetypal short-term investor”).
163 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 35-36 and 40-
41.
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 obligation should be relatively less stringent, thus giving more voice to FVM shareholders. To be sure, we do not 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 non-central firms and hence that 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 other main target of ownership disclosure rules, namely prospective takeover bidders: because takeovers have a disciplining effect on managers, which focuses them on firm value maximization, disclosure obligations respectively more and less stringent would fit 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.\textsuperscript{164} Therefore, one might be tempted to suggest that our framework should apply also where 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.\textsuperscript{165}

But there is an important caveat: institutional investors might play an important role in mitigating the effects of catastrophic events such as COVID-19. 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 on them 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 among them 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 want a remedy, not a winner.\textsuperscript{166} Intriguingly,

\textsuperscript{164} See Goldin, \textit{supra} note 6.

\textsuperscript{165} 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, since they force wild animals to new environments in which new opportunities for interspecies virus mutation arise. See Andrew P. Dobson et al., \textit{Ecology and Economics for Pandemic Prevention}, 369 SCIENCE 379 (2020). Therefore, corporate behavior could effectively lower the probability of new pandemics through compliance with zerodeforestation goals: see Rachael D. Garrett et al., \textit{Criteria for Effective Zero-Deforestation Commitments}, 54 GLOBAL ENV’L CHANGE 135 (2019).

there is evidence that large institutions have pushed firms to collaborate to develop a vaccine during the pandemic’s first wave.167

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. One possibility could be of 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 business 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, which 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.

VI. CONCLUSION

In this Article we suggested that the traditional view of corporate law was premised on two assumptions that are no longer true: (i) all shareholders are firm value maximizers; and (ii) 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 of 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 for the economy. On the contrary, for firms that do, a deviation from a FVM focus by giving comparatively greater voice to PVM shareholders may be warranted. We have suggested that

167 See Attracta Mooney & Donato P. Mancini, Drugmakers Urged to Collaborate on Coronavirus Vaccine, FIN. TIMES (Apr. 24, 2020) (discussing how BlackRock and other institutional investors pushed pharmaceutical companies to collaborate, even with competitors, to the development of a vaccine), https://www.ft.com/content/b432ceb9-765a-4c25-9876-fb73d736f92a.
corporate law should have a different focus for central and peripheral firms. In non-central 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 have them curbed. 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.
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