The Future of Corporate Governance Part I:

The Problem of Twelve

John C. Coates[1]
Harvard Law School

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Three ongoing mega-trends are reshaping corporate governance: indexing, private equity, and globalization. These trends threaten to permanently entangle business with the state and create organizations controlled by a small number of individuals with unsurpassed power. The essay focuses on indexation. After providing background, the essay describes the rise of and reasons for indexation, noting that "passive" indexed investing takes a variety of forms. Data on indexation are presented -- with the bottom line that indexation has progressed farther than most realize, because foreign ownership, institutional indexation, and "closet" indexation are often neglected by observers. Index providers' incentives, resources, and methods are reviewed, with an emphasis on the how such providers have greater practical importance than simpler analytical approaches might suggest. The essay ends with an outline of policy options, and preliminary analyses of which seem likely to address the "***Problem of Twelve***" – the likelihood that in the near future roughly twelve individuals will have practical power over the majority of U.S. public companies.

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[1] John F. Cogan Professor of Law and Economics, Harvard Law School. I thank Robin Greenwood, Einer Elhauge, Mark Roe and Hal Scott, and participants in the Harvard Law School corporate lunch group and summer faculty workshop for helpful comments. All errors remain my responsibility. For comments: jcoates@law.harvard.edu

The Future of Corporate Governance Part I: The Problem of Twelve

Three ongoing mega-trends are reshaping corporate governance: indexing, private equity, and globalization. This essay focuses on the first of these trends; the others are addressed in related essays. After briefly describing the status quo prior to indexing, the essay describes and presents data on indexing. Indexing has already proceeded farther than commonly appreciated, with practical implications for the governance of companies. Others have noted the fact of indexing, and overlapping ownership, with a focus on antitrust implications,[2] and conventional agency-cost analyses of governance.[3] But a first-order consequence has gone underemphasized, called in this essay the "***Problem of Twelve***": control of most public companies – that is, the wealthiest organizations in the world, with more revenue than most states -- will soon be concentrated in the hands of a dozen or fewer people.[4]

Conventional analyses have emphasized that the individuals who control index funds have weak incentives to use that control. Those individuals derive tiny fractions of any benefit, and absolutely small amounts of income, by influencing companies to increase shareholder value. Their incentives are to leave boards and managers with existing discretion. At the limit, this would suggest that indexation is not a significant force in governance, or might even increase agency costs at the company level.[5] Some analyses make this argument by comparing indexation to a "sole owner" benchmark. While such a benchmark may be useful, it can be misleading. Indexed owners are typically displacing not sole owners but dispersed owners -- individuals and institutions with incentives that are as weak or weaker than those of indexed funds. Against that real-world benchmark, indexation represents a significant shift towards more shareholder power, not less.

Conventional analyses do contain truth, across a majority of moments in which control might matter. Indexation and concentration of ownership reduce but do not solve problems of separation of ownership and control. But conventional analyses mistakenly assume that index funds must make significant expenditures to influence companies and neglect economies of scale in exercise of power. They also neglect the power of control threats to discipline, and non-wealth utility derived from power. Index funds increasingly possess the "median vote" in corporate contests. That gives them an ability, even if contingent, to make crucial decisions across most public companies. Unless law changes, the effect of indexation will be to turn the concept of "passive" investing on its head and produce the greatest concentration of economic control in our lifetimes.

More fundamentally, the rise of indexing presents a sharp, general, political challenge to corporate law. The prospect of twelve people even potentially controlling most of the economy poses a legitimacy and accountability issue of the first order – one might even call it a small "c" constitutional challenge. Large companies have always tried to influence the law to protect or extend the power of those in control of those companies, through litigation and lobbying, among other means. In the late nineteenth century, the polity responded by passing antitrust laws, using those laws to break up large companies, banning corporate

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[2] Einer Elhauge, Horizontal Shareholding, 109 Harvard Law Review 1267 (2016); Fiona S. Morton and Herbert Hovenkamp, Horizontal Shareholding and Antitrust Policy, 127 Yale L.J. 2026 (2018); cf. David Gilo, The Anticompetitive Effect of Passive Investment, 99 Mich. L. Rev. 1, 29-33 (2000); Rock, Edward B. and Rubinfeld, Daniel L., Defusing the Antitrust Threat to Institutional Investor Involvement in Corporate Governance, Working Paper (Mar. 1, 2017), available at https://ssrn.com/abstract=2925855.

[3] Lucian A. Bebchuk, Alma Cohen, and Scott Hirst, The Agency Problems of Institutional Investors, 31 J. Econ. Persp. 89 (2017); Dorothy Shapiro, The Case Against Passive Shareholder Voting, [ ] J. Corp. L. [ ] (forthcoming [2017]).

[4] Twelve is an imprecise metaphor for a "small number" – for a given public company, the number might be even smaller, or modestly larger – but is the typical size of a public company board. In effect, indexation is concentrating power over all public companies in the hands of one board-sized group. One contemporaneous working paper raising concerns similar to those raised in this paper is Jill Fisch, Assaf Hamdani and Steven Davidoff Solomon, Passive Investors, Working Paper (August 2018).

[5] Cf. Bebchuk et al., supra note [2] at __ ("Our analysis shows that a continuation of this trend could have significant costs for corporate governance.").

participation in elections, creating an administrative state, and legalizing labor unions. Together, those responses can fairly be seen as a small "c" constitutional response to the threat posed by the concentration of economic and political power created by the country's first merger wave.

Since the 1970s, companies have persistently and effectively undermined all of those counterweights. Among their efforts are explicit and successful attempts to constitutionalize – and so entrench – the results of such influence, by persuading courts to treat the First Amendment as a regulatory weapon.[6] Antitrust law has been limited to direct and demonstrable consumer harms through doctrine and enforcement guidance.[7] Labor unions, hamstrung by legislation and judicial hostility, are in secular decline. Cost-benefit analysis and related litigation has been subverted to become an asymmetric de- or re-regulatory weapon in the hands of business.[8] Business interests continue to build significant government relations programs aimed at furthering regulation-based rent-seeking strategies and defending their ability to profit from externalities against economic, political and regulatory threats.[9]

Indexation, private equity, and globalization threaten to permanently entangle business with the state and create organizations – advisors to index funds and private equity funds – controlled by a small number of individuals with unsurpassed power. That concentration of control underscores the gap between ordinary citizens' experience of disengagement and distance from their government made visible in 2016, and the increasing wealth gap between the ultra-rich and the bulk of the population.[10] Politics is shaped by perceptions. Law – itself a function (in part) of politics -- will almost certainly change in response to these trends. The only question is how.

The essay ends with an outline of policy options, and preliminary analyses of which seem likely to address the Problem of Twelve. Some options are drawn from conventional corporate law and laws governing mutual funds and other kinds of financial institutions. Others are drawn from administrative law, which in some respects may address a more analogous package of challenges: a socially valuable institution (administrative agencies, index funds) that creates similar social and political risks (accountability, legitimacy) that need to be addressed without destroying the values the institution serves (expertise, low-cost investment). None is demonstrably best, and as a matter of policy design the Problem of Twelve is not an easy one. Debates over which to choose will be part of the future of corporate governance.

A. Background – what came before

1. The era of Berle and Means

[6] John C. Coates IV, Corporate Speech and the First Amendment: History, Data and Implications, 30 Const. Comm. 223 (2015).
[7] C. Paul Rogers, A Concise History of Corporate Mergers and the Antitrust Laws in the United States, 24 Nat'l School of India L. Rev. 10 (2013); Eleanor M. Fox and Lawrence A. Sullivan, Antitrust Retrospective and Prospective: Where are We Coming From and Where are We Going?, 62 N.Y.U. L. Rev. 936 (1987).
[8] John C. Coates IV, Towards Better Cost-Benefit Analysis: An Essay on Regulatory Management, 78 Law and Contemporary Problems 1 (2015); John C. Coates IV, Cost-Benefit Analysis of Financial Regulation: Case Studies and Implications, 124 Yale Law Journal 882 (2014-2015).
[9] E.g., Kartik Ramanna, Political Standards: Corporate Interest, Ideology, and Leadership in the Shaping of Accounting Rules for the Market Economy (2015); Jennifer L. Blouin, Clare Wang, and Laura A. Wellman, Through Thick and Thin: Political Risk and the Interdependencies between MNCs and Host Countries, Working Paper (May 2018); Marianne Bertrand, Matilde Bombardini, Raymond Fisman, and Francesco Trebbi, Tax-Exempt Lobbying: Corporate Philanthropy as a Tool for Political Influence, Working Paper (Jan. 23, 2018); Daniel Aobdia, Allison Koester and Reining Petacchi, Political Connections and Government Subsidies: State-level Evidence, Working Paper (Mar. 2018).
[10] Thomas Piketty, Capital in the Twenty-First Century (2013).

For much of the twentieth century, in lieu of socialism, large-scale privately owned companies were legitimized as the dominant economic organizations in the U.S. largely through disclosure, bans on self-dealing, audits, and accountability to shareholders of those controlling large companies. These constraints helped them to raise capital, grow, generate jobs, and distribute wealth among a large class of workers and investors. These features emerged from the three-stage model of corporate law and governance that dominated understandings of U.S. practice, a model underpinned by the famous work of New Dealers Adolf Berle and Gardiner Means.[11] In the first stage, entrepreneurs created companies with capital from some mix of savings, speculative investment from "family, friends and fools," and venture capital (VC) firms. During this stage, investors depended on contract and weak protections of corporate law, the primary role for which was to prevent the worst forms of self-dealing approaching theft in economic effect. Securities law imposed hard and clear caps on the number of investors that could have their personal wealth swept by mania or fraud into these companies. Many would fail, but the impact of failure was confined and investors were presumed to be able to look out for themselves.

After getting a business to the stage where it was generating revenue and appeared sustainable, an entrepreneur would take the firm "public" in an IPO (initial public offering) – i.e., sell shares to dispersed, anonymous investors, and list the stock on a stock exchange. Investors were primarily individuals, but increasingly included a variety of institutions, such as pension funds, insurance companies, and mutual funds, who held on behalf of individuals. Investors obtained liquid shares, sale-able on a secondary market, the protections of mandatory audits, disclosure, and oversight by the Securities and Exchange Commission (SEC). The process of the IPO was tightly regulated, with effective bans on certain kinds of promotional activity such as billboards and television, and various gate-keepers – underwriters, auditors, and lawyers – would help assure investors that they were being told all there was to know about the company's prospects and risks. Markets were then trusted to price the securities so sold.

In an IPO, ownership dispersed, and a separation of ownership from control typically followed. A board of directors nominally elected by shareholders but in practice initially appointed by the entrepreneur or VCs (and thereafter largely self-replacing) would lightly supervise a management team thereafter. Often, where VCs were involved, the entrepreneur would be replaced or augmented with professional managers prior to or following the IPO. The VCs would sell their shares off over time, the entrepreneur could choose to do so as well, and the company would be launched into a universe of several thousand variously sized public companies. No one new investor would hold a control position, and due to disclosure obligations, liquidity restrictions, and diversification requirements imposed on institutions, few investors would buy more than five percent of a company's shares.

In this third stage of the process – with ownership separated from control and dispersed investors rationally ignorant and passive, "agency costs" emerged – managers (economic if not legal agents) were able to pursue interests other than those of investors (economic principals) – but the costs of this divergence were kept in check by a combination of institutions. These included not only audits, disclosure, and SEC oversight, but also board supervision, publicly observable stock prices, two forms of potential litigation – securities law class actions and corporate law derivative actions – and the threat of a hostile takeover, should stock prices fall sufficiently. Corporate law's fiduciary duties became a constraint across a greater number of fact settings, and a limited number of firms took on enough debt to fall into bankruptcy in downturns. The relative importance of these forms of discipline waxed and waned, and no one believed that they eliminated agency costs altogether. But the general belief was that the value of raising equity capital in this way outweighed the

[11] Berle, Adolf A., and Gardiner C. Means. 1932. The Modern Corporation and Private Property. Justice Leo Strine recently discussed the larger political context of the classic work by Berle and Means, in Made For This Moment: The Enduring Relevance of Adolf Berle's Belief In A Global New Deal, Working Paper (May 17, 2018).

transaction costs and residual agency costs of this form of ownership, and the resulting organization was the best that could be achieved.

2. Hostile bids, buyouts and the rise of institutional investors

The picture just painted changed modestly in the last twenty years of the twentieth century. Stagflation chilled stock prices relative to asset values, and pressure from the Japanese-led phase of globalization forced change. Hostile bids threatened many large companies in the 1980s. Unable to count on a quiet life, managers began to buy out public investors and "go private." Buyout funds – later rebranded "private equity" -- were created to facilitate such deals.

Labor ceased to trust managers to resist market pressure to downsize, restructure, and break up. Aligned with public pension funds, union pension funds became active in corporate governance. Such institutions organized as a lobby, and to pressure boards and managers directly. Boards became more independent from management, quicker to intervene, and more responsive to shareholders. Stock options caused executive compensation to soar, and provided strong incentives for managers to willingly sell their firms.

While the economic effects of these changes were dramatic, governance itself, including the typical life-cycle of companies, remained recognizably intact. Michael Jensen boldly declared that public companies were going to be "eclipsed" by debt-financed ("leveraged") buyouts, but companies continued to go public. Indeed, the late 1990s saw a surge of IPOs in the internet and telecom industries. The path from start-up to mature listed company remained largely the same, and managers still retained a significant degree of freedom from direct control by investors.

Public – that is, dispersed and rationally passive – individuals remained the dominant source of capital, even if their investments were increasingly held by institutional investors. Buyouts continued, but were theorized as therapeutic interventions – temporary shifts to private ownership to facilitate cost-savings and financial recapitalizations, to be followed by a return to conventional dispersed ownership. Investors were increasingly influential, but used conventional authorities to exert their influence. Shareholder value became more pointedly the goal of governance, but no sharp shift occurred in law or institutions.

B. The emergence of three mega-trends, with a focus on indexation

Despite apparent stability amid surface change in the last half of the twentieth century, three deeper and more destabilizing changes were already underway. The first, ***indexation***, reflects the slow but steady victory of a simple set of financial ideas – few investors can "beat the market," and few among those who cannot can identify those who can, so that buying a full array of available stocks generally earns the highest risk-adjusted return, particularly net of investment costs, such as advisory fees. The second, ***private equity***, similarly reflects a slow spread of a seemingly simple set of ideas – that the traditional form of dispersed ownership could be bettered, at least for some companies, through a different set of institutional arrangements, prominently including a fund concentrating ownership among a relatively small number of sophisticated investors and concentrating control with a professional management firm, coupled with a commitment by the firm to return all invested capital to fund investors on a five or ten year cycle.

The third mega-trend, ***globalization***, is broader and more general, consisting of the opening up of worldwide trade. Changes in international law have led to many economic effects, including a radical reordering of production and restructuring of multinational companies, extended supply chains, and extensive use of joint ventures and outsourcing arrangements. These changes manifest in corporate governance by increasing the equilibrium scale of firms,[12] with a consequence delay in the path to an IPO, a decline in IPOs, and a decline in the number of public companies. These effects have in turn stimulated several rounds of securities deregulation in the US, as lawmakers attempt – somewhat quixotically, given the fundamental nature of the economic forces at work -- to undo those trends.[13] Globalization also transferred the operations of an increasing array of industries from developed to developing economies, generated interest and growth in the private equity mega-trend around the world, and significantly increased cross-border capital flows. Most important, capital now increasingly flows from and to state controlled funds and enterprises, particularly in China and in sectors or regions coming under Chinese influence.

Each of the three mega-trends is interesting in its own right, and while related are independently important. Each shares with the others the fact that each trend has taken a significant amount of time to manifest fully, and each is ongoing, with only modest signs of slowing. Together, the three trends have already transformed corporate governance more radically than is commonly appreciated, and more so in the last ten years than in the prior twenty. This essay presents the basic facts of indexation, highlighting aspects that are sometimes overlooked in other narratives of the phenomenon. The following section presents the practical implications for the governance of companies. Related essays cover private equity and globalization. Together, the three trends upend the Berle and Means model, will almost inevitably generate significant change in corporate or securities law, and frame debates in corporate governance for the foreseeable future.

1. Indexation – the rise of "passive" investing

Investing can be "active" or "passive" on several dimensions, and at a variety of levels. By "dimensions" is meant the types of activities – buying, selling, voting, etc. – that an investor can engage in with respect to an investment. By "levels" is meant the ways in which legal persons – corporations, trusts, etc. – can be layered, one owning another. To understand the rise of indexation and "passive" investing, it is worth getting clear about how complex such ownership chains can be, and how different aspects of investing can be segmented into active and passive domains.

i. Dimensions and levels of passivity in investing

A given investor can be active on one or more dimensions, and passive on others. Dimensions include selection of investments, monitoring, information-gathering and analysis, sale, and use of rights. Investors have rights under contract, tort, entity, bankruptcy, securities, and other laws. Prominent rights for credit (debt) investments are to receive scheduled principal and interest, upon pain of acceleration, foreclosure of collateral, and triggering of cross-defaults or bankruptcy, as well as to receive specified information and to enforce restraints on borrower behavior. Prominent rights for common equity investments are (a) to vote in the election of directors and on specified transactions such as mergers, (b) to sue to enforce fiduciary duties, (c) obtain an open-ended set of information, (4) to initiate governance actions (such as bylaw amendments or proxy fights), and (5) to use the threat of the foregoing to obtain access to and influence policies or actions through directors and officers.

Levels of investor actions include those at the level of the company that received the invested funds (a "***portfolio company***"), as well as those associated with tiers of agents or intermediaries investing in a portfolio company. To illustrate: Apple, Inc. issues stock to an individual (upon exercise of an employee

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[12] Xiaohui Gao, Jay R. Ritter, and Zhongyan Zhu, entitled Where Have all the IPOs Gone?, 48 J. Fin. Quant. Anal. 1663–1692 (2013).

[13] See Testimony of Professor John C. Coates IV, John F. Cogan, Jr. Professor of Law and Economics, Harvard Law School, Before the Subcommittee on Securities, Insurance, and Investment of the Committee on Banking, Housing, and Urban Affairs, United States Senate, "Examining Investor Risks in Capital" (December 14, 2011).

stock option, for example), who then sells the shares via a broker to (a) Pershing Square, a hedge fund, which invests funds pooled from several individuals, pension funds, and endowments; and (b) Vanguard's S&P 500 Index Fund. Vanguard's S&P 500 Index Fund issues shares to (c) an individual and (d) an insurance company's separate account, which was established for the benefit of a (e) retirement plan established by a dentist, for the benefit of (f) employees of the dentist's closely held business.

The individual employee of Apple was active only in the decision to sell, and generally ceases to have rights or interest in the investment after it is sold. The individual investors in Pershing Square are active in their decision to commit funds to that hedge fund, but are generally passive once they have invested. Pershing Square, by contrast, is the essence of an "active" investor, and will make ongoing decisions whether to keep the Apple shares once bought, to monitor Apple, to gather information and analyze it, and whether and how to use the full panoply of shareholder rights.

The individual investors in Vanguard, such as the author of this paper, were active in choosing Vanguard, and whether to retain it, and have rights as shareholders of Vanguard's fund, including some information about how Vanguard acts on behalf of the fund as an investor in Apple. But the Vanguard fund investors have no rights as shareholders of Apple, and the only thing they can effectively do with their Vanguard fund rights is to sell (redeem) their shares, which entails not only selling the interest in Apple shares, but also all of the shares of the other ~499 companies in the S&P 500. It is Vanguard's employees who exercise the rights associated with shares of Apple. The beneficiaries of the dentist's pension plan have even fewer rights, since they cannot typically choose to exit Vanguard; that choice remains with the pension's trustees – who might be the dentist and his lawyer, or yet another institution, such as a bank trust department.

This example is stylized, and actually simpler than real-world ownership tiers for many Apple investors. The example illustrates what Justice Leo Strine calls the "separation of ownership from ownership,"[14] the increasing division through tiers of legal entities of different legal rights to get information about and exercise rights associated with stockholdings in public companies. The key point is that across different dimensions of activities, and up and down different tiers of ownership, the "activity" of shareholders varies.

ii. The historical background of "passive" investing

"Passive" investing has a long history. Driven by the fact that individuals with modest amounts to invest could not effectively select, monitor or use the rights associated with investments, collective investments were developed in the late eighteenth century, first in Belgium and the Netherlands. In Scotland and the U.K., collective investment trusts such as the Foreign and Colonial Government Investment Trust (founded 1868) experienced strong growth in the late nineteenth century, driven by the rise of a middle class, low yields on domestic investments, and the desire to invest in riskier overseas government and corporate debt securities.[15] Already these trusts shifted authority and control -- from individuals who contributed funds to the trust managers -- both as to selection and responsive action when the issuers of the debt could not make scheduled payments.

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[14] Leo E. Strine, Jr., One Fundamental Corporate Governance Question We Face: Can Corporations Be Managed for the Long Term Unless Their Powerful Electorates Also Act and Think Long Term?, 66 BUS. LAW. 1 (2010); see also Matteo Tonello, The Separation of Ownership from Ownership, HARV. LAW SCH. F. ON CORP. GOV. & FIN. REG. (Nov. 25, 2013), https://corpgov.law.harvard.edu/2013/11/25/the-separation-of-ownership-from-ownership/.
[15] The stated goal of the trust: "to give the investor of moderate means the same advantages as the large capitalist in diminishing the risk of investing in Foreign and Colonial Government Stocks, by spreading the investment over a number of different stocks." By 1888, 70 investment trusts were registered under the U.K. Companies Act, and 36 were listed on the London Stock Exchange.

Once investors transferred their wealth to the trusts, they were themselves rendered passive. But at this stage, when securities markets were fragmented, there was no option for truly passive investing. Investment managers for the trusts had to find and buy securities, and no "indexes" existed to guide such selections.

Over time, the investments, governance and structure of passive investment vehicles grew in size and complexity, and varied in kind. Investment companies – companies whose business was to invest in securities issued by other companies -- date to 1890 in the U.S., took off in the bull market of the 1920s, often borrowing heavily to grow and magnify returns. They invested in an increasingly broad array of securities, moving well beyond government securities to corporate bonds and, eventually, increasingly speculative stocks. At times they invested in tiers or "pyramids," with investment companies buying shares of other investment companies.

By 1929, U.S. collective investment vehicles had accumulated $7 billion in assets under management (AUM). That represented roughly 5% of the market capitalization of the U.S. equity markets, [16] and in current dollars between $78 billion and $1.2 trillion, depending on the method of adjustment. In the Crash, many failed, wiping out their investors' savings. Even the best fell by more than the market, due to their leverage. Goldman Sachs Trading Co. fell from $84 per share to $6.

To recover, entrepreneurs embraced (a) contract innovation, (b) tax subsidies, and (c) notably, regulation. The results created the penultimate stage of passive investing, the basic contours of which survive today. First, sponsors popularized a new alternative to the conventional "closed" investment company -- the modern, open-end mutual fund, called "open" because its shares are continuously issued and redeemed upon demand of investors at net asset value. Redeemable shares distinguish mutual funds from other corporations, including conventional trusts and investment companies. The first such funds – the Massachusetts Investment Trust and State Street Investment Corp. – were created in 1924, but did not experience strong growth until the 1930s. From 1929 to 1940, open-end mutual funds grew AUM from $140 million to $450 million, while closed-end funds fell from $2.6 billion to $784 million.

Second, the investment company industry succeeded in 1936 in convincing Congress to exempt investment companies from "double" federal income taxation otherwise imposed on corporate shareholders.[17] Special tax treatment became increasingly important as marginal rates rose to 90% by mid-century. In return, tax law imposes taxes that depend both on how much stock a mutual fund owns in a given portfolio company, and on how large a share of its assets are invested in any one portfolio company.[18] We return to these limits in the policy discussion below.

Third, and most strikingly in today's political climate, following a lengthy study mandated in 1935, investment companies[19] were strictly regulated by the Investment Company Act (ICA) and Investment Advisers Act (IAA), each drafted by the Securities and Exchange Commission (SEC), and passed by Congress in 1940. Despite mandating what remains the most stringent set of controls on any financial subsector, these laws were strongly backed by the fund industry, which organized into the forerunner of the Investment Company

[16] For market capitalization data, see Ellen R. McGrattan and Edward C. Prescott, The 1929 Stock Market: Irving Fisher Was Right, Federal Reserve Bank of Minneapolis Research Department Staff Report 294 (Feb. 2003).

[17] More precisely, The Revenue Act of 1936 established a distinct set of rules for the tax treatment of mutual funds (and other investment companies) and their shareholders, which have the effect of mitigating (without entirely eliminating) the income tax obligations generally imposed on U.S. corporations. For discussion, see John C. Coates, Reforming the Taxation and Regulation of Mutual Funds: A Comparative Legal and Economic Analysis, 1 *J. Legal Anal.* 591 (Summer 2009).

[18] Tax law continues to provide strong incentives to fragment fund holdings among at least twelve portfolio companies. See IRC §§ 851 and 852.

[19] Generally, "investment companies" are required to register as such if they offer their own securities to the public and are primarily in the business of investing in other companies' securities.

Institute (ICI). Among other things, the laws and subsequent regulations limited how much registered investment companies could borrow, created detailed disclosure obligations, and imposed near-complete bans on conflict of interest transactions, subject to SEC enforcement and exemptive authority.[20]

Together, the suite of open-end mutual funds, trust-enhancing regulation, and special tax treatment led the fund industry to a sustained period of growth. By 1951, more than a million individuals owned fund shares; by 1954, household net purchases of fund shares surpassed purchases of corporate equity.[21] Passive investing had come of age.

As in the prior stage, however, passive investing remained passive only at the top beneficiary level. Agents for the funds still actively managed the funds' portfolios, picking and choosing investments in accordance with disclosed investment goals and restrictions and, at least in theory, playing a role in governing portfolio companies. For these services, investment companies paid advisory fees, costs borne by their investors. In 1958, in response to complaints about the fund industry, the SEC hired academics at the Wharton School of Finance and Commerce to conduct a study of the fund industry. The 1962 Wharton Report concluded that even as fund assets had grown substantially, generating economies of scale, fees remained at 0.5% of assets for most mutual funds, implying (to the authors) weak market competition among fund advisors.

iii. The invention of truly "passive" investing

Two developments followed the public policy focus on fund fees in the 1960s. First, Congress amended the ICA in 1970 to require fund advisors act as fiduciaries in regard to their compensation from funds and fund shareholders, and to create a special fund investor private right of action to challenge "excessive" fees.[22] (Such litigation continues to this day.[23])

Second, and more important, the focus prompted first academics and then entrepreneurs to develop and then promote the idea of ***truly*** passive investing – passive not only at the top beneficiary level, but also at the agent portfolio manager level, and not only in the dimension of monitoring and use of rights, but in the dimension of portfolio selection. Shortly following seminal articles by Burton G. Malkiel and Paul Samuelson,[24] Vanguard in 1974 launched the first "indexed" fund. Promising the lowest advisory fees in the industry, Vanguard committed to give up on actively picking and choosing stocks, or indeed doing much of anything as an institutional investor. Instead, it would take funds invested by its own investors and simply buy and hold all the shares in an index of stocks chosen by a third party, until such time as redemptions by its investors required it to sell stocks in the index to generate cash to meet the redemption demand.

In truth, there is more to indexed investing than this summary implies, even with a commitment to keep expenses as low as possible, particularly if the indexed investments are anything other than large cap equities. Index composition changes in response to mergers and bankruptcies, or as index providers adjust indices to more closely their intended goals. Flows of money at the investment company level occur hourly, and redemptions and net sales or purchases of fund shares occur daily, requiring constant portfolio adjustments. Tax frictions persist, despite the special treatment afforded mutual funds. Dividends must be reinvested.

[20] Investment Company Act ss. 6 (exemptive authority), 10(f) (self-dealing), 17(a) (same) and 18 (leverage).
[21] Investment Company Institute Fact Book 2003 (inside back cover).
[22] John C. Coates and R. Glenn Hubbard, Competition in the Mutual Fund Industry: Evidence and Implications for Policy, 33 J. Corp. L. 151 (2008).
[23] John C. Coates, The Downside of Judicial Restraint: The (Non-) Effect of Jones v. Harris, 6 Duke J. of Constitutional Law and Public Policy 58 (2010).
[24] Malkiel, Burton G., A Random Walk Down Wall Street (W. W. Norton 1973); Samuelson, Paul A., 1974, Challenge to Judgement, Journal of Portfolio Management 1, 17–19.

Still, elimination of specially trained, often highly compensated individual portfolio managers and the costs associated with shifting portfolio choices over time allow for significantly lower fund expenses.

Governance of portfolio companies – voting, monitoring, and engagement -- remains a possible activity of indexed funds. In fact, there are legal obligations that encourage minimal governance efforts, such as voting, and some governance occurs for public relations reasons.[25] But while indexed funds remained a small part of the overall market, they by definition would only own a small part of any one company. Like other dispersed investors, indexed funds had no rational incentive to engage in much governance activity, as the benefits would be shared with other owners of the portfolio company, while the costs would be borne by the fund and its investors. Few examples of governance activities by a 0.1% shareholder can be found that have quantifiable and material benefits for the investor. That is true of both active and passive investors, individuals and institutions alike. While indexing was starting out, its governance role was not distinct from that of other investors in U.S. public companies.

iv. The rise of truly passive investing

From 1974 to 2000, indexed funds steadily increased their share of stock ownership, joined by the first index-based exchange-traded fund (ETF), invented by State Street, as reflected in Table 1.[26] However, up to the end of the twentieth century, that growth was relatively constrained, culminating in only two percent of total U.S. equity market capitalization. In 2000, the iShares line of indexed ETFs were introduced by Morgan Stanley, was subsequently sold, and is now owned by BlackRock, the world's largest asset manager. Since that time, the growth of indexed funds has increased dramatically. This growth has been both in absolute and relative terms, both as a straight-line annual average (2% vs. 66%) and as a compound annual growth rate (CAGR) (13% vs. 12%).

Table 1. Growth in Purely Passive Indexed Institutional Ownership of US Companies, 1990-2013

	(1)	(2)	(3)	(4)	(5)
	US domestic equity index funds assets $b	**(1) as % of US equity market cap**	**US domestic equity ETFs assets $b**	**(3) as % of US equity market cap**	**Purely passive US funds (2) + (4)**
1990	n.a.	<1%	$0	0%	<1%
2000	$344	2%	$63	<1%	2%
2010	$701	4%	$476	3%	7%
2013	$1214	5%	$964	4%	10%

Data sources: Investment Company Institute (for fund assets), World Federation of Exchanges (for market cap).

Passive, indexed U.S. mutual funds and ETFs are now widely understood to now hold more than 10% of total U.S. equity markets. In fact, these data – the standard data used in conventional accounts of the rise of indexed investing – understate the scale and significance of recent growth. The 10% figure reflected in Table 1 is a lower bound on the share of U.S. equities managed by passive investment arrangements, for several reasons.

First, it includes in the numerator only registered indexed fund assets. Omitted are assets held by other kinds of institutions, such as pension funds, insurance companies, and non-profits. Yet a large and increasing portion of assets of these other institutions are also managed in a passive, indexed fashion, often managed

[25] Marcel Kahan and Ed Rock, Symbolic Corporate Governance Politics, 94 B.U. L. Rev. 1997 (2014).
[26] For most governance purposes, and this essay, ETFs and indexed mutual funds are similar. See Coates, supra note [16] supra.

identically to assets held in registered funds sponsored by the same adviser that is advising the other institutions. In interviews with managers of a dozen of the largest pension funds in the U.S., I have confirmed that a large and increasing share of their assets are passively invested, often tracking indices similar to if not identical to those used by standard indexed funds and ETFs. Those assets are not held through registered companies included in standard ICI data, but instead in separate "sleeves" or held directly on the books of the pension funds but managed externally in a manner that tracks a relevant index.

Second, the numerator only includes U.S. registered funds, and not foreign funds. Yet as the benefits of global asset diversification have spread, foreign funds have increased their share of U.S. public equities over the last twenty years. As reflected in Figure 1, the share of U.S. public companies owned by non-U.S. investors has risen dramatically, too, as part of the third mega-trend described below (globalization). Foreign investors now own approximately 20% of all U.S. equities. Much of that ownership is indexed. While precise data on how much are not available, it is fair to assume that a greater portion of foreign ownership is truly passive than is the case for domestic. That is because foreign investors have good reasons to understand that their knowledge of foreign markets will tend to be worse than for domestic investors, and so attempting to out-guess the markets through market timing or picking stocks will fail.

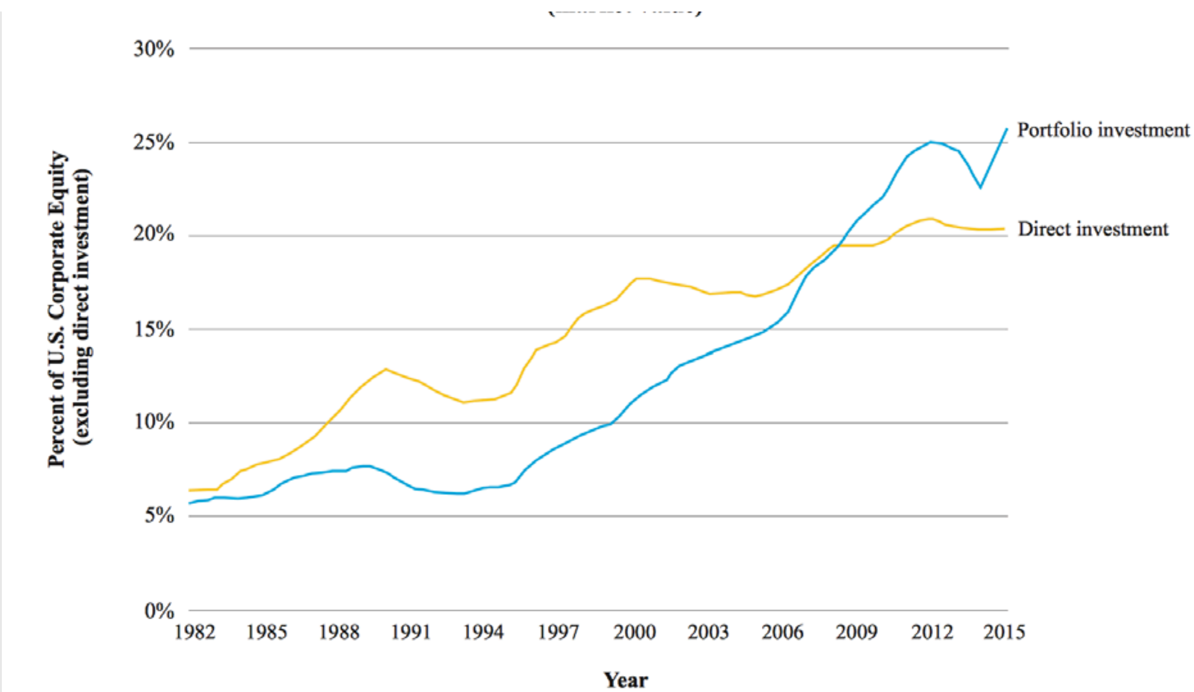

Figure 1 Foreign Ownership of US Stocks, Source: Board of Governors of the Federal Reserve System, "Financial Accounts of the United States, Tables L230 and L223.

Third, a large additional share of assets held in nominally "active" funds are in fact practically indexed. That is because active funds are compared with passive funds for performance. Active funds commonly minimize management costs by essentially holding an index and selecting a few companies to over- or under-weight. This allows them to distinguish themselves from the index funds, while not attempting to engage in serious analysis of the value of each portfolio company. The "active share," as the portion of active funds that is significantly different from what would follow from a passive indexing strategy is commonly estimated to exceed 50% at many funds, resulting in an additional chunk of the market being fairly understood as indexed and truly passive.

v. Causes of increased indexing

While this is not the place for a sustained analysis of the causes of increased indexing, it is worth pausing to consider some plausible causes of its growth, to gauge whether the trend is likely to continue, and for how long. A partial list of causes would start with the motive for the invention of indexed funds: doubts about whether investors can earn "alpha" – risk-adjusted returns in excess of the market – much less alpha net of management fees, and still less whether ordinary retail investors can identify managers who can reliably generate alpha net of fees. A related cause is simple marketing by Vanguard and other index fund sponsors.

The trouble with these two basic causes is that they both date to the late 1960s or early 1970s. Yet indexing did not take off until much later, and did not really start growing at current rates until the year 2000. The fact of delayed, slow and steady growth is not consistent with a simple narrative in which an idea achieves success among rational, informed investors. Another partial explanation that help explain some of that delay is that when indexing was first pioneered, institutions were limited by trust law in the investments they could make by fiduciary duties of trustees, which tended to keep investments in relatively safe investments. Those duties were relaxed on a state by state basis between 1986 and 1997, giving trustees both permission and an incentive to invest in line with modern portfolio theory.[27] But that explanation would not explain the long, slow rise in indexing by individuals as well as institutions.

Another cause was technology. The spreadsheet, email, the internet, and other forms of desktop computer technology made their way into the investor world in the 1980s and 1990s. That made it much easier for data on returns to be generated and compared by financial advisors, the business press, and popularizers of investment fads. Indexes themselves were easier to produce and distribute. Costs of indexing fell even farther than they had been in the 1970s. While no doubt some of the explanation, there is no clear technological reason for the ramp up post 2000.

Another cause was globalization, a topic taken up in a related essay. As investors realized the value of investing in a set of imperfectly correlated assets in achieving better risk-adjusted returns, they began to invest globally. But as noted above, investments made further from the location of an investor are likely to face greater information asymmetries. Investors know more about their own countries and economies. A rational investor would tend to be even less able to achieve alpha in distant investments. Again, however, this explanation can only be partial, as indexing has led and not lagged global investment flows.

A full explanation must rely at least in part, then, on behavioral narratives and institutional forces. It may simply take a long time for basic wisdom, such as the idea of diversified passive investing, to penetrate the minds of most retail investors, most of whom are never trained in even the basics of finance. While a simple idea, it faces several battles. Overconfidence, misplaced trust, and neglect of the cumulative effect of advisory fees, which are typically expressed in annual percentages of AUM – all may be viewed as difficult to displace heuristics that slow the diffusion of what is a seemingly compelling case for passive investing, at least for most retail investors. More recent growth in indexing is due to a series of "switches" in institutional settings – employers are increasingly featuring indexed funds as a default option in 401(k) plans; pension fund boards are increasingly dedicating a portion of their portfolios to indexed strategies; discount brokers have eaten into the business of traditional brokers, reducing a source of advice potentially biased towards active management. Once a specific investor realizes the case for indexing, or once an institutional switch of this kind has been made, inertia and the absence of a compelling and true counter-narrative to bring them back to active management creates the conditions the slow but steady spread of indexing.

The bottom line of this preliminary causal analysis is that the main forces leading to the slow but sustained rise of indexed investing are likely to persist into the future. Slow receptivity by retail investors to the idea

[27] Robert H. Sitkoff & Max Schanzenbach, Did Reform of Prudent Trust Investment Laws Change Trust Portfolio Allocation?, 50 J. L. & Econ. 681 (2007).

that they cannot outguess the market themselves, or find investment managers who can, will continue to provide a growth path for steady growth in indexing. At least until some of the consequences of high rates of indexing (on which more below) begin to create wider opportunities for active managers to generate alpha on a consistent and sustained basis, few active managers will be able to convincingly make the case that they can do better than the market, net of fees, for most indexed fund investors.

vi. The bottom line: increased indexing and concentration

The bottom line is that indexed funds now own more than 20% and perhaps 30% or more of nearly all U.S. public companies.[28] If current growth rates continued (which they will not – eventually an equilibrium will be reached), the entire U.S. market would be held by such funds no later than 2030. But even if the trend flattens, the majority of most companies will soon be owned by indexed funds.

For governance purposes, just as important as the trend in indexing is the fact that indexing is by definition not a high value-added service, nor one on which different investment managers can hope to distinguish themselves. Brand matters; indexed funds more than most other funds do not suffer from diseconomies of scale. Their activities do not require attempting to beat the market, and do not suffer as portfolio managers attempt to deploy ever large amounts of capital as they grow. By contrast, at least some of their costs do fall with firm size. They can more easily net redemptions with new purchases and so reduce transaction costs; they can spread the cost of fund accounting, compliance and legal advice across more assets as they grow. They face fewer operational or reputational risks, as a result of a simpler business model and fewer employees per dollar of invested assets.

As a result, indexed funds and ETFs have increasingly exhibited growth that outstrips their nearest active fund competitors, and which persists. This is true even in securities such as bonds, where none of Vanguard's index funds were among the top ten in 2000, and is now the largest bond fund. This is even more true in stocks, where Vanguard's market share at a faster pace than its AUM. So too for the small number of major indexed fund providers. And because of economies of scale and the lack of meaningful margins for differentiation, it is difficult for newcomers to break into the market. This fact is unlike actively managed funds, which exhibit continual new entry and turnover. In corporate bond funds, for example, six of the largest ten funds in 2015 were not in the top ten in 2000; similarly with equities. The competition among funds has been brutal for actively managers: more than 44% of assets in U.S.-domiciled equity funds are now managed passively, up from 19% in 2009.[29]

In short, the rise of indexing also has meant increased concentration of ownership. In fact, it has meant concentration of ownership in the hands of a very small number of indexed fund providers. The "Big Three," as they are known – Vanguard, State Street, and BlackRock – controlled approximately 15% of the S&P 500 in 2017 -- a much greater share of US public companies than any three single investors have ever previously done. (None of the large advisory firms limit themselves to just active or passive management; even Vanguard, famous for inventing indexing, sponsors active funds, and Fidelity, its long-time rival predominantly focused on active management, also sponsors passive funds.) From the perspective of the portfolio companies, over 31% of the S&P 500 have four or fewer shareholders holding an aggregate of 20+% of their stock. Vanguard, State Street and Fidelity together own 60% of the 5+% blocks of stock in the S&P 500.

[28] Consistent with this rough estimate, data from Casey Quirk as of September 2018 show 24% of global assets under management invested in passive form.
[29] ICI Factbook 2018, at 43 (reporting indexed mutual funds and ETFs held 13% of U.S. public equities, while active funds and ETFs held 14%).

True, not all shares controlled by a given indexed fund advisor are owned by the same fund. Vanguard, for example, sponsors and advises numerous indexed funds. Vanguard collectively owns 6.3% of the shares of Apple, Inc., but none of its funds has more than 2%. But this fact is largely irrelevant to governance, at least under current law. While the Investment Company Act and the Internal Revenue Code require impose crude diversification limits at the fund level, no corresponding requirement exists the level of the "complex," i.e., at all funds sponsored or advised by a single advisor. Nor is there any legal prohibition against an advisory firm from voting, monitoring, or engaging with a given portfolio company on behalf of all of its funds in an identical and coordinated manner.

So while different Vanguard funds may separately own Apple, Inc. shares, it is the senior management of Vanguard that ultimately controls how the rights associated with those shares are used for governance purposes. As far as Apple's board of directors are concerned, Vanguard is a 6.3% shareholder, not a 2% shareholder. BlackRock is another 6% owner of Apple, Inc., while State Street owns just under 5%. For the most valuable public company in the world, three individuals can in principle swing the vote of 17% of its shares. Generally, a significant fraction of shareholders do not vote, even if in contested battles. As a result, the 17% actually represents more like 25% or more of the likely votes in contested votes. That share of the vote will generally be pivotal. Add another few funds, and the votes of other funds that follow the advice of proxy advisory firms such as ISS and Glass-Lewis, and the collective vote of the group of index funds will almost always include the median vote in such fights. Hence, the Problem of Twelve.

This, then, is the first mega-trend. We are rapidly moving into a world in which the bulk of equity capital of large companies with dispersed ownership will be owned by a small number of institutions. Those institutions, in turn, are ultimately controlled by a small number of individuals. For any given portfolio company, the ownership rights – most importantly the right to vote in election of directors – will be controlled by a small number of individuals working for those institutions. It is not an exaggeration to say that even if this mega-trend begins to taper off, the majority of the 1,000 largest U.S. companies will be controlled by a dozen or fewer people over the next ten to twenty years.

2. Practical implications of indexing

The result of the trend just reviewed, however, is not that a dozen individuals are sitting in a room deciding what each U.S. public company will do on any given day. The concentration of control is indirect. Each public company remains in practical day-to-day control by its CEO and the rest of its managers, subject to supervision by a board of roughly twelve individuals, all of whom except the CEO are independent – of both the company and the index fund sponsors. The index fund providers are not choosing CEOs, nor are they typically engaged in specific strategic decisions at the portfolio company level. They continue to rely on the Berle and Means structure outlined at the outset for the vast majority of decision-making by large company boards.

i. Index provider staff and coordination

Indeed, the index providers have no choice but to be relatively hands-off. They simply do not have the staff to oversee or understand what their portfolio companies are doing on a quarterly basis, much less daily. Each owns hundreds or thousands of portfolio companies, and each has a staff dedicated to corporate governance and monitoring of fewer than 50. Even if they wanted to assert more active control than they currently do, their current staffing would not allow them to do so.

Nor do index providers meet and collude on how they will act in respect of specific portfolio companies. Regardless of the niceties of antitrust law, index providers recognize that doing so in observable ways would be a significant public relations mistake. "Groups" of investors holding more than 5% of outstanding stock – where "group" has been purposely left vague by the SEC – must disclose any "agreements or understandings" in respect of voting shares of public companies. Institutional investors have traditionally kept carefully clear of such disclosure obligations.

ii. Index provider incentives

Moreover, as others have emphasized, index provider managers have very weak incentives to use their control, at least as conventionally understood. Bebchuk et al. 2017 present a model in which each index provider derives its conventional fee from managing assets. If index providers take actions to use control of portfolio companies to increase their value, the value increase will increase the AUM by the index provider, which will increase their fees. However, as the authors rightly note, index fees are very low – often less than 10 basis points (i.e., 0.0001 of each dollar of AUM per year). That means that in relative terms, they have weak incentives to do anything. Even in absolute terms, Bebchuk et al. 2017 show that it would take large increases in shareholder value at a given portfolio company for an action by an index provider to result in significant gains to that provider's fee income.[30]

iii. "Issue" positions by index providers

However, this analysis is limited in several ways that undermine its ability to capture the real implications of indexing for U.S. corporate governance. An important background division of labor among shareholders of U.S. public companies is neglected in this conventional model. In this division of labor, index funds have roles that give them real influence. This takes three forms.

First, index funds form "policies" regarding various kinds of decisions that the boards and managers of their portfolio companies must make. This first channel of influence is similar to the way that proxy advisory firms – ISS and Glass Lewis – carry out their roles in the US corporate governance system.[31] That is, they research "issues" that arise in governance: whether a company should have a staggered board, whether its CEO should be paid based on total shareholder return or on some other metric, whether the company should disclose political activities. They form positions on these issues, which then they reflect in their communications and voting decisions.

As part of this process, they meet with other major institutional shareholder representatives, sometimes at Harvard Law School. In such meetings, they are careful to confine discussions to policy and not companies. But in such discussions, they form and share views on how these issues should be approached in specific instances. Then they form policies, which can be more or less tailored to specific circumstances, and then vote accordingly, when given a vote on those issues. Through this process, they achieve significant coordination over many if not all topics on which shareholders routinely vote.

As translated into actual votes, these positions inevitably also reflect views about management, performance and strategy of portfolio companies, even though shareholders do not directly vote on such choices. Because their actual votes, and often their views, are public, index providers can obtain strong signals about other index providers' views on management, performance and strategy. No explicit collusion is required to send highly aligned signals about what they want to each other and to management of portfolio companies.

[30] One could take their analysis further. The actual individuals acting for the index providers derive an even smaller share of their personal income from fees generated by the index provider, further reducing incentives to act.
[31] Cotter, James F. and Palmiter, Alan R. and Thomas, Randall S., ISS Recommendations and Mutual Fund Voting on Proxy Proposals (September 23, 2009). Villanova Law Review, Vol. 55, No. 1, 2010.

Indexation has also increased the power of what are sometimes derogatively called "governistas"[32] – the community of corporate governance activists ranging from academics to public pension fund staff to individual "gadflies" to the staffs of proxy advisory firms such as ISS and Glass-Lewis. A recent study finds significantly more independent directors, fewer takeover defenses and more equal voting rights at firms that are in particular indexes than those that are not, exploiting the discontinuity associated with the somewhat arbitrary relative size of firms near the cut-off for being assigned to the Russell 1000 (larger companies) and the Russell 2000 (smaller companies).[33] Even if the study does not cleanly identify the effects of index inclusion on governance, the basic interactions around issue advocacy are clear from casual observation. An announcement by a major index provider that it does, or does not, support a given governance position gives greater clout to those who tee-up, debate, and form investment community opinion around those issues. Note that this fact may well be socially valuable, but it is nonetheless a real component of indexation's influence.

iv. Economies of scale in oversight by providers

In this way, the index providers can exploit economies of scale in asset management and governance. Reinforcing this means of exercising power, they benefit from the fact of fixed costs in forming policy views on governance issues. While some marginal costs must further be incurred to apply those policies to particular companies, just as judges must make efforts to apply laws to specific cases. However, the fixed costs are substantial, and can be spread – just like other aspects of asset management – over all public companies owned by an index fund. In addition, for a given portfolio company, growth in the size of an index fund will result in more shares being held – this is why concentration resulting from indexing is growing so fast. For each additional share, and each additional dollar of AUM, there is no additional cost to forming a view on a policy issue and applying it to the same company. These effects are reflected in the increased correlation in shareholder votes, particularly among the "Big Three" index firms.[34]

v. Engagements by providers

A second channel of influence is through what institutional shareholders call "engagements." Their staffs "meet" – sometimes in person, more often by phone, sometimes just by email – with representatives of their portfolio companies. Through these meetings, they try to influence management, by informing them of their policies, their approach to new issues, and their perceptions of management and how it is responding to corporate challenges. These engagements can last a few minutes, or a few hours. Even if the out-of-pocket cost of an engagement is quite low, the impact of the information provided during the engagement have important effects on portfolio companies, as amplified through the managers of that company. That is because the engagements provide important signals to managers as to how the investors will behave should votes come up, on issues, or on other matters, including control contests, activist campaigns, or mergers. The prospect of such events – and the power of index providers in those events – discussed next – provides a powerful incentive to portfolio company managers to respond to the desires, however economically expressed, of the index provider agents.

vi. Control contests, activist campaigns, and mergers

[32] Theodore Mirvis, Reflections on Airgas and Long-term Value, Harvard Law School Forum on Corporate Governance and Financial Regulation, available at https://corpgov.law.harvard.edu/2012/01/25/reflections-on-airgas-and-long-term-value/ (Jan. 25, 2012).
[33] Ian R. Appel, Todd A. Gormley, and Donald B. Keim, Passive investors, not passive owners, 121 J. Fin. Econ. 111-141 (2016).
[34] Fichtner, Heemskerk & Garcia-Bernardo, Hidden Power of the Big Three? Passive Index Funds, Re-Concentration of Corporate Ownership, and New Financial Risk, 17 Business and Politics, 1 (2017).

It is this third channel of influence – control contests, activist campaigns, and mergers – where the indexed funds have their greatest potential for influence. When management proposes a merger requiring a shareholder vote, or when another shareholder – often a hedge fund – proposes either a sale, or starts a proxy contest, or proposes to install individuals on the board – an indexed fund's influence grows significantly. The sponsor now has a reason to dedicate some time to the questions involved, and in any event their position on the disputed matter can often be pivotal, particularly if the top indexed funds take similar positions. Index funds are increasingly the pivotal votes in such contests.[35]

True, this influence is contingent – it requires intervention by an active hedge fund or other shareholder, or some potential liquidity event proposed by management. Nonetheless, the prospect for this kind of influence in pivotal moment spills backwards into the other two channels of influence. When an index sponsor "engages" with a company, that company's CEO knows that there is some material chance that a contest or activist campaign or merger will occur before that CEO's tenure is over. CEOs listen with a keen ear in such moments. (They may not typically provide material information to the index fund agents, due to securities regulation.[36]) They also know that when shareholders vote, index fund agents are watching whether the companies do what the shareholders want.

vii. The "sole owner" benchmark

To round out these points, let us take the approach of customary law and economics to very large firm with a sole owner, a firm with numerous disparate business lines managed through numerous subsidiaries. In conventional thought, the sole owner at the top of this organization has no agency costs, because there is no separation of ownership from ultimate control over the organization. If any given decision diverges from what that owner wants, in principle the owner can countermand it. The owner can dictate who's on the board of the parent company. The board dictates the CEO's identity and pay. The CEO dictates decisions by the C-suite, who in turn control executive vice presidents, who control senior vice presidents, who control vice presidents, who control managers, who control line staff and ordinary employees of each business unit controlled by the parent company. Division of ownership and rights among different subsidiaries is irrelevant, as all are owned directly or indirectly by one owner.

Realistically, however, a moment's reflection will force the realization that agency costs do exist in this setting. The sole owner cannot know enough about the organization to control it entirely. There are too many decisions to make in too many disparate settings for the sole owner to dictate more than a small number. With respect to any one decision, moreover, the opportunity costs of yet other decisions will mean the incentive for the sole owner to make any given decision will typically not exist. The owner will need to rely on agents to make decisions in the vast majority of moments, and has only weak incentives to get involved in any one decision. In this sense, the role of an index fund provider is quite similar to that faced by a sole owner of a large enterprise. In aggregate, the flow of decisions over which they have control will have a significant impact on their wealth, but no one decision will warrant more than a modest amount of time or resources to second-guess.

True, sole owners can use their own incentive schemes to shape the behavior of the agents working for them. But the same is true for index providers. If an index fund were to spend its limited resources on governance in getting the incentives, CEO selection, and basic strategy right, it would be in much the same position as a sole owner of a complex, multi-layered business. It seems far from clear as a theoretical or empirical matter that there is a great gap between the likelihood that a dozen index fund managers would do worse, on average, than a sole owner.

[35] Shapiro, supra note [3].
[36] SEC Regulation FD.

Put differently, it would be odd, at best, to say a sole owner lacks control over the company they own, simply because they lack strong incentives to take any given decision. In both cases, the sole owner and the index provider alike have incentives to focus hard on the selection of their delegates, their demonstrated loyalty and ability, and their responsiveness to direction in specific instances. They will derive information from various sources about the predictors of their delegates' "good behavior," and on occasion intervene to change out delegates based on that information. Through those means, both control their enterprises.

From a legitimacy and accountability perspective, however, there is no "Problem of One" for sole owner firms that is equivalent to the "Problem of Twelve" facing firms controlled by index funds. The background legal entitlements associated with property and entrepreneurship (or inheritance) provide sole ownership with legitimacy and accountability that index fund efficiencies do not. That is true even if sole ownership fails to provide strong incentives to do much with the control that ownership conveys.

viii. Non-wealth power and other private benefits

A final point about control is neglected in conventional economic analyses of index providers in governance. Conventional analysis focuses on how control can be used to generate wealth in the form of shared benefits flowing to shareholders – dividends and realizations in mergers, and the fees for managing the wealth so generated. Some analysis has also focused on the private costs of activism – ways in which opposing corporate managers can harm asset managers, such as when corporate managers take pension fund management business away from asset managers.

Yet control has intrinsic value, and produces private benefits. As ownership concentrates, those benefits are likely to swamp any private costs associated with exerting or holding potential control over public companies. As to intrinsic value, note that an increasing number of companies are going public without selling control to the public – the founders are retaining all or most votes through dual class or other unusual governance structures. Those decisions reflect an appreciation of the intrinsic value of control by those founders. The founders have for the most part earned the right to retain control. Index fund managers, by contrast, are coming into their control positions as a side-effect, largely unintended or even known to their own economic principals (i.e., index fund investors).

Those private benefits can take various forms. As I have noted in prior research, CEOs enjoy significant – likely outsized – success in politics after having been CEOs of S&P 500 companies.[37] Some of that success is related to the political activities of the companies they control – PAC donations and lobbying expenditures by companies in non-regulated industries are correlated with post-retirement CEO success in high political office. That success is even more pronounced when CEOs have used corporate jets for personal travel, consistent with agency problems manifesting in political influence. In parallel with the rise of indexation, this phenomenon has significantly intensified in recent years, with as many as 20% of federal government officials having previously been business executives.[38] As index fund managers achieve greater influence over public companies, they too will be in a position to exploit that influence for their personal gain.

Further private benefits may show up in opportunities for the index fund providers to engage in business with the public companies they control. Conventional analysis has emphasized this is a "cost" of exerting influence in ways that corporate managers do not embrace – managers may pull that business away from index fund providers. But the reverse seems more likely to occur: managers will award business to index

[37] John C. Coates, Corporate Politics, Governance, and Value Before and After Citizens United, 9 Journal of Empirical Legal Studies 657- 696 (2012).

[38] Ilona Babenko, Viktar Fedaseyeu and Song Zhang, Executives in Politics, Working Paper (May 14, 2018) ("between 1980 and 2014, the share of politicians in federal office who held a corporate executive position prior to being elected increased from 13.5% to 21.2%").

providers will use their influence to displace the managers. Conventional economic analysis suggests such relationships will blunt the power of index providers. To the contrary, it seems likely to enhance it, albeit in ways that are not aligned with shareholder or social interests. Rather than supporting a policy to enhance the governance expenditures of index providers, this nexus suggests the need to discipline them, as discussed more below.

ix. Summary of practical implications

The bottom line of this influence is very different than what the term "passive" investment implies. Rather than blindly choosing stocks in their index and then ignoring them, index fund managers have and are increasingly using multiple channels to influence public companies of all sizes and kinds. Their views on governance issues, their opinions of CEOs, their desires for change at particular companies, their response and evaluations of restructuring or recapitalization proposals from hedge fund activists – all of these matter intensely to the way the core institutions in the U.S. economy are operating.

When a large company's performance lags, it is at risk of being targeted by a hedge fund activist. When that occurs, the attitude of the index funds towards that company's management and strategy will determine whether the index funds will support, oppose or be neutral regarding the hedge fund's proposals. In decisions both ordinary and extraordinary, ranging from cost-cutting to technology investments, M&A transactions to expenditures on corporate compliance, the perceived pressure on the board will matter. Such decisions require judgment, and that judgment can be more or less attuned to and informed about the effects on the company, its owners, and society more broadly.

Those decisions then ripple through the functioning of the economy and society more broadly. Pressure to increase shareholder returns can lead to layoffs. The mere threat of an activist supported by index funds can reduce investment. Reduced budgets for compliance increase the risk of bribery, mass torts, fraud or antitrust violations. Index fund managers are in a position to increase or decrease the incidence and severity of externalities and rent-seeking. A small number of unelected agents, operating largely behind closed doors, are increasingly important to the lives of millions who barely know of the existence much less the identity or inclinations of those agents.

C. Tentative policy analysis

The foregoing analysis has shown that index providers are increasingly a, if not the, dominant force in governance of public companies. As they accumulate more and more assets, they accumulate more and more votes. Those votes, even if coupled to tiny staffs and modest expenditures on monitoring, create real power. That power creates a legitimacy and accountability challenge. The power is held by agents, and because of how important large public companies are, those agents have increasing influence over the economy, society, and both the inputs and outputs of the political system. For a dozen individuals to hold such power – the "Problem of Twelve" -- is not a sustainable political or legal equilibrium. The question, then, is not whether the law will change, but how.

1. Additional possible harms from indexation

Beyond the Problem of Twelve, indexation may have had additional consequences that are partly or wholly on the "harm" side of the social welfare ledger. A growing strand of scholarship presents evidence that the overlap in ownership by indexation, including closet indexation by active funds, creates antitrust harms.[39] Indexation appears to have increased the correlation of asset returns, and relatedly increased volatility.[40]

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[39] Azar et al. 2016 (banking industry affected); Azar et al. 2015 (airlines); see Elhauge, supra note 1.

[40] Greenwood and Sosner 2007; Gregoire 2016.

Indexation may have blunted price signals, a type of negative externality.[41] Indexation speeds up diffusion of information, but also has the potential to transmit non-fundamental shocks to stock prices.[42] Dilution of price signals and amplification of non-fundamental shocks have the potential to worsen investment decisions predicated on stock prices.[43] At the margin, index inclusion likely inflates valuations of included firms at the expense of excluded firms,[44] and the effects of index inclusion create opportunities for front-running or insider trading around decisions by index sponsors to modify indices.

2. Social benefits of indexation

At the same time, indexation has generated real and large social benefits in the form of lower expenses and greater long-term returns for millions of individuals investing directly or indirectly for retirement. Even if some active managers can reliably generate excess returns, many ordinary retail investors cannot reliably identify them, making low-fee indexed investing the best choice for how their savings should be managed. Not only do index funds themselves offer good returns at low cost, but they have induced significantly reduced fees, more active management, and higher performance by actively managed funds, who increasingly must generate better returns to compete with the index fund providers.[45] Indexes also improve welfare by facilitating better risk-sharing.[46] A ban on indexation would clearly not be a good idea.

3. Policy options

So what options exist for addressing the Problem of Twelve? These options overlap with but are also distinct from responses to the antitrust challenges of overlapping ownership exacerbated by indexation, and also distinct from responses to the additional negative effects summarized above. Legitimacy and accountability are core governance values served by specific policy instruments.

i. Stewardship codes

At the softest end of the spectrum, indexes could self-organize and adopt codes of conduct designed to demonstrate that their increasing power is being used in a responsible manner. Such "stewardship codes" started in the United Kingdom, where institutional investors have long had a similarly dominant role in overseeing companies listed on the London Stock Exchange.[47] The codes, as one would expect, are modest in their effects, and encourage without requiring funds to be more transparent about how they themselves are governed and will discharge their governance responsibilities. They encourage a disclosed policy on conflicts of interest, and periodic reporting on their stewardship and voting activities.[48]

Such codes suffer from the usual problems of self-governance, including weak enforcement. Perversely, too, they may increase rather than mitigate the Problem of Twelve. The codes presume that more activism is good, and encourage a commitment from the funds to monitor investee companies, and have a clear policy on voting and disclosure of votes. They also typically encourage funds to have clear guidelines requiring escalation of activities into enhanced governance actions, and be willing to act collectively with other investors where appropriate. In sum, they discourage a truly passive strategy, and provide marginal reasons

[41] Qin et al. 2014.
[42] Baltussen et al. 2016.
[43] Brogard et al. 2016; Wurgler 2010.
[44] Belasco et al. 2016; Chang et al. 2014.
[45] Cremers et al. 2015.
[46] Chabakauri et al. 2016.
[47] Financial Reporting Council 2012, amended 2017; see also Council of Experts Concerning the Japanese Version of the Stewardship Code 2014, and Office of the Superintendent of Financial Institutions Canada 2013.
[48] In the U.S., mutual funds must disclose how they vote, but the requirement applies at the fund level, and separate accounts and other assets managed by index fund providers are not subject to this rule.

for index funds to spend more on exerting their influence than they might otherwise. This might be regarded as a social good, if the fund advisors were expert and informed and focused solely on shareholder interests. But even if those conditions could be satisfied, the Problem of Twelve would remain, mitigated by the benefits of modestly increased transparency encouraged by the codes, but exacerbated by the risks of greater use of index fund power.

ii. Regulation based on stewardship codes

A slightly tougher form of regulation would be to take the contents of the stewardship codes and turn them into affirmative legal obligations, with some form of public enforcement or auditing. That might constrain the influence of index funds in some respects, as conflicts of interest policing might restrain private benefits and damp down the ability of index funds to use their influence in non-public regarding ways. However, as with the self-imposed codes, an enforced regulatory version of the codes would tend to increase the funds' expenditures on governance – increasing rather than limiting their influence.

iii. Loss or dilution of voting power

A recent proposal from a scholar out of – of all places – the University of Chicago suggests restricting voting by index funds on the ground that their weak incentives to invest in monitoring will "distort" the market for corporate influence, i.e., result in voting outcomes that are uninformed, and thereby worsen corporate governance.[49] As noted above, this analysis overstates the incentive of existing dispersed shareholders to invest in monitoring. But the proposal does have the potential side-effect of curing the Problem of Twelve, who would lose most of their influence along with their votes.

But the proposal would have strange potential consequences. The resulting impact on other shareholders, and managers, would be hard to anticipate, and include unintended and possibly harmful effects, as it would effectively boost the voting power of other shareholders, some of whom would have distinct personal interests in control. At some companies, it would result in entrenching managers – exacerbating the Berle and Means agency problems and eliminating the ability of the market for corporate control and other disciplining mechanisms to reduce those problems. At other companies, a given hedge fund or individual shareholder would find themselves with effective control, creating the temptation to extract private benefits and in any event providing a windfall without apparent gains to shareholders or society as a whole.

More generally, it is not clear how converting most public investment into non-voting interests advances the goal of improving corporate governance. Dual class governance exists at a minority (but increasing) number of public companies, but is generally viewed unfavorably by conventional economic analysts. Still, the very fact that such a proposal has been advanced only reinforces the basic point of this essay – that index funds are a new and first-order challenge to the existing scheme of corporate governance.

iv. Ownership caps, advisor-complex diversification, or structural limits

Similarly bold responses would take different forms. Index funds might be capped not merely in their voting power but their ownership of any given portfolio company. Individual mutual funds are already given strong tax incentives to meet fragmentation requirements under U.S. tax law, effectively limiting their ownership of any one portfolio company.[50] Similar, or tighter, diversification requirements could be imposed at the complex level. If such limits bound, they would have the negative side-effect of further attenuating incentives

[49] Shapiro, supra note [3].
[50] See John C. Coates IV, Reforming the Taxation and Regulation of Mutual Funds: A Comparative Legal and Economic Analysis, 1 J. Legal Anal. 591 (Summer 2009) (noting that to obtain favorable tax treatment, the shares of any one portfolio company may not exceed 5% of the value of the fund's total assets or represent 10% of the voting shares of the company).

of index fund managers to monitor or act to improve portfolio company value, however. The challenge is how to address the Problem of Twelve without losing the corporate governance benefits of increased monitoring that flow from less dispersed ownership.

Structural division of authority is another standard response to the threat of tyrannical agents. It is reflected in the conventional three-part division of governmental authorizes, and has been used in financial regulation as well, from activity limitations in bank charters, to the National Bank Act and Bank Holding Company Act, to the Glass-Steagall Act, and the Volcker Rule.[51] Ownership caps or complex diversification requirements would restrain the trend towards ownership concentration overall, but another possibility is to permit that concentration to continue to grow while restraining the activities of advisors or affiliates of index sponsors. By limiting the range of activities of an index sponsor to just those necessary for or closely related to the marketing and promotion of index funds, the potential for index funds to leverage their control over public companies into a range of additional businesses would be blocked. Such structural limits would also limit the range over which individuals at the index sponsors could use index power to pursue personal ends.

v. Antitrust responses

Those writing from an antitrust perspective have suggested a variety of policy responses, some of which might also address the Problem of Twelve. One suggestion – from Eric Posner, Fiona M. Scott Morton and Glen Weyl – is to limit index funds to a given company in a given industry.[52] This would help divide the power of index funds into groups, and so turn the Problem of Twelve into the Problem of Thirty-Six or Forty-Eight, but otherwise leave the basic accountability problem intact. Harvard's Einer Elhauge argues for weighting ownership in conducting antitrust analyses under existing laws.[53] That would lead to a prohibition on certain mergers that might otherwise occur, which in turn would create an incentive for companies (or index funds) to manage their ownership levels in anticipation of those requirements. But the complexity of antitrust analysis creates its own transparency challenge, and it seems unlikely the public would appreciate the incentive effects at any given time for any given company.

vi. Administrative and corporate models: conflict management and sunshine laws

More likely, as a political matter, would be to target regulation at some of the most troubling aspects of the Problem of Twelve. One inspiration may be administrative law, which has to grapple with similar problems of legitimacy and accountability for agents of the state. Another model is corporate law, including the array of governance features that institutional investors have pressed upon public companies. Conflicts of interest, for example, could be more extensively regulated or more intensively policed with public or private enforcement. Index fund agents could be banned from taking political or corporate office after retiring from the index funds.

Disclosure of potential conflicts could be coupled with active management of conflicts by independent agents accountable to the investors in the index funds. Why is it important, after all, to insist upon independent directors of public companies but then permit the index fund agents overseeing those directors to not be independent as well? Compliance officers at the index fund providers might report on actual or potential conflicts faced by either the fund complex or the individuals who oversee it, and on how the conflicts were handled.

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[51] Mark Roe, Strong Managers, Weak Owners and A Political Theory of American Corporate Finance, 91 Columbia L. Rev. (1991); John C. Coates IV, The Volcker Rule as Structural Law: Implications for Cost-Benefit Analysis and Administrative Law, 10 Capital Markets Law Journal 447 (2015).
[52] Posner, Eric A., Fiona M. Scott Morton, and E. Glen Weyl. 2016. "A Proposal to Limit the Anti-Competitive Power of Institutional Investors," available at SSRN: https://papers.ssrn.com/abstract=2872754.
[53] See Elhauge, supra note [2].

Another dimension of such regulation would be to enhance disclosure of how index funds engage with public companies – treating them as if they were subject to the equivalent of a "Freedom of Information Act" request or, going further, requiring public disclosure of what index funds are saying to corporate representatives, similar to the "Sunshine Laws" used to accomplish something similar for regulatory agencies. Such disclosures might be real time or delayed, to shelter competitively sensitive communications while providing after-the-fact accountability. Discussions of "issues" with other index funds, or actively managed funds, or other large shareholders, might be the subject of such disclosure requirements as well.

vii. Substantive regulation of engagements

Index funds might even be banned from engagements altogether, which would not eliminate their power but cut off one important channel of influence. Or, less draconian, engagement could continue, but an index fund sponsor's senior managers might be forbidden from participating in engagements, or from controlling or even being told about those engagements, by corporate governance or portfolio manager staff. In effect, the influence of a given index fund would be divided among different fund employees, increasing the effective number of individuals able to wield the index fund's power, while lowering the power that any one such individual would have.

One final set of policy considerations might be taken up as part of the regulation of engagements. As with debates within corporate governance at the portfolio company level, the challenge of what purpose corporations should serve will remain a difficult one, but to the extent that it is thought to matter to companies directly, it should also matter to index providers if they continue to exert greater influence over those companies. Index sponsors could be tasked with evaluating whether their positions on "issues" that arise routinely in corporate governance are not only good for shareholders, but for society. This would not need to be a free-ranging mandate of "social responsibility," but could focus on specific ways in which corporations can generate externalities or be used to pursue economic rents. When particular portfolio company activities were in an industry or of a kind that were likely to generate externalities or rents, index sponsors could be required to document how they took those economic risks to society into account in forming issue positions, and in voting on control contests.

Conclusion

The foregoing array of potential policy responses to indexation is meant only to be suggestive, and to provide a resource for policymakers to consider going forward. Each specific suggestion would have costs and benefits, some of which could be reliably quantified, others not. No doubt getting the balance right will require judgment and experimentation. The goals would be dual: to preserve the agency-cost reducing impact that concentration of ownership in fewer hands has on portfolio companies, while addressing the potential agency costs, and the legitimacy and accountability challenges that the related concentration creates.

Whatever the right response, the issue is not likely to go away. Indexation – like private equity and globalization – offers too many apparent gains to too many people to disappear, or even decline, on its own. For the foreseeable future, most public companies will have increasingly large amounts of their stock controlled by a small number of index fund providers. The agents of index fund providers pose one of the biggest new challenges for the future of corporate governance.