ARTICLE

STOCK MARKET SHORT-TERMISM'S IMPACT

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Stock-market–driven short-termism is crippling the American economy, according to legal, judicial, and media analyses. Firms forgo the R&D they need, cut capital spending, and buy back their own stock so feverishly that they starve themselves of cash. The stock market is the primary cause: directors and executives cannot manage for the long term when their shareholders furiously trade their company's stock, they cannot make long-term investments when stockholders demand to see profits on this quarter's financial statements, they cannot even strategize about the long term when shareholder activists demand immediate results, and they cannot keep the cash to invest in their future when stock market pressure drains away that cash in stock buybacks.

This doomsday version of the stock-market–driven short-termism argument entails economy-wide predictions that have not been well-examined for their severity and accuracy. If the scenario is correct and strong, we should first see sharp increases in stock trading in recent decades and more frequent activist interventions, and these increases should be accompanied by (1) sharply declining investment spending in the United States, where large firms depend on stock markets and where activists are important, as compared to advanced economies that do not depend as much on stock markets, (2) buybacks bleeding cash out from the corporate sector, (3) economy-wide R&D spending declining from what it should be, and (4) a stock market unwilling to support innovative, long-term, technological firms. These are the central channels

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from stock-market–driven short-termism to overall economic degradation. They justify corporate law policies that seek to prevent these outcomes.

But these predicted economy-wide outcomes are either undemonstrated, implausible, or untrue. Corporate R&D is not declining, corporate cash is not bleeding out, and the world's developed nations with neither American-style quarterly oriented stock markets nor aggressive activist investors are investing no more intensely in capital equipment than the United States. The five largest American firms by stock market capitalization are tech-oriented, R&D intensive, longer-term operations. The economy-wide picture is more one of capital markets moving capital from larger, older firms to younger ones; of a post-industrial economy doing more R&D than ever; and of an economy whose investment intensity depends on overall economic activity, not stock market trading nor hedge fund activism. True, the economy-wide data could hide stock market hits that hold back R&D from increasing more and that weaken American capital spending more than is fitting for a post-industrial economy. But if so, these effects have not been shown and several seem implausible. Hence, the calamitous form of the stock-market–driven short-termist argument needs to be reconsidered, recalibrated, and, quite plausibly, rejected.

Then, last, comes the broadest question: why has a view that lacks strong economy-wide evidentiary support become the rare corporate governance issue that attracts attention from the media, political players, policymakers, and the public—and that is widely accepted as true? I suggest why in this paper's final part.

INTRODUCTION

A widely held view among Washington policymakers, the corporate judiciary, corporate executives, the media, and the public is that increasingly frenzied trading in the stock market, coupled with Wall Street's insatiable appetite for immediate profits, starves too many American firms and harms the economy. Jobs are lost and technological progress is stunted, while solutions are so easy to implement that one fumes at their absence.

The World Economic Forum—the Davos people—heard the problem put as sharply as one can imagine: "The *finance* world's short-termism will destroy our communities, economies and the planet."[1]

The Economist reports that "several grand theories have emerged about what went wrong [with the American economy in the past decade]. Economists fret about secular stagnation, debt hangovers and . . . demography. [But i]n American boardrooms, meanwhile, a widely held view is that a dangerous short-termism has taken hold."[2]

Leo Strine, one of the nation's leading corporate law judges and thinkers on corporate law, published a major statement of this corporate governance problem last year that sharply criticizes stock market short-termism's impact on American corporations, workers, and savers.[3]

These are hardly isolated attacks. Executives at public companies obsess over their quarterly earnings reports to stockholders, it's said. To keep Wall Street content, executives slash research and development, lay off productive employees, and refuse to invest in factories, equipment, and technology. Each reduction cuts a short-term expense but hurts the firm's future. Executives want to do better but have no choice, because if they slip this quarter, the

1 Sasja Beslik, *The Finance World's Short-Termism Will Destroy Our Communities, Economies and the Planet*, WORLD ECON. F. (May 17, 2017), https://www.weforum.org/agenda/2017/03/the-finance-world-s-short-termism-will-destroy-our-communities-economies-and-the-planet/ [https://perma.cc/82QB-77T7] (emphasis added) (detailing the position pushed forward for the World Economic Forum by the Head of Sustainable Finance, Nordea Group, the largest financial group in northern Europe).

2 *Corporate Short-Termism Is a Frustratingly Slippery Idea*, THE ECONOMIST, Feb. 16, 2017, at 58.

3 *See* Leo E. Strine, Jr., *Who Bleeds When the Wolves Bite? A Flesh-and-Blood Perspective on Hedge Fund Activism and Our Strange Corporate Governance System*, 126 YALE L.J. 1870, 1871-72 (2017) (noting that "corporate stockholder bases turn over rapidly"); *see also* 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, 8, 11, 26 (2010).

critics say, stock markets will punish them and their company. Activist vulture investors will circle, challenge executives' authority and, if the executives do not accede, demand their replacement.

Meanwhile, firms with extra cash boost their stock price by buying back their stock instead of investing in their future. Cash that should have boosted productivity escapes from the firm.

Worse, executives at not-yet-targeted firms fear that activists and traders will punish the executives' firms' stock price if the executives go long-term. How can a firm invest for the long term when its owners are transients who may not own any of its stock tomorrow? The economy suffers.

The view is common in corporate, judicial, and academic circles that management must be freed further from investor influence so as to reduce the impact of investors' pernicious short-term, profits-now orientation. These ideas are in the political and corporate lawmaking atmosphere and have captured the imagination of the most important corporate lawmakers in the United States, namely the judges who make corporate law.

Yet, for a view that is so widely shared, the evidence in its favor is sparse. Indeed, the overall, economy-wide evidence—the focus in this Article—fails to support this short-termist view and mostly points to capital markets functioning well enough and not sharply biased against the long-term.

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By examining the channels through which stock market short-termism is said to harm the economy, we can better judge the severity of any economy-wide impact. The predicates and consequences of pernicious stock market short-termism should by now be detectable in economy-wide data, if short-termism is deep. First, as a predicate, we should see more frenzied trading and more activist engagements in recent decades. As these two increase, the economy, and large public firms, should spend less on research and development than is ideal and the stock market should shun future-oriented firms. Cash should be draining from the corporate sector as stockholder pressure for more stock buybacks increases. And we should see capital expenditures decreasing rapidly in nations that, like the United States, heavily depend on stock markets and less rapidly in nations less dependent on stock markets.

There's data supporting the short-term theorists' predicates: by important measures trading increased in recent decades and activist engagements have, by any interpretation of the data, increased sharply.

But are the projected consequences present?

Capital investment has indeed decreased in the past decade, but tying the result primarily to stock market short-termism is analytically weak and probably wrong. First, factory-capacity utilization in the United States had not yet, in early 2018, recovered from the 2008–2009 recession. It makes little sense for firms to invest in new capital equipment until they use equipment in place well. Second, if the stock-market–driven story were correct, capital spending trends for the United States and for nations whose corporate sectors are not subject to powerful American-style stock market pressures should differ sharply. Yet, there is no difference: the capital expenditure decline is a developed-nation, worldwide phenomenon, not an American, stock market-based one.

Stock buybacks rose after the 2008–2009 financial crisis; examined alone, one might conclude that cash is indeed bleeding out. But long-term borrowing rose in tandem. Low interest rates pushed corporate America to substitute low-interest debt for stock. Viewed as a capital structure decision, the double trend—more low-interest debt, less equity—fits the short-termist critique poorly. Overall, public firms have more cash, not less.

The economy is not spending less now overall on R&D. Trading may be frenetic, but R&D is not declining. It's hard to see the stock market as resistant to technology, R&D, and a long-term view when America's largest firms are tech-oriented and the newest public firms reach the stock market with weak, and often no, profits, just projections of a profitable future.

Thus the proffered channels from stock market short-termism to economy-wide degradation seem unlikely (capital investment), false (cash drainage, stock market rejection of longer-term technology), or not demonstrated (R&D). I do not aim to show that public firms are all free of stock-market–driven short-termism. I do not think they are. Rather, the aim is to assess whether the evidence of overall, economy-damaging stock-market–driven short-termism is strong and convincing, or weak and contradicted.

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The roadmap for this Article: In Part I, I review the thinking of those who see stock market short-termism as a major problem for the economy, one that requires lawmakers to shield executives from market pressure.

I briefly review the micro studies that examine short- or long-run propensity, firm-by-firm, then show the previously unremarked methodological problem: evidence for stock market short-termism harming a category of public firms need not imply harm to the overall economy. Even if some public firms are too short-term, others need not be. And the economy-wide problem is severe if and only if other organizational forms outside the public markets—like venture capital and private equity—are inferior. This is a major limitation to showing economy-wide short-termism and is still not yet well recognized.

In Part II, I examine the predicted impact of shortening corporate horizons. R&D spending should be down compared to where it should be. Where it should be is hard to assess, but whether it's down or not is not: R&D has been steadily rising. The rise in stock buybacks should be destroying corporate America's cash position according to the conventional story, but it is not; long-term borrowing is rising in tandem with buybacks. Available cash is up, not down. Capital spending is down, but its fall is a worldwide phenomenon, not an American one; firms that lack American-style stock market pressures in Germany, Japan, and the rest of developed Europe and Asia are *not* outpacing America in capital expenditures. And the stock market strongly supports long-term, R&D-oriented, innovation-based companies like Amazon, Apple, Facebook, Google, and Microsoft—the five biggest American public firms by stock market capitalization.

Hence, every major predicted consequence from the short-term argument either has not been shown (where is there a discernible economy-wide hit to R&D?), is false (cash is not draining out and the stock market is not shunning long-term firms), or is better explained otherwise (capital expenditures are down even where stock markets are less important).

Inability to detect an effect need not mean the effect is absent; the effect could be buried. But as of now, those promoting the short-termist thesis have not shown where it's buried and whether what is buried is big. Moreover, a look at the basic economy-wide evidence and the logic of markets and competition points to an economy that is allocating innovation to private, venture capital firms that go public if they succeed, that is borrowing more when interest rates are low, and that invests less when the economy weakens and more when it strengthens. It is not a picture of a highly dysfunctional capital market.

In Part III, I suggest why the economy-wide results fail to support short-term theory. The idea, I reemphasize, is not that there is no U.S. corporate short-termism. Businesspeople make mistakes and short-termism is only one of many. But the economy is an ecosystem: even if some public firms invest less in R&D and new capital, others pick up the slack, reduce the economy-wide setback, and are often the best place for R&D innovation. Second, the objected-to investor pressure could be pushing firms to step back from *poor* long-term decisions that should be reversed. Third, the big picture reveals features that fit the data better: Post-industrial production needs fewer hard assets; hence, lower investment in hard assets, more spending on R&D. Decreased competition, which is plausible, would also induce decreased capital investment. Mistakenly diagnosing an investment shortfall as due to stock market short-termism readily leads to mistaken remedies.

That leads to a subtler, but deeper explanatory possibility. Perhaps the widespread belief in stock market short-termism is a reaction to disruptive change. If so, then the foundational short-term problem is not that stock market pressure dislodges firms from the right technological path, but that it forces faster and deeper change than before, which induces negative reaction in corporate, employment, judicial, and political circles. More people feel more vulnerable. Sharper technological shifts and enhanced global competition are the cause; stock markets are the messenger. This idea can be captured by contrasting Schumpeter's concepts of creative destruction with Polanyi's concepts of reaction against markets that disrupted settled ways of life. The rhetoric of short-termism can be the most politically acceptable way to criticize Wall Street influence and the job uncertainty for the average worker; it is a tool to attack the shareholder-centric, profits-oriented view of the firm.

I then conclude. If the short-term criticism is correct, what consequences should we see in nationwide data and do we see them? Short-termist theory says that stock market short-termism induces public firms to do less R&D, to buy back stock and kill their cash position, and to slash capital expenditures. Consequently, we should see declining R&D compared to what it should have been, cash draining from the corporate sector, few large firms oriented to the technological long-term, no new public firms with low profits and only a promising future, and capital spending in other developed nations that is heavier than America's. But none of these consequences have been shown, several are contradicted by the data, and a look at several paints a picture of a satisfactorily functioning capital market.

Lawmakers, academics, and policy pundits whose thinking derives from a deep belief in pervasive stock-market–driven short-termism should take a step back and evaluate the extent of any economy-wide impact. They should reconsider their views, adjust them, and perhaps reverse several.

I. The Increasingly Short-Term Stock Market and the Theory of Its Deleterious Economic Impact

The view is widespread that the stock market has become vociferously short-term in its demands on corporate executives, thereby deleteriously affecting the economy.

The predicates propelling short-termism are straightforward: increasingly rapid stock trading and sharply rising activist pressure on public firms. These powerful predicates lead to pernicious economy-wide results: Firms cut expensive capital spending (cheating themselves out of the productive cutting edge). They buy back stock (stripping themselves of cash for investment). And then they drop R&D projects (which cost something today for an uncertain future benefit) or never start them. The stock market shuns future-oriented firms. These channels are core to the claim of those who see stock-market–driven short-termism as degrading the economy overall. I detail their views in the paragraphs that follow.

Wall Street, looking for a quick profit, undermines corporate executives at public companies from investing for the long term, it's said. One bad quarter for a sound company leads senior management to lay off loyal long-term employees from jobs that the employees do well. Another bad quarter puts the executives' own posts at risk. Public firms cut R&D because spending there cuts this year's profits, and stock analysts want profits this quarter, not two years hence. Managers buy back their companies' stock to boost stock price now, wasting cash that should be invested in new plant and equipment. "[T]here . . . is widespread consensus among managers [and] boards . . . that . . . short-term pressures . . . are causing boards and managers to manage their companies suboptimally . . . ."[4]

And the problem is getting worse.[5] Frenzied stock trading makes stock prices reflect the latest tidbit of information, not the company's long-term prospects. Accelerating trading makes managers manage mainly for this quarter. With R&D slashed, the nation's economic future is being mortgaged for the quick dollar that stockholders demand, one that "loot[s] the future."[6]

Business leaders see the problem as serious. The World Economic Forum, an influential international organization, viewed combatting short-termism as one of its five leadership priorities for 2017.[7] Its international council of business leaders at its 2017 annual meeting criticized firms and shareholders for being distracted by short-term financial gains. These leaders want the corporate board, not shareholders, to be the central decisionmaker on long-term value creation,[8] presumably because they see the board to be long-run oriented and the shareholders not to be.[9]

Prominent business, academic, and labor leaders, working through the influential Aspen Institute, attacked investor-based short-termism as disincentivizing healthy economic growth,[10] as did the Conference Board, an

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4 Steven Rosenblum, *Corporations: The Short-Termism Debate*, 85 MISS. L.J. 697, 710 (2016). Mr. Rosenblum, a Wachtell Lipton partner, often comments on corporate short-termism.

5 *See* Richard Davies, Andrew G. Haldane, Mette Nielsen & Silvia Pezzini, *Measuring the Costs of Short-Termism*, 12 J. FIN. STABILITY 16, 20 (2014) (calling short-termism a "disease"); Alfred Rappaport, *The Economics of Short-Term Performance Obsession*, 61 FIN. ANALYSTS J., May–June 2015, at 65 ("'Short-termism' is the disease; earnings and tracking error are the carriers."); Andrew Haldane, Executive Director, Financial Stability, Bank of England, Address at the Oxford China Business Forum: Patience and Finance (Sept. 9, 2010) (transcript available at www.bis.org/review/r100909e.pdf [https://perma.cc/8S2n-3T9X]).

6 Edward Luce, *US Share Buybacks Loot the Future: Corporate Leaders Should Put Long-Term Growth Ahead of Quick Gains*, FIN. TIMES, Apr. 26, 2015, https://www.ft.com/content/1aaac576-e9bb-11e4-a687-00144feab7de [https://perma.cc/983J-228N].

7 Klaus Schwab, *Five Leadership Priorities for 2017*, WORLD ECON. F. (Jan. 2, 2017), www.weforum.org/agenda/2017/01/five-leadership-priorities-for-2017/ [https://perma.cc/4YB9-QLAS]. More precisely, myopic short-termism was seen as the first structural flaw in market capitalism overall.

8 WORLD ECON. F., *The Compact for Responsive and Responsible Leadership: A Roadmap for Sustainable Long-Term Growth and Opportunity* (Nov. 30, 2016), www3.weforum.org/docs/Media/AM17/The_Compact_for_Responsive_and_Responsible_Leadership_09.01.2017.pdf [https://perma.cc/A9DV-FLNP].

9 Sarah Bostwick Stromoski, *The World Economic Forum 2017 Cheat Sheet,* COMM. ENCOURAGING CORP. PHILANTHROPY (Feb. 6, 2017), http://cecp.co/world-economic-forum-2017-cheat-sheet/ [https://perma.cc/27H7-USYN].

10 ASPEN INST., *Overcoming Short-Termism: A Call for a More Responsible Approach to Investment and Business Management* 2 (Sept. 2009), www.assets.aspeninstitute.org/content/uploads/files/content/docs/pubs/overcome_short_state0909_0.pdf [https://perma.cc/K425-4FEB] (detailing the Institute's views on the negative impact of short-termism).

organization of leading corporate executives.[11] Commentators at the Brookings Institution, the prestigious Washington think tank, pushed forward the idea that "incentives [now] favor[] short-term gains over long-term growth . . . . They are: [t]he proliferation of stock buybacks[,] . . . [t]he fixation on quarterly earnings . . . [and t]he rise of activist investors."[12] "Stock buybacks . . . are rendering firms unable to engage in productive investments because there is no capital leftover for other investment opportunities or for other corporate stakeholders."[13]

Management journals urge executives to "fight the tyranny of short-termism."[14] The Business Roundtable—an organization of large public company executives—and the National Association of Corporate Directors lament that excessive short-term focus is destroying value.[15] Respected business leaders write in the *Wall Street Journal* on behalf of the Business Roundtable, under the headline "Short-Termism Is Harming the Economy."[16]

Chairs of Wall Street's regulator, the Securities and Exchange Commission (SEC), both Democratic and Republican, attack trading markets as shortening corporate time horizons,[17] justifying rules that insulate boards from markets. A Republican SEC commissioner states that unfortunately

> there seems to be a predominance of short-term thinking [in corporate America] at the expense of long-term investing. [Stock market] activists . . . drive a short-term pop in value: spinning off a profitable division, beginning a share buy-back program, or slashing capital expenditures or research and development expenses. Having inflated current returns by eliminating corporate investments for the future, these activists can exit their investment and move on.[18]

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11 Donna Dabney et al., *Is Short-Term Behavior Jeopardizing the Future Prosperity of Business?*, THE CONF. ROOM 3 (Oct. 30, 2015), www.conference-board.org/publications/ publicationdetail.cfm?publicationid=5041&centerId=5 [https://perma.cc/MZW2-KK2T].

12 William A. Galston & Elaine Kamarck, *More Builders and Fewer Traders: A Growth Strategy for the American Economy*, BROOKINGS INST. (June 2015), https://www.brookings.edu/research/more-builders-and-fewer-traders-a-growth-strategy-for-the-american-economy/ [https://perma.cc/N9GL-BL4V].

13 LENORE PALLADINO, ROOSEVELT INST., STOCK BUYBACKS: DRIVING A HIGH-PROFIT, LOW-WAGE ECONOMY 2 (2018).

14 Dominic Barton, *Capitalism for the Long Term*, HARV. BUS. REV., Mar. 2011, at 85, 86-88.

15 NAT'L ASS'N CORP. DIRS., REPORT OF THE 2015 NACD BLUE RIBBON COMMISSION: THE BOARD AND LONG-TERM VALUE CREATION 2 (2015); Dean Krehmeyer, Matthew Orsagh & Kurt N. Schacht, CFA Inst. Ctr. for Fin. Mkt. Integrity & Bus. Roundtable Inst. for Corp. Ethics, Breaking the Short-Term Cycle 1 (2006).

16 Jamie Dimon & Warren E. Buffett, *Short-Termism Is Harming the Economy*, WALL ST. J., June 7, 2018, at A17.

17 *See Turmoil in U.S. Credit Markets: The Role of Credit Rating Agencies: Hearing Before the S. Comm. On Banking, Hous., and Urban Affairs*, 110th Cong. 24 (2008) (statement of Christopher Cox, Chairman, U.S. Securities and Exchange Commission) ("[S]hort-termism . . . afflicts our markets overall."); Ben Ashwell, *Business Leaders Eye Steps Toward Long-Termism*, IR MAG. (Mar. 7, 2018), https://www.irmagazine.com/buy-side/business-leaders-eye-steps-toward-long-termism (depicting SEC Chairman Jay Clayton, a Republican appointee, participating in an investor summit on how firms can become more focused on the long term).

18 Daniel M. Gallagher, Comm'r, U.S. Secs. & Exch. Comm'n, Remarks at the Stanford Directors' College: Activism, Short-Termism, and the SEC (June 23, 2015) (transcript available at

National political leaders, such as former vice-president Joe Biden, say the same.[19] Democratic and Republican sponsors describe their anti–hedge fund bill as a "bipartisan reform to protect Main St from Wall St hedge funds" and "fight against increasing short-termism in our economy" due to predatory activists "demand[ing] short-term returns like buybacks at the expense of investments in workers, R&D and the company's long-term future."[20] The Senators state:

> [A] growing chorus . . . believe[s] short-termism is holding America back . . . . [S]hort-termism . . . is the focus on short time horizons by both corporate managers and financial markets. It results in corporate funds being used for payouts to shareholders in the form of dividends and buybacks rather than investment in workers, R&D, infrastructure, and long-term success.[21]

Blue ribbon, government-sponsored studies attack stock-market–driven short-termism, concluding that "it is essential that markets work in the public interest and for the long term rather than focusing only on short-term returns . . . . *The effects of short-termism* [are] *damaging to the economy as a whole.*" These problems emanate primarily from activist investors and uninformed shareholders.[22]

Leo Strine, Delaware's respected chief justice, excoriates financial short-termism as undermining American economic well-being.[23] "[D]irectors are increasingly vulnerable to pressure from activist investors . . . with short-

www.sec.gov/news/speech/activism-short-termism-and-the-sec.html [https://perma.cc/ER8Z-SFU7]). Gallagher was an SEC Commissioner from 2011 to 2015.

19 *See, e.g.*, Joe Biden, *How Short-Termism Saps the Economy*, WALL ST. J., Sept. 28, 2016, at A13 ("Short-termism—the notion that companies forgo long-run investment to boost near-term stock price—is one of the greatest threats to America's enduring prosperity."); *see also Short-Termism in Financial Markets: Hearing Before the Subcomm. on Econ. Pol'y of the S. Comm. on Banking, Hous., & Urban Affairs*, 111th Cong. 1 (2010) (statement of Sen. Sherrod Brown, Chairman, S. Subcomm. On Econ. Pol'y) ("[O]bsession with quarterly results, the short-term expectations from the world of finance, which too often sacrifice long-term economic growth and job creation. Short-termism involves a tradeoff between long-term productivity and fast cash.").

20 Sens. Tammy Baldwin & David Perdue, *Brokaw Act: Bipartisan Reform to Protect Main St from Wall St Hedge Funds*, BALDWIN (Aug. 31, 2017), www.baldwin.senate.gov/imo/media/doc/Brokaw%20Act%20OnePager.pdf [https://perma.cc/44D7-KBAV].

21 Sens. Tammy Baldwin & Jeff Merkley, *The Problem of Short-Termism & Activist Hedge Funds*, BALDWIN (MAR. 17, 2016), www.baldwin.senate.gov/imo/media/doc/3.7.16%20-%20Brokaw%20Act%201.pdf [https://perma.cc/AHY7-UJZB].

22 CTR. FOR AM. PROGRESS, REPORT OF THE COMMISSION ON INCLUSIVE PROSPERITY 16, 35-36 (2015) (Lawrence H. Summers & Ed Balls, Comm. Chairs) (emphasis added).

23 *See, e.g.*, Leo E. Strine, Jr., *Securing Our Nation's Economic Future: A Sensible, Nonpartisan Agenda to Increase Long-Term Investment and Job Creation in the United States*, 71 BUS. LAW. 1081, 1083 (2016) (outlining, in off-the-bench writings, a policy agenda "that would better promote a sustainable, long-term commitment to economic growth in the United States); *cf.* Steve Denning, *How Corporate America Is Cannibalizing Itself*, FORBES, (Nov. 18, 2015, 9:21 AM), https://www.forbes.com/sites/stevedenning/2015/11/18/how-corporate-america-is-cannibalizing-itself/#4c2799dc37e6 [https://perma.cc/6XDH-JQY6] (stating "how share buybacks are undermining capacity to innovate and grow in the economy").

term objectives," he says, "lead[ing them] to . . . sacrifice long-term performance for short-term shareholder wealth."[24]

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The short-termism I investigate here is of stock market pressure that is seen to induce executives to forgo long term spending on R&D and capital (both physical and human) and to buy back their stock (and thereby lose cash needed for the future), even if more R&D, fewer buybacks, and more capital investment would be profitable in the long run. We can call this "Type A" short-termism. Long-term shareholders suffer; short-term shareholders gain.

Public discourse on short-termism extends to corporate decisions that damage the economy via environmental degradation (which boosts profits today but degrades the economy tomorrow), an unwillingness to protect corporate customers, employees, and other stakeholders, and an unwillingness to act in a public-spirited way. Call this "Type B" short-termism: to make a quick profit, too many corporations erode trust, degrade the environment, and mistreat employees, customers, and communities. The degradation is made no less pernicious if the company's *long-term* policy is to pollute or otherwise behave irresponsibly; it's bad corporate behavior either way. Shareholders and the company gain; outsiders suffer.

These two types of short-termism could both stem from the same cause—i.e., from stock markets. Or one may cause the other: if the irresponsible firm concludes that retribution—via fines or a poor reputation—will come later, but additional sales with environmental degradation produce profits now, it could pollute for Type A reasons.

No evidence that I'm aware of points to firms' environmental degradation as being costly in the long-term *to the polluting firms overall*, as opposed to being costly to society generally in the long-term. If it were costly to the firms themselves in the long-run, that would turn what is primarily "Type B" societal degradation short-termism into an instance of "Type A" time-horizon short-termism.

Type B is not at its core *short*-termism but is the firm afflicting external costs on others. It is no less important for the economy and polity, as I indicate in Part III. But I focus here on the first type, examining the economy-wide consequences we should see before concluding that "Type A" short-termism is a fundamental economy-wide problem.

24 Leo E. Strine, Jr., *The Dangers of Denial: The Need for a Clear-Eyed Understanding of the Power and Accountability Structure Established by the Delaware General Corporation Law*, 50 WAKE FOREST L. REV. 761, 790-91 (2015). *But cf.* J.B. Heaton, *The "Long Term" in Corporate Law*, 72 BUS. LAW. 353, 354 (2017) ("The distinction between short-term and long-term shareholder wealth allows critics like Chief Justice Strine to dismiss overwhelming empirical evidence that shareholders benefit, on average, from the actions of hedge fund activists, though long-run evidence also supports the value of hedge fund activism.").

A. *The Causes: Activists and Traders*

Two financial market changes are the cause: rising shareholder activism and increasingly rapid trading.

1. *Rising activism*. Recently increasing shareholder activism, it's said, exacerbates short-termism. No firm is immune from activist attacks, and all firms fear them. One of Wall Street's strongest critics of short-termism, Larry Fink, the head of BlackRock, the huge pension and investment firm, said recently that "[t]he role of activists is getting *larger* . . . ."[25]

2. *Increased trading*. Trading and turnover in the stock market is more rapid than ever before. Executives cannot invest for the long term (it's said) if their ownership base turns over every few months. Ownership has shifted from individuals who invested for the long term, without complaint, to institutional investors like mutual funds and pension funds that want their stocks to show profits now, not years from now.[26]

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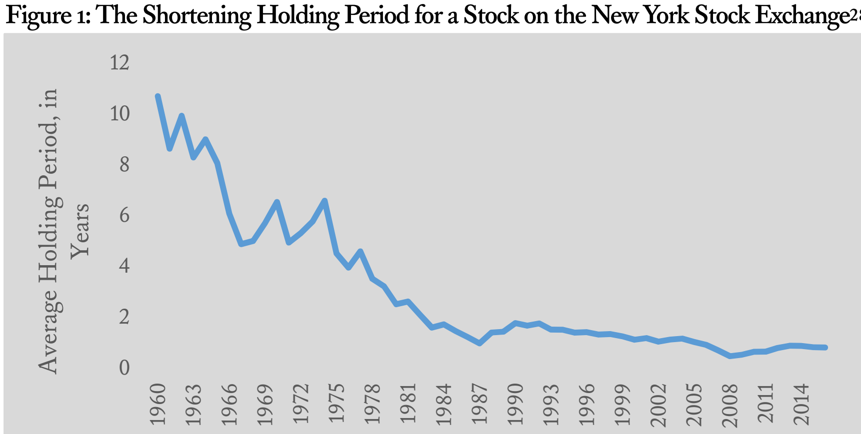
The duration of stock ownership indeed has shortened, and activism has sharply increased. Figure 1 shows the average holding period for stocks traded on the New York Stock Exchange. In 1980, the average holding period was about three years; by the turn of the century it was only a year.[27]

Figure 1: The Shortening Holding Period for a Stock on the New York Stock Exchange[28]



25 *See* Svea Herbst-Bayliss & Ross Kerber, *BlackRock's Fink Learns to Live with Activist Investors*, REUTERS, Nov. 13, 2017, www.reuters.com/article/us-investment-summit-fink-shareholders/blackrocks-fink-learns-to-live-with-activist-investors-idUSKBN1DD2B6 [https://perma.cc/5XAK-2BPU].

26 *E.g.*, Strine, *Who Bleeds?*, *supra* note 3, at 1939.

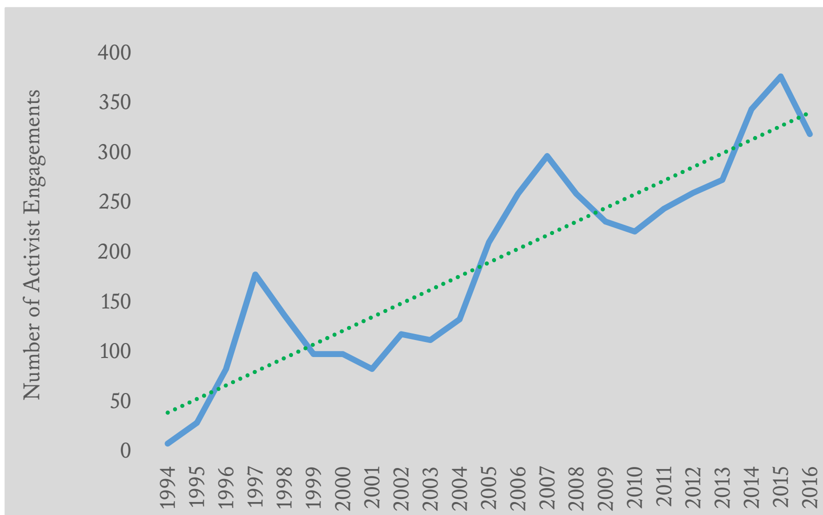
27 The text states the prima facie case for increased trading. In Part III.A.3., I suggest why Figure 1 exaggerates the increased trading idea.

28 New York Stock Exchange Databank, available through the Center for Research on Security Prices; *see also* Patrick Bolton & Frédéric Samama, *Loyalty-Shares: Rewarding Long-term Investors*, 25 J. APPLIED CORP. FIN. 38, 39 (2013).

Activist engagements, by which an activist buys a big stock position in the target company and seeks operating changes or board seats, are also up sharply, as Figure 2 shows.[29] They went from nearly none in the early 1990s to 300 per year recently. And the activists' nature changed: from pension funds seeking a shareholder resolution but without a prospect of affecting core corporate governance in the 1980s[30] to aggressive hedge fund activists seeking board seats and major corporate changes. Nearly 10% of all public firms can now expect to be visited by such activists in any one year.

The foundational predicate in the short-term theory is thus supported: the average duration of stock ownership is shortening, and activist engagements are sharply increasing. Next: are these having the predicted impact on economy-wide R&D, cash pressures, and capital investments?

Figure 2: Rising Incidence of High-Impact Shareholder Activism, 1994–2016[31]



29 Andrew Birstingl & Michael Coronato, *2016 Shareholder Activism Review*, FACTSET RESEARCH SYS. INC. (Feb. 1, 2017), https://insight.factset.com/hubfs/Resources/Research%20Desk/Market%20Insight/FactSet%27s%202016%20Year-End%20Activism%20Review_2.1.17.pdf (covering 2009–2016 and defining "[h]igh impact activism" as campaigns in which an objective is: "board control, board representation, to maximize shareholder value, to remove officer(s)/director(s), or a public short/bear raid"). To go further back, we turned to Alon Brav, Wei Jiang & Hyunseob Kim, Hedge Fund Activism Updated 19 (Sept. 2, 2013) (unpublished manuscript), available at https://faculty.fuqua.duke.edu/~brav/HFactivism_SEPTEMBER_2013.pdf [https://perma.cc/FQ94-435L] (indicating a lower number of activist engagements in 2009–2011 than FactSet reports). We also use Stuart L. Gillian & Laura T. Starks, *A Survey of Shareholder Activism: Motivation and Empirical Evidence*, 2 CONTEMP. FIN. DIGEST, Autumn 1998, at 10-34; Stuart L. Gillian & Laura T. Starks, *Corporate Governance Proposals and Shareholder Activism: The Role of Institutional Investors*, 57 J. FIN. ECON. 275, 283 (2000).

30 Gillian & Starks, *A Survey of Shareholder Activism*, *supra* note 29, at 30.

31 *See supra* note 29 for the data sources.

B. *The Consequences: Slashed Investment, Cash Drained by Buybacks, and Cutbacks in R&D*

Activists' increasing strength and burgeoning trading induce firms to sharply cut R&D, to drain cash by stock buybacks, and to cripple investment in new property, plant, and equipment.

1. *Capital cutbacks due to stock market short-termism.* If the publicly traded firm invests in a new five- or ten-year factory, the critics' thinking runs, the stock market will punish the company, its stock price, and its executives. Purveyors of the view point to a decline in investing in new plant and equipment. In 2003, 33% of the S&P 500's operating cash flow was invested in the company's property, plant and equipment; by 2013, only 29%.[32] Declining investment is a stock market-induced problem that's getting worse.

2. *More stock buybacks lead to less cash to invest.* The stock buyback is a new short-termist flash point. Executives, relentlessly pressured by stockholders for cash, make their company buy back stock, burning cash such that the firm must skimp on R&D and on paying employees well. Investment suffers, and business contracts.[33] "[B]uybacks are killing the American economy."[34]

3. *Decreasing R&D.* Firms are killing their futures by cutting R&D because R&D expenses reduce profits now, but their benefit from better products comes in the future. Stockholders want cash now, so executives acquiesce. If they do not, activists will force them out. Stock markets punish firms that ramp up their R&D.[35]

4. *Shunned future-oriented public firms.* The stock market does not support firms that are oriented to the future and not just to the next quarter.

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32 John C. Coffee Jr. & Darius Palia, *The Wolf at the Door: The Impact of Hedge Fund Activism on Corporate Governance*, 41 J. CORP. L. 545, 580 (2016).

33 *See* JONATHAN HASKEL & STIAN WESTLAKE, CAPITALISM WITHOUT CAPITAL: THE RISE OF THE INTANGIBLE ECONOMY 168 (2018) ("[I]nstead of investing, there are signs companies are giving money back to shareholders . . . ."); MARIANA MAZZUCATO, THE ENTREPRENEURIAL STATE: DEBUNKING PUBLIC VS. PRIVATE SECTOR MYTHS 32-34 (2015); Coffee & Palia, *supra* note 32, at 552 ("[T]he increasing rate of hedge fund activism is beginning to compel corporate boards and managements to forego long-term investments (particularly in R&D) in favor of a short-term policy of maximizing shareholder payout.").

34 Nick Hanauer, *Stock Buybacks Are Killing the American Economy*, THE ATLANTIC (Feb. 8, 2015), https://www.theatlantic.com/politics/archive/2015/02/kill-stock-buyback-to-save-the-american-economy/385259.

35 *E.g.*, William Lazonick, *Profits Without Prosperity*, HARV. BUS. REV, Sept. 2014, at 50 (claiming that "[t]rillions of dollars that could have been spent on innovation and job creation . . . have instead been used to buy back shares"); Rosenblum, *supra* note 4, at 708; Alana Semuels, *Can America's Companies Survive America's Most Aggressive Investors?*, THE ATLANTIC (Nov. 18, 2016), https://www.theatlantic.com/business/archive/2016/11/activist-investors/506330 ("[A]ctivist investors are . . . forcing [legacy corporations] to trim payrolls and downsize research operations—and, quite possibly, damaging the entire economy."); Robert Ayres & Michael Olenick, Secular Stagnation (Or Corporate Suicide?) 1 (July 11, 2017) (working paper), available at https://ruayres.wordpress.com/2017/07/11/secular-stagnation-or-corporate-suicide/ [https://perma.cc/FPA8-8E66] (asserting that "buybacks . . . effectively reduce corporate R&D").

C. *Firm-by-Firm Evidence*

Academic analysis of short-termism is mostly at the firm level: are firms in one category or another—activist-influenced, quarterly-oriented, institutional-investor-owned—more short term than firms outside the category? This literature is extensive but disputed.[36] Some researchers find that public firms invest less than privately owned counterparts;[37] others find, in contradiction, that stronger institutional investor presence *increases* R&D spending.[38] Some researchers find that shareholder activists do not sacrifice long-term results;[39] others find, in contradiction, that activism improves short-term but not long-term results.[40] In separate work, I conclude that the

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36 For reviews, see Mark J. Roe, *Corporate Short-Termism—In the Boardroom and in the Courtroom*, 68 BUS. LAW. 977, 986–87, 996–98 (2013); Andrew Bird, Aytekin Ertan, Stephen A. Karoyli & Thomas G. Ruchti, Short-Termism Spillovers from the Financial Industry 5 (June 2017) (working paper), available at www.ssrn.com/abstract=2859169 [https://perma.cc/9E7X-67FT]; Albert Sheen, Do Public and Private Firms Behave Differently? An Examination of Investment in the Chemical Industry 2 (Mar. 23, 2016) (working paper), available at www.ssrn.com/abstract=2792410 [https://perma.cc/BB2Y-D253].

37 *See, e.g.*, John Asker, Joan Farre-Mensa & Alexander Ljungqvist, *Corporate Investment and Stock Market Listing: A Puzzle?*, 28 REV. FIN. STUD. 342, 342 (2015); *cf.* Alexandre Garel, *Myopic Market Pricing and Managerial Myopia*, 44 J. BUS. FIN. ACCT. 1194, 1204-09 (2017) (producing evidence that myopic stock investors induce R&D cutbacks). For contrary findings, see Vojislav Maksimovic, Gordon Phillips & Liu Yang, Do Public Firms Respond to Investment Opportunities More Than Private Firms? (Dec. 15, 2017) (working paper), available at www.ssrn.com/abstract=3093125 [https://perma.cc/CR9C-JHC8], and Naomi Feldman et al., The Long and the Short of It: Do Public and Private Firms Invest Differently? (SSRN working paper, Aug. 2018), available at www.ssrn.com/abstract=3239663.

38 Philippe Aghion, John Van Reenen & Luigi Zingales, *Innovation and Institutional Ownership*, 103 AM. ECON. REV. 277, 302 (2013); Sunil Wahal & John J. McConnell, *Do Institutional Investors Exacerbate Managerial Myopia?*, 6 J. CORP. FIN. 307, 307 (2000). *See* Alon Brav, Wei Jiang, Song Ma & Xuan Tiam, *How Does Hedge Fund Activism Reshape Corporate Innovation?* J. FIN. ECON. (forthcoming 2018) (finding that firms that activists target cut R&D spending, but their R&D becomes more effective); Alon Brav, Wei Jiang, Frank Partnoy & Randall S. Thomas, *Hedge Fund Activism, Corporate Governance, and Firm Performance*, 53 J. FIN. 1729, 1729 (2008) (finding that activist hedge funds generally improve operating performance).

39 Lucian A. Bebchuk, Alon Brav & Wei Jiang, *The Long-term Effects of Hedge Fund Activism*, 115 COLUM. L. REV. 1085, 1085 (2015); Edward P. Swanson & Glen M. Young, *Are Activist Investors Good or Bad for Business? Evidence from Capital Market Prices, Informed Traders, and Firm Fundamentals* (Mar. 2017) (working paper), available at www.ssrn.com/abstract=2823067 [http://perma.cc/PQB7-D3WQ] ("We find short-window returns around the announcement of an activist share purchase are sizable and do not reverse in a two-year post-intervention period."). For a discussion of why autonomous boards do not promote the long term, see Lucian A. Bebchuk, *The Myth that Insulating Boards Serves Long-Term Value*, 113 COLUM. L. REV. 1637, 1639 (2013).

40 *See* Martijn Cremers, Erasmo Giambona, Simone M. Sepe & Ye Wang, Hedge Fund Activism and Long-Term Firm Value 1, 28 (2015) (working paper), available at www.ssrn.com/abstract=2693231 [https://perma.cc/6U72-564R] (finding that activists hurt innovative firms). *But see* Lucian Bebchuk, Alon Brav, Wei Jiang & Thomas Keusch, *The Long-Term Effects of Hedge Fund Activism: A Reply to Cremers, Giambona, Sepe & Wang*, HARV. L. SCH. F. ON CORP. GOVERNANCE & FIN. REG. (Dec. 10, 2015), https://corpgov.law.harvard.edu/2015/ 12/10/the-long-term-effects-of-hedge-fund-activism-a-reply-to-cremers-giambona-sepe-and-wang/ [https://perma.cc/KED5-DZCM] (criticizing Cremers et al. and seeking, but being unable to, replicate their results). To assess activists' impact, researchers match firms with activist interventions with similar firms without

best interpretation of the firm-by-firm evidence is that stock markets do not overall strongly denigrate long-term value and probably enhance it.

I pursue a different analytic channel here. If firm-by-firm short-term problems that critics have proffered were severe system-wide problems, then the critics should be able to show economy-wide degradation in the R&D, buyback, and capital spending channels. And, even if large public firms failed to manage for the long-term, that could just mean that private firms and venture-capital-backed firms are better innovators. The venture capital and private equity industries profit by successfully doing what public firms do not. Short-term theorists need to address whether private firms are just better at the task and whether, even if not better, they are picking up much of any purported public firm long-term slack.

This is not to reject the firm-by-firm studies; finding or refuting a marginal impact from shareholder activism or from rapid trading is useful. Much knowledge marches forward at the margin. But local studies cannot be dispositive as to economy-wide degradation because they cannot tell us enough about the strength of any economy-wide impact.

Another way to grasp this problem on the disjunction between the local and the general: Posit that firm-by-firm studies show that public firms invest less if their stock trades more. That could lead to two propositions that seem so close that many, in my experience, think them identical:

1. When trading increases in a company's stock, that causes the affected firms' investment to decline.
2. When trading increases in the economy, that causes economy-wide investment to decline.

Or, another set:

1. Stock market activists force cash out of their target firms.
2. Increasing activism starves the corporate sector of cash for investment.

Or:

1. Increasing quarterly orientation (and increased trading and more activism) induces affected public firms to do less R&D.
2. Because of the strong quarterly orientation, increased trading, and rise in activism, the U.S. economy is doing less R&D than it should.

Even if the first propositions are true, the underlying rationale could be that the affected firms are not making good investments, are not the best place for cash, and are not doing good R&D. And even if the first propositions were true, the second propositions are, in order, probably false, demonstrably false, and not shown to be true. Part II shows this and Part III assesses why. Analysis and policy thinking need to avoid a fallacy of composition.

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activists and examine their paths over the years. The matching is hard to construct and the results tend not to change people's prior beliefs.

II. Looking for Stock market short-termism's Economy-Wide Impact

Activist engagements increased sharply in recent decades, just as short-term theory predicts. Basic measures of stock market turnover and the duration of stock ownership also support the theory.

However, the predicted *consequences* cannot be found in economy-wide data: Capital spending is down since the financial crisis, but it is hard to attribute this to trading or activism, because the worldwide capital spending trend for developed economies similarly tilts downward, even for economies not as dependent as the United States on the stock market. Moreover, American capacity utilization—how intensely existing capital stock is deployed—has been slow to recover from the 2008–2009 recession; it has not been economical to invest more in capital equipment for the past decade and will not be until existing stock is used efficiently. Buybacks increased after the 2008–2009 financial crisis, but the cash used to buy stock was offset by cash from new low-interest rate borrowings, with the two roughly equal in size. The expected sharp cutback from the best level of R&D has not been shown. The five companies most strongly supported by the stock market are tech-based, long-term firms.

In short, short-term theory is either unsupported (R&D), contradicted (buybacks as draining cash, stock markets as shunning the future), or better explained otherwise (capital expenditure). True, such economy-wide evidence is crude. Perhaps a pernicious short-term impact is buried in the data. Perhaps stock markets degrade R&D, cash positions, and capital expenditures, while offsetting economic features buttress them. But policymakers should hesitate before acting against stock-market–driven short-termism on the evidence available, as it does not indicate a severe economy-wide problem.

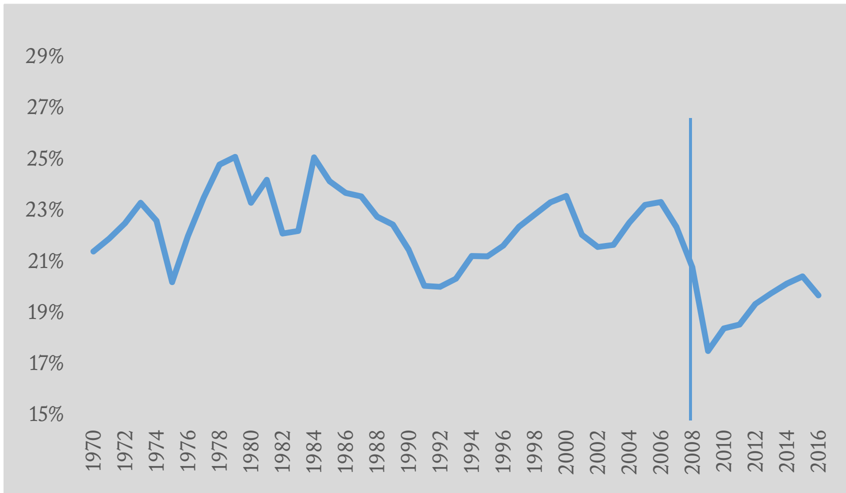
A. *Capital Expenditure Cutbacks Around the World*

In the past decade a smaller fraction of public firms' operating cash flow is being reinvested in new property, plant, and equipment.[41] Major scholars cite this as demonstrating that stock-market–driven short-termism is severely degrading the economy.[42] Figure 3 initially confirms this view.

41 Vipal Monga, David Benoit, & Theo Francis, *As Activism Rises, U.S. Firms Spend More on Buybacks than Factories*, WALL ST. J., May 27, 2015, at A1.

42 Coffee & Palia, *supra* note 32, at 553 & nn. 137–138. For important similar views, see Rosenblum, *supra* note 4, at 709 ("If you miss your quarterly earnings, you get punished . . . . [Boards] want to invest for the long term . . . but they [are] constrained [to] meet[] their quarterly earnings, and that . . . is not healthy for companies in the long term . . . ."); J.W. MASON, UNDERSTANDING SHORT-TERMISM 4 (Roosevelt Inst. Rep., 2015), http://rooseveltinstitute. org/understanding-short-termism-questions-and-consequences/ [https://perma.cc/2HNT-BEGS]; Galston & Kamarck, *supra* note 12, at 8; Martin Lipton, *Empiricism and Experience; Activism and Short-Termism; the Real World of Business*, HARV. L. SCH.

Figure 3: Capital Expenditure in the United States, 1970–2016, Scaled to GDP[43]



But recovery from the post-2008–2009 recession was steady but weak. The graphic points to lower capital investment as a response to an economic crisis and recession, not a sudden response to an onslaught of stock market short-termism. An improving economy that uses a greater portion of its existing capital equipment should start to invest more in capital equipment.[44]

There's little reason to invest in *new* equipment when *old* equipment lies fallow because the firm faces weak demand and the equipment is not yet technologically passé. But capacity utilization was still only 75% in January 2017, down from the pre-crisis 81%.[45] Factory utilization had still not recovered from the crisis, when it plummeted to below 70%. This was a substantial decline in capacity utilization. For the past quarter-century it had never gone above 86% nor below 69.95%.

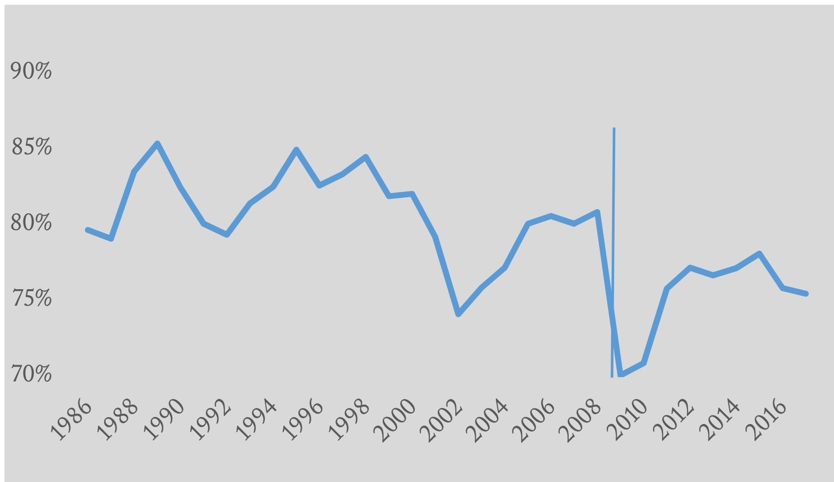
F. ON CORP. GOV. (Oct 28, 2013), https://corpgov.law.harvard.edu/2013/10/28/empiricism-and-experience-activism-and-short-termism-the-real-world-of-business/ [https://perma.cc/JZ29-40TV].

43 Bureau of Econ. Analysis, *Table 5.2.5 Gross and Net Domestic Investment*, U.S. DEP'T OF COMM., https://www.bea.gov/data/economic-accounts/national [https://perma.cc/J5K7-C5MY] (last visited Jan. 8, 2018). Inquiry typically scales capital expenditure by cash flow. I scale to GDP to facilitate comparison in Figure 4 with the OECD's GDP-scaled data on other nations' capital expenditures. Scaling by cash flow yields a similarly declining trend. *See infra* Appendix Figure 8. An astute conceptual criticism of the Department of Commerce capital expenditures data is that it now includes investment in intellectual property products, like film, thereby masking a steeper decline in traditional plant and equipment. *See* MASON, *supra* note 42, at 7-8. Subtracting the category including film shows a similar, but slightly sharper, downward trend. *See infra* Appendix Figure 9.

44 JONATHAN GOLUB ET AL., CREDIT SUISSE U.S. EQUITY STRATEGY (2018) (reporting twenty percent increased capital expenditures in the United States in year-to-year preliminary first quarter 2018 data).

45 BD. GOVERNORS FED. RES. SYS., FLOW OF FUNDS, at 54-55 www.federalreserve.gov/ releases/g17/ipdisk/utl_sa.txt [https://perma.cc/4G2Q-WMWK] (last visited Jan. 9, 2017).

Figure 4: U.S. Capacity Utilization, 1986–2017[46]



For a firm to invest in new equipment that cannot be used well would be corporate empire building and waste such as that which many observers long thought afflicted the public firm.[47] Figure 4 shows the Federal Reserve's data on capacity utilization, which measures what portion of American industrial capacity is actually being used by business. Utilization declined sharply in 2008 and has not fully recovered. The recession and the lengthy recovery could explain weakness in capital spending in the United States better than stock-market–driven short-termism. From this possibility, a prediction emerges: as and if the economy's recovery continues, firms will invest more in capital equipment than during the past decade.

* * *

A critic could question here what causes what. Could stock-market–driven short-termism have weakened the demand for new plant and equipment? And with that demand low, could economic activity consequentially have weakened and stayed weak?

But stock market short-termism as the start here is implausible. The decline was sharpest during the financial crisis and recession, which was caused primarily by a real estate bubble that burst and crippled first financial firms from lending and then sharply slowed the real economy, according to the consensus view. More generally, economists who see business investment as important to economic recovery look to fiscal, monetary, and tax policy as the impetus, not corporate governance.[48]

46 *Id.*

47 *See, e.g.*, Michael C. Jensen, *Agency Costs of Free Cash Flow, Corporate Finance, and Takeovers*, 76 AM. ECON. REV. 323, 324 (1986) (criticizing manager-controlled corporations' excessive spending in the 1980s).

48 N. GREGORY MANKIW, PRINCIPLES OF ECONOMICS 560-62, 715-18, 756, 758-59 (7th ed. 2015).

* * *

Another approach helps to assess how well stock market short-term pressures explain declining American capital expenditures. If American traders and activists are thwarting capital expenditures, then the decline in U.S. capital expenditures should be sharper than that in the rest of the developed world. The stock market is a major channel for corporate finance in the United States and is a less important channel elsewhere.

Figure 5 compiles data from the Organization for Economic Cooperation and Development (OECD)—the post–World War II rich nations' club. The first graphic at the left is capital expenditure in the OECD (but without the United States); its decline parallels that of the United States—sloping slightly downward until the financial crisis, then deteriorating sharply. The bottom graphics show declining capital expenditure in Germany and Japan, for specificity.

The data includes capital expenditures beyond those of large public companies, which are the short-term theory's target for criticism. Because this wider database also shows a long-term decline in capital equipment spending in and around the developed world, the case for shareholder pressure being the core motivating force weakens. Capital spending is declining even when including non–stock market sectors.

Comparing capital spending trends between the United States and one or two nations is not probative, since national economies differ in so many ways that it's hard to control for it all. That though is not the comparison here: capital expenditures declined across the *entire* developed world. When a trend characterizes both a nation with strong stock markets, like the United States, and *all the other* developed nations that do not have similarly strong stock markets, then concluding that American capital expenditures decline is strongly due to United States–specific trading markets is a logical jump.[49] Capital expenditures declined in the United States at about half the rate as it did in the rest of the OECD.[50]

True, activists are not absent in other nations, and stock markets play an increasing role abroad. Financialization is a worldwide phenomenon leading

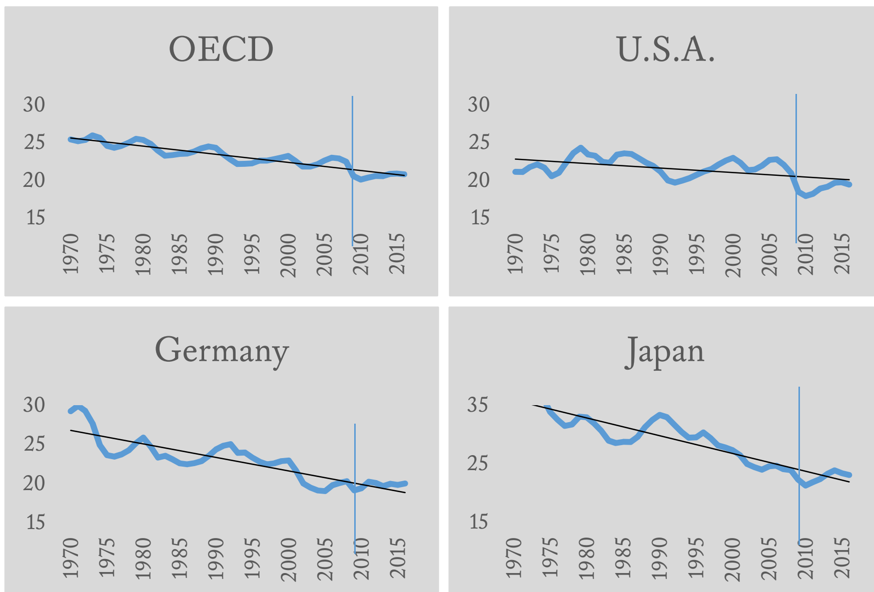
49 *See infra* Figure 5, top left graphic, for the OECD's four-decade capital expenditures trend.

50 *See infra* Appendix Figure 1. Capital expenditures declined more sharply than in the United States in Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom. Capital expenditures for Australia declined less and for Turkey—which was the only lesser developed nation then in the OECD—it did not decline.

The cross-country picture for R&D is, in contrast, mixed. Some developed nations' R&D/GDP ratio exceeds the American; most are lower. Several nations' R&D/GDP growth exceeds that of the United States. ORG. ECON. COOPERATION & DEV., LEVEL OF GDP PER CAPITA & PRODUCTIVITY, https://stats.oecd.org/index.aspx?DataSetCode=PDB_LV [https://perma.cc/XH9S-KWTW]. The average OECD R&D/GDP rise is less than that of the United States when the individual nations' R&D/GDP are averaged; when R&D spending and GDP are pooled, more heavily weighting larger economies like Germany, the non-OECD rise is somewhat steeper than the United States.

even private companies to focus more than before on the financial bottom line. But differences in stock market dependence, in stockholder activism, and in the depth of financialization between the United States and the others persist and are not trivial. Something other than stock market financial pressure would be the primary cause, if the phenomenon is as powerful outside of the stock-market–driven, heavily financialized economies such as the United States.

Figure 5: Capital Expenditure Trends in the Developed World Similar to the U.S. Trend[51]



The upper left graphic averages gross investment as a percentage of gross domestic product (GDP) from 1970 to 2015 for all nations that were OECD members in 1990, other than the United States. (After 1990, the OECD added some developing nations; 1990 membership is a common way to focus on developed nations.) The U.S. decline, pictured next, is a version of Figure 3. Its decline is not sharper than that of the rest of the developed world. Below those two are graphics that show, for concreteness, declining investment in Germany and Japan since 1970. (The Japanese graphic is scaled differently because its sharper capital expenditures decline was from a higher level in the early 1970s.)

51 *Gross Fixed Capital Formation (% of GDP)*, WORLD BANK, https://data.worldbank.org/ indicator/NE.GDI.FTOT.ZS?end=2016&start=1960&view=char [https://perma.cc/6XBT-UFWD] (last visited Jan. 2, 2018). Standard and Poor's did a similar comparison, showing North American capital expenditures moving in tandem with the rest of the world's. STANDARD & POOR'S RATINGS SERVS., GLOBAL CORPORATE CAPEX SURVEY 2015, www.maalot.co.il/publications/FTS20150804101404.pdf [https://perma.cc/6PJR-V4A6].

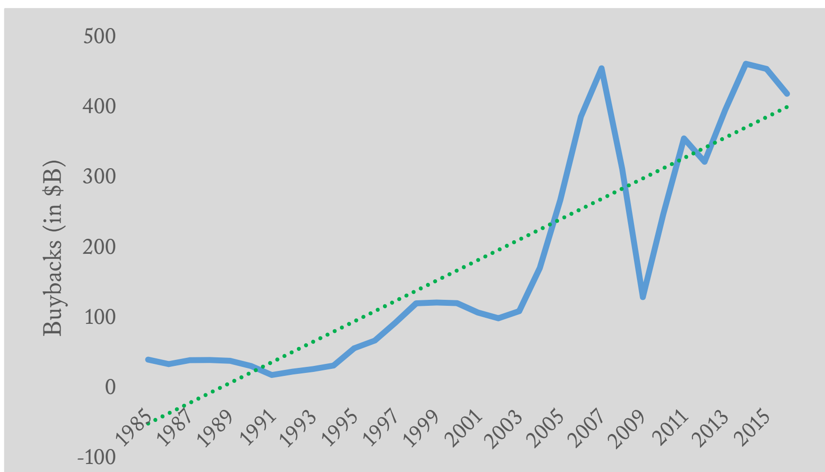
The two large economies with rising capital expenditures are China and India.[52] Much manufacturing can now be done more effectively in nations outside the OECD, helping to explain declining capital expenditures in the OECD.

For the stock market short-termism story as provoking economy-wide harm to be taken more seriously, its proponents need to explain why other nations without American-style stock markets are cutting capital spending more sharply than the United States.

B. *Buybacks and Borrowings After the Financial Crisis*

Stock buybacks increased during the past decade, just as the short-term theory predicts. But have the buybacks starved corporate America for cash, setting up the predicate for slashed R&D and capital investment?

Figure 6: Rise in Buybacks in the S&P 500 Nonfinancial Firms, 1985–2016[53]



The answer again is no. Buybacks are up, as Figure 6 shows, but the buyback process is not draining cash.

After the 2009 financial crisis, corporate borrowings increased greatly, at a pace about that of stock buybacks.[54] With post-crisis interest rates at long-term lows, many firms could borrow long-term nearly for free, and did so. Some then bought back stock, so that their cash position after the buyback

52 *See infra* Appendix Figure 10. India's rises overall but declines recently.

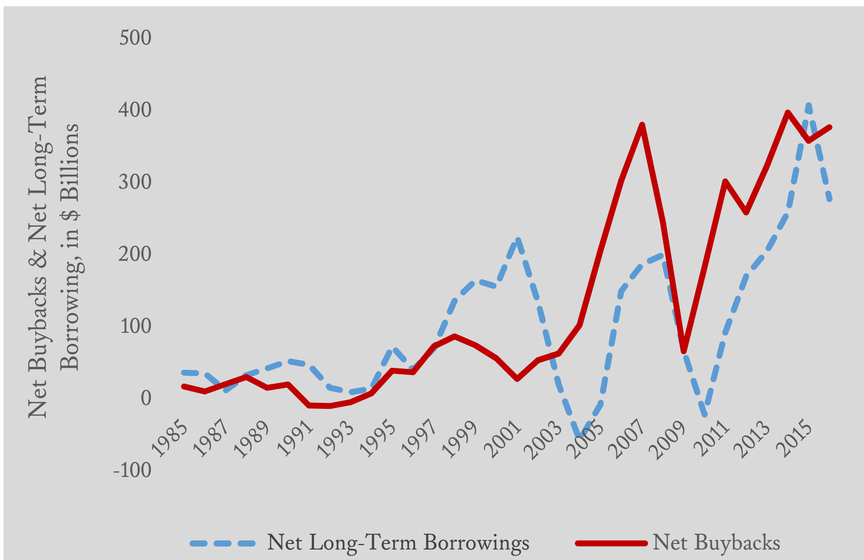
53 S&P GLOBAL MARKET INTELLIGENCE, http://www.compustat.com [https://perma.cc/8WM8-MRHT] (last visited Feb. 6, 2018).

54 Adrian Van Rixtel & Alan Villegas, *Equity Issuance and Share Buybacks*, BIS Q. REV., Mar. 2015, at 28-29 (showing that net bond issuance proceeds of U.S. nonfinancial corporations rise in tandem with share buybacks for the Standard & Poor's 1500).

was not the cash spent for the stock, but the amount spent minus the cash coming in from increased borrowing. Properly conceived, corporate America recapitalized its balance sheet with cheap debt.[55]

Figure 7 incorporates another evaluative fact: S&P 500 companies also sell and issue stock, so we adjust the buybacks to net buybacks, deducting cash received for newly issued stock (which is about $100 billion annually).

Figure 7: Rise in Both Net Stock Buybacks and in Net Borrowing in the S&P 500, 1985–2016[56]



The increased borrowing, which brings cash into the firm, approximates the size of net stock buybacks, which has cash leaving the firm. Worldwide evidence shows that buybacks increase with low interest rates (and decrease with high rates).[57] About 30% of payouts have been directly financed with new debt issued

55 In equilibrium, debt and equity has the same cost to the firm. Franco Modigliani & Merton H. Miller, *The Cost of Capital, Corporation Finance and the Theory of Investment*, 48 AM. ECON. REV. 261, 261-62 (1958). The Fed's suppression of interest rates to near-zero upset any prior equilibrium; firms then recapitalized (and the stock market repriced equity) until reaching a new equilibrium.

56 S&P GLOBAL MARKET INTELLIGENCE, *supra* note 53.

57 Assia Elgouacem & Riccardo Zago, *Share Buybacks, Monetary Policy and the Cost of Debt* 22 (May 14, 2018) (working paper), available at www.ssrn.com/abstract=3032534 [https://perma.cc/U8ZY-YGNP]; *cf.* Joan Farre-Mensa, Roni Michaely & Martin Schmalz, *Financing Payouts* 6 (Ross Sch. of Bus., Paper No. 1263, 2018), https://ssrn.com/abstract=3032534 [https://perma.cc/6GJ3-RSZL] (discussing how "debt appears to be the dominant form of payout financing" and presenting data "that firms use debt-financed payouts to take advantage of market timing opportunities," such as government interest rate policies).

simultaneously,[58] and many firms have otherwise been borrowing more long term at low interest. As a Fed governor said, the post-crisis economy had an "unusually large divergence in the costs of debt and equity—due in part to the cumulative effects of our [very large purchases of debt, which] is likely [to] make[] debt-financed repurchases of equity attractive."[59]

Substituting debt for equity will lead some firms to have too much debt; the rise in debt subjects other firms to the discipline of having to roll over or repay. Regardless of whether advantageous or not, this is not the *short-term* destruction of the firms' cash for investment. It is a recapitalization from equity to debt when long-term debt is cheap.[60] This interest rate motivation for the last decade's buyback wave should lead buyback by borrowing to slow or stop when interest rates rise back to normal levels.

The effects of the end-of-2017 tax law (which facilitated cash moving from foreign subsidiaries back to the United States) are cross-cutting: buybacks should rise due to the immediate surge of cash returning to the United States from abroad, which the act facilitated.[61] Much cash in large public firms, illustrated in Appendix Figure 6, was held abroad.[62] In time, the tax law's reduced corporate tax rate should dampen borrowing-fueled buybacks because the after-tax value of debt will decline relative to equity. Regardless, as of now, the cash drainage story is incorrect.

* * *

Here, I have analyzed the buyback/borrowing trend as an economy-wide post-crisis capital structure decision: the corporate sector substituted low-interest debt for equity. Precise work from Jesse Fried and Charles Wang takes a different approach, examining buybacks as only part of the cash

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58 *See id.* at 11 (demonstrating that "in the average year, 30% of aggregate total payouts are financed via simultaneous net debt issues"; payouts are primarily buybacks).

59 Jeremy C. Stein, Governor, Fed. Res. System Address at the Boston University/Boston Federal Reserve System, Conference on Macro-Finance Linkages: Large-Scale Asset Purchases (Nov. 30, 2012), available at www.federalreserve.gov/newsevents/speech/stein20121130a.htm [https://perma.cc/PK3H-MRKU]; *see also* Farre-Mensa et al., *supra* note 57, at 5, 29; Valeriy Zakamulin & Arngrim Hunnes, Stock Earnings and Bond Yields in the US 1871–2016: The Story of a Changing Relationship 41 (Feb. 19, 2018) (unpublished manuscript), available at www.ssrn.com/abstract=3126321 [https://perma.cc/U9SE-T4PE] (showing equity's dividend-to-stock-price ratio to generally be much higher than the yield on long-term debt from 1960 to 2010, but not much higher after 2010 until 2016).

60 *Cf.* Clifford Asness, Todd Hazelkorn & Scott Richardson, *Buyback Derangement Syndrome*, 44 J. PORTFOLIO MGMT. 50 (2018) (arguing that "a considerable portion of the recent share repurchase activity has simply been a recapitalization, shifting from equity to debt"). For other firms, recapitalization with more debt advantageously disciplines management. Jensen, *supra* note 47, at 324.

61 *See* Akane Otani, Richard Rubin & Theo Francis, *Buybacks Surge in Wake of Tax Cuts*, WALL ST. J., Mar. 2, 2018, at A1.

62 Wells Fargo Asset Management, *Tax Reform—Overseas Cash and Repatriation Implications* (2018), https://www.wellsfargofunds.com/assets/pdf/fmg/commentary/mmkt/tax-reforem-overseas-cash-repatriation-implications.pdf [https://perma.cc/G655-97YV].

flowing in and out from public firms' equity accounts.[63] They show that firms issue equity to run the firm: equity "pays" for acquisitions and compensates employees, but such operating payments with equity are not typically counted in equity sales. If the equity were not used to compensate or to buy, the firm would have had to spend cash. When this equity's value is netted against buybacks and dividends paid, the net cash outflow diminishes noticeably.

Aggregated equity-based cash flows, including dividends, buybacks, and issuances, were less than the $7 trillion gross payout commonly quoted for the 2007–2016 decade, netting down to a smaller $3.3 trillion[64]—smaller than the gross payout, but not a small number. But apply the borrowing analysis I raised in prior sections: even this $3.3 trillion cash payout reverses and becomes an inflow, because low-interest long-term borrowing increased massively, by $3.75 trillion during that decade.[65] Combining the two concepts of a recapitalization and stock as currency yields a bottom line of no public firm net cash outflow from the two for the past decade.

* * *

Economic fundamentals are also in play. Money disbursed in stock buybacks does not disappear. The cash leaves the firm and reappears elsewhere. A mutual fund that owned the bought-back stock receives cash and then reinvests that cash in other companies' stocks. If the financial market is working as it should, then the cash moves from firms with poor investment opportunities back to the mutual fund. And then the mutual fund reinvests the cash in firms with good investment opportunities—perhaps because they are younger with an expanding market.[66] A major part of the cash movement fits this pattern. About $250 billion of cash flowed annually into the smaller, non-S&P 500 firms in the past decade, *exceeding* the outflow from the S&P 500. Appendix Figures 4 and 5 illustrate.[67]

Lastly, there is a bottom line. Short-term theory's purported economy-wide scourge is to sap public firms of cash, thereby crippling their capacity for R&D, capital spending, and better operations. But cash holdings have steadily increased in the S&P 500. Appendix Figures 6 and 7 illustrate.

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63 Jesse M. Fried & Charles C.Y. Wang, *Are Buybacks Really Shortchanging Investment?*, HARV. BUS. REV., Mar.–Apr. 2018, 88, 90.

64 *Id.* at 92.

65 See Figure 6 to visualize the rising long-term borrowing during the period (the blue dashed line).

66 *Cf.* Jeffrey N. Gordon, *Shareholder Activism, the Short-Termist Red-Herring, and the Need for Corporate Governance Reform*, CLS BLUE SKY BLOG (Mar. 28, 2016), http://www.clsbluesky.law. columbia.edu/2016/03/28/shareholder-activism-the-short-termist-red-herring-and-the-need-for-corporate-governance-reform [https ://perma.cc/8Q24-K4AE] (showing that many institutional investors seeking buybacks *also* invest long-term otherwise, via venture capital or private equity channels).

67 *See* Adrian Van Rixtel & Alan Villegas, *Equity Issuance and Share Buybacks*, BIS Q. REV., Mar. 2015, at 28-29.

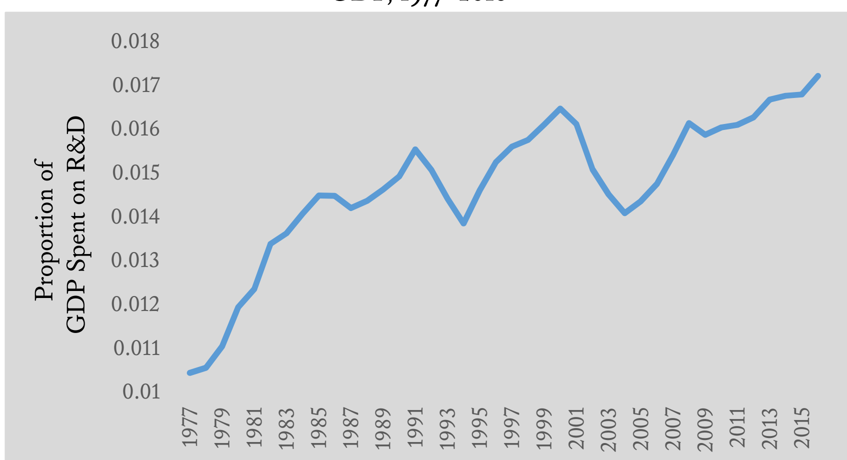
The purported cash starvation channel from stock market short-termism to economy-wide degradation buybacks does not exist.[68]

C. *R&D Over the Decades*

A cost of excessive stock market short-termism has been to degrade corporate R&D, according to many critics.[69] When companies report profits, they must deduct their R&D expenses when incurred; but they report the resulting profits in the future.[70] With activism increasing so sharply during the past few decades and with stock ownership duration decreasing so much, they should have an impact in the nationwide data on R&D spending. Executives, I understand, often see stock markets and activists as inducing an R&D decline.

An impact may be there, but not a cutback.

Figure 8: The Rise in R&D Spending in the United States as a Proportion of GDP, 1977–2016[71]



68 Perhaps short-theory needs to reverse direction here, arguing that stock markets are preventing firms from investing their cash hoard.

69 The well-known classic criticisms include: Brian J. Bushee, *The Influence of Institutional Investors on Myopic R&D Investment Behavior*, 73 ACCT. REV. 305, 330 (1998); Robert H. Hayes & William J. Abernathy, *Managing Our Way to Economic Decline*, HARV. BUS. REV., July 1980; Michael E. Porter, *Capital Disadvantage: America's Failing Capital Investment System*, HARV. BUS. REV., Sept.–Oct. 1992, at 65, 67-68. For more recent criticism, see Strine, *Who Bleeds When the Wolves Bite?*, *supra* note 3, at 1872, 1917.

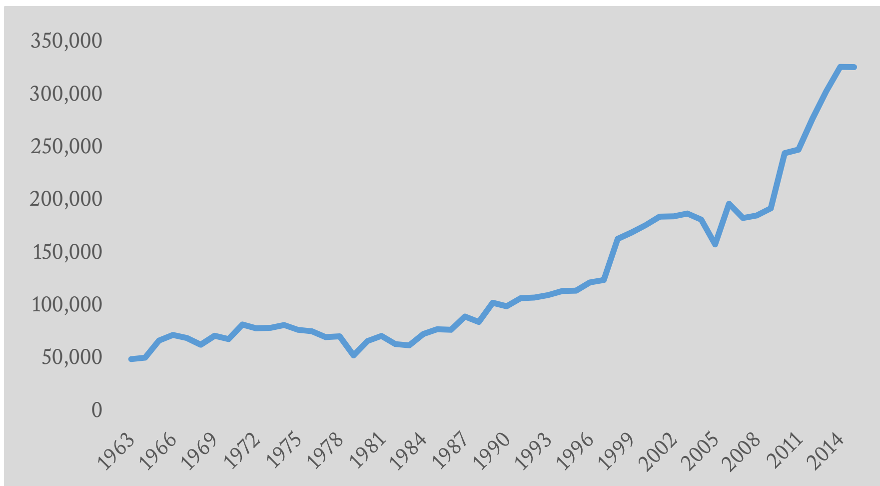
70 FIN. ACCT. STANDARDS BD., ACCOUNTING FOR RESEARCH AND DEVELOPMENT COSTS § 12 (1974).

71 R&D is scaled to GDP in Figure 8. The R&D data is from the Department of Commerce's Bureau of Economic Analysis, a standard government source of economy-wide data. (I use government data whenever possible in this article.) That bureau is the usual source for data on the economy's domestic product. For the R&D data, see Bureau of Econ. Analysis, *Table 5.6.5, lines 2&6 National Income and Product Accounts*, U.S. DEP'T OF COMM., NATIONAL INCOME AND PRODUCT ACCOUNTS, Table 5.6.5, lines 2 & 6 (2017) (last visited Dec. 19, 2017), http://www.bea.gov/itable/ [https://perma.cc/HM9A-7XM3]. For the GDP data, see Bureau of Econ. Analysis, *supra* note 43, Table 1.1.5, line 1.

Figure 8 tells the core economy-wide story. Since the 1970s R&D spending has been steadily rising. The only major channel of R&D decline in the United States was the falling government support for research.[72]

Consider another commonly used albeit crude measure of R&D output prowess: the density of patent awards.[73] Patents increased, tripling in the past twenty-five years, as activism rose and as stock trading became more frequent.

Figure 9: Number of Patents Awarded Annually, 1963–2015[74]



A logically appropriate response would be that short-termism has long been damaging. R&D and capital expenditures were anemic in 1979, weak in 1990, and still hold the economy back in 2018, they could respond.

72 That is, the graphics' overall increase could have been due to the government spending more while activists were crippling public firm R&D. But U.S. government spending is *declining*: "The National Science Foundation estimates that [total] U.S. R&D funding reached an all-time high . . . in 2015. [But o]f that total, the federally sponsored share fell to a record-low 23 percent while the business sector's share rose to a record-high 69 percent." Mike Henry, *US R&D Spending at All-Time High, Federal Share Reaches Record Low*, AM. INST. PHYSICS (Nov. 8, 2016), www.aip.org/fyi/2016/us-rd-spending-all-time-high-federal-share-reaches-record-low [https://perma.cc/G9QG-ENGU]. Backing out government spending from the article's graphics would *increase* the slope. *Id.*; *see also supra* Figure 1).

73 *See* Zvi Griliches, *Patent Statistics as Economic Indicators: A Survey*, 28 J. ECON. LIT. 1661, 1673-74 (1990); *cf.* Bronwyn H. Hall, Adam Jaffe & Manuel Trajtenberg, *Market Value and Patent Citations: A First Look*, 36 RAND J. ECON. 20, 33-35 (2005). Increased patents do not assuredly mean more R&D. The extra quantity could be small-bore. More "patent trolls" could be filing a broad spectrum of patents to squeeze payments out of users. The patent office could be more readily awarding patents now than it was in the 1980s. *See* Richard A. Posner, *Why There Are Too Many Patents in America*, THE ATLANTIC (July 12, 2012), https://www.theatlantic.com/business/archive/2012/07/why-there-are-too-many-patents-in-america/259725/.

74 U.S. PAT. & TRADEMARK OFF., U.S. PATENT STATISTICS CHART, 1963–2015, www.uspto.gov/web/offices/ac/ido/oeip/taf/us_stat.htm [https://perma.cc/JV09-H243].

But if the short-term theory's basic premise is true—short-termism is due to excessive trading and too much shareholder orientation, which slam R&D—and trading and activism have risen sharply, then one should see consequences. As the pernicious characteristics increase, the pernicious consequences should increase as well. If X causes Y to diminish, then more X should lead to less Y, unless some other intervening force is affecting Y.

But we do not see that relationship, despite that the basic short-term critique has been in play for four decades.[75]

Another short-termist response: This evidence could obscure that components of overall R&D should have been rising, but fell, or should have risen more sharply. And the stock market held them back. But the fact that we do not see this X-increases-and-as-a-consequence-Y-declines relationship calls into question basic tenets of the short-termist theory[76] and requires a showing or a good reason to believe that the data hides such stunted components. That possibility faces the impediment that venture capital and private equity profit from doing what public firms fail to do; they have reason to fill in lagging components from public firms. To support their claim that stock market short-termism is harming the economy, short-term theorists would need a metric to indicate that the actual rise is insufficient.

The verdict thus far: stock-market–driven short-termism has not been shown to be a deep economy-wide problem.

D. *Does the Stock Market Support R&D-Oriented, Tech-Based Innovation?*

The stock-market–driven short-termism story implies that the stock market shuns firms with weak current earnings, because such firms are investing deep into the future. Does this comport with basic observations?

Consider the nature of the business of the biggest public firms in the United States. Table 1 shows the ten biggest firms by stock market capitalization.

The biggest five of these—the American companies *most strongly supported* by the stock market—are Amazon, Apple, Alphabet (Google), Facebook, and Microsoft. All are quintessential long-term companies. They do much R&D. Their current earnings cannot justify their current stock price; only a belief that they will grow long-term does. Each has technologies and businesses that stock markets expect will be valuable in the future.

75 Steven Kaplan, *Are U.S. Companies Too Short-Term Oriented? Some Thoughts*, 18 INNOVATION POL'Y & ECON. 107, 108-09 (2018).

76 And even if R&D spending is steady, short-term believers could investigate whether the horizon for the R&D is shortening—i.e., spending for minor improvements on current products and not on game changing technologies. But the short-term theorists have not brought forth such evidence and, given the vibrancy of the venture capital industry, such evidence may well be hard to find.

Table 1: Ten Largest U.S. Nonfinancial Public Firms, by Stock Market Capitalization[77]

Rank	Company Name	Stock Market Capitalization (in Billions of Dollars)
1	Apple	1054
2	Amazon	947
3	Microsoft	868
4	Alphabet (Google)	812
5	Facebook	463
6	Johnson & Johnson	377
7	Exxon Mobil	354
8	Walmart	270
9	AT&T	245
10	Home Depot	241

The total 2017 earnings from these five companies were $101 billion.[78] Their stock was selling at a very high thirty-five times current earnings—showing a stock market confident in their future.[79] "[T]hose five made up 15% of the S&P's market value, more than the entire financial, health-care or industrial sectors."[80] Perhaps five is not enough, but this is not a vivid portrait of a stock market that shuns future-oriented innovation.

Moreover, there's a vibrant stock market in taking tech-oriented, research-oriented firms public. Bubbles in the dot-com boom of the 1990s and recently in biotech show a stock market *over*valuing the long term. That does not reflect a well-functioning market, but it's *not* short-termism. And as of 2018, "[b]iotech companies have been going public at earlier stages than in the past, sometimes without having a product or drug[.]"[81] Because private companies increasingly go public with weaker ongoing earnings,[82] U.S. stock markets could be supporting R&D, long-term investment, and risky innovative ventures more than ever.

* * *

77 NASDAQ, https://www.nasdaq.com/screening/companies-by-industry.aspx?&sortname= marketcap&sorttype=1 (last visited Sept. 19, 2018).

78 Alphabet Inc., Annual Report (Form 10-K), at 25 (Dec. 31, 2017); Amazon.com, Inc., Annual Report (Form 10-K), at 18 (Dec. 31, 2017); Apple Inc., Annual Report (Form 10-K), at 21 (Sept. 30, 2017); Facebook Inc., Annual Report (Form 10-K), at 32 (Dec. 31, 2017) ($16 billion); Microsoft Corp., Annual Report (Form 10-K), at 27 (June 30, 2017).

79 This ratio is calculated by dividing the total market capitalization of the five companies, $3.5 trillion, by the firms' total earnings of $101 billion. A simple average of the separately calculated price-to-earnings ratios would yield a higher ratio of seventy, because Amazon's price to earnings ratio is unusually high, but is diluted when earnings and price are aggregated.

80 James Mackintosh, *Beware a Tectonic Shift in Tech Shares*, WALL ST. J., Mar. 30, 2018, at B1.

81 Gregory Zuckerman, *Biotech Boom Ushers in $3 Million Analyst*, WALL ST. J., Aug. 30, 2018, at A1.

82 Kaplan, *supra* note 75, at 119-20, confirms more rigorously, using data from Jay R. Ritter, *IPO Data*, WARRINGTON COLLEGE OF BUS. https://site.warrington.ufl.edu/ritter/ipo-data/ [https://perma.cc/8FQN-CT7N], that the IPO's overall now happen at an earlier stage in a company's profitability.

Two of the big five's founding shareholders have extra votes[83] that lock in their control (of Google and Facebook). Similarly, some firms go public with this control structure in place. Thus the insiders could resist stock market pressure if a low stock price (due to the firms being long-term-oriented) pressed them to drop long-term projects. But the firms' stock price is high, not low; these two companies (and the three without insider voting bonuses) are well supported by the stock market, not scorned.[84]

* * *

More prosaically, oil companies invest in oil fields that will produce for multiple decades.[85] These firms are mostly public firms with scattered, trading stockholders. At the same time, the bond market has historically had little problem making long-term financing commitments to much of the American economy.[86]

The point here is not that financial markets are perfect, or even good. Surely some firms are afflicted by short-termism. Plenty of evidence points to financial markets' other defects: persistent financial irrationality,[87] prices deviating from fundamental value for long periods,[88] major arbitrage failures with similar investments trading at different values for long periods,[89] and a financial sector plagued intermittently by massive frauds. Financial markets are plausibly too large and seen in new work to be the means for cartel-like price coordination.[90] The biotech and dot-com bubbles tell us that the stock market can grossly *over*value the long term. These are all problems, but they are not *short*-term problems.

Overall, this does not seem like a stock market unable to support long term–oriented firms.

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83 *See Dual Class Companies List*, COUNCIL OF INSTITUTIONAL INVEST., https://www.cii.org/files/JuneBoard%20Accountability/Dual%20Class%20Company%20List%202018@20Dual%20Class20List%20Upgrade.pdf [https://perma.cc/7MGH-KJ5Y].

84 Dual class firms accounted for less than one-sixth of the R&D spending of the largest American R&D spenders. *See* Unpublished Appendix Table 1. Moreover, firms with lopsided insider votes do not do more R&D overall than firms with single class, one-share, one-vote structures. *See* Onur Arugaslan, Douglas O. Cook & Robert Kieschnick, *On the Decision To Go Public with Dual Class Stock*, 16 J. CORP. FIN. 170, 171 (2010). The voting structures do, however, lock in the controllers' control of the company.

85 BRIAN HICKS & CHRIS NELDER, PROFIT FROM THE PEAK: THE END OF OIL AND THE GREATEST INVESTMENT EVENT OF THE CENTURY 23 (2008).

86 *See* Cláudia Custódio, Miguel A. Ferreira & Luís Laureano, *Why Are US Firms Using More Short-term Debt?*, 108 J. FIN. ECON. 182, 211 (2013).

87 *See* John MAYNARD KEYNES, THE GENERAL THEORY OF EMPLOYMENT, INTEREST, AND MONEY 156-58 (1936) (offering up the beauty contest analogy). Keynes's evidence is as much assertion as discovery, but it is widely accepted.

88 *See* Malcolm Baker, Robin Greenwood & Jeffrey Wurgler, *Catering Through Nominal Share Prices*, 64 J. FIN. 2559, 2587 (2009).

89 *See* Markus K. Brunnermeier & Lasse Heje Pedersen, *Predatory Trading*, 60 J. FIN. 1825, 1827-28 (2005); Owen A. Lamont & Richard H. Thaler, *The Law of One Price in Financial Markets*, 17 J. ECON. PERSP. 191-200 (2003); Andrei Shleifer & Robert W. Vishny, *The Limits of Arbitrage*, 52 J. FIN. 37-38 (1997).

90 *See infra* note 106.

III. Why Economy-Wide Results Contradict Short-Term Theory

Why is the gap between economy-wide evidence and the wide belief in stock-market–driven short-termism so large?

First, even if firm-by-firm evidence showing short-term degradation is correct, other channels, like private equity or venture capital, sometimes do the job better. Or, second, an American R&D or a capital expenditures problem, if there is one, could emanate from another cause. Third, perhaps the stock market is not so short-term after all.

The fourth, final explanation is the most troubling. Maybe short-term rhetoric captures another underlying concept, namely the perception that financial markets and Wall Street are degrading too many people's well-being. For many employees and their political representatives, employment has become riskier while Wall Street does well. Too many people feel economically vulnerable. Short-termist rhetoric could channel angst that the economic world seems less stable and less fair.

Technological and competitive pressure disrupts lives more thoroughly than ever. The speed of change disorients, inducing a backlash and disappointment with the large corporation, a frustration that is misconceived of as stock-market–driven short-termism. I illustrate this tension by contrasting the thinking on economic change of two classic twentieth-century thinkers, Joseph Schumpeter and Karl Polanyi.

A. *Even If Pernicious Stock Market Short-Termism Is Prevalent*

1. *Closely held firms and private equity.* Innovation is often best done outside of public firms. Even if securities markets shortened public firms' time horizons, alternatives to stock markets are available: venture capital markets and private equity markets; privately held firms; government financing of long-term research. Short-termism could be a problem for one public firm or another, but not for the economy overall.

True, venture capital and private equity may still may not be long-term enough or big enough or always capable enough. And privately owned firms weaken as their founders age. Costs afflict repositioning R&D from public firms to Silicon Valley. Governments do much important R&D work, but governments make mistakes.

Yet these institutions, even if imperfect substitutes, can be big offsets. And moving R&D from large public firms to smaller, specialized firms is often a strength, not a second best. For some tasks, the public firm is too slow; in the pharmaceutical industry, smaller firms are thought more adept at the new "large molecule," biologic pharmaceutical research.[91] This shift would show up as declining R&D in big pharma, but not declining pharma research overall. "Larger firms are at a comparative disadvantage in conducting innovative research, because of the costs associated with managing a heterogeneous set of tasks."[92] And other public firm R&D spending persists but is not accounted for well: In some industries small firms do the new research forays. Public companies then buy (often with stock) the small firm or its research, and then develop, manufacture, and market it. Public firms and the stock market thereby pay, after the fact, for the R&D.

Private equity corrects some short-termism, to an uncertain degree. Posit a company that the quarterly oriented stock market makes too short term. Private equity holders, with much longer time horizons, could buy the company, take it off the public market, and reorient its business model toward the longer term. The private equity sector is large, with funds to invest approximating ten percent of the size of the public stock market.[93]

Firms that private equity takes private have increased patenting efforts in the target firm's core areas of strength.[94] Higher inside block ownership is also associated with more long-term investment.[95] Hedge fund ownership "promotes greater innovative activities and . . . better quality and higher impact innovation" than are found in firms lacking hedge fund ownership.[96]

2. *Stock market correctives.* If public firms err toward the short-term, investor funds could profit by placing longer-term bets and by developing credible means for holding on to profitable long-term ventures.

For example, if small holders find it not to be worthwhile to evaluate long-term, complex information, then the market has incentives to produce mechanisms and intermediaries that facilitate larger block holdings for longer

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91 *See* Ronald J. Gilson, Charles F. Sabel & Robert E. Scott, *Contracting for Innovation: Vertical Disintegration and Interfirm Collaboration*, 109 COLUM. L. REV. 431, 439-40 (2009); Walter W. Powell, Kenneth W. Koput & Laurel Smith-Doerr, *Interorganizational Collaboration and the Locus of Innovation: Networks of Learning in Biotechnology*, 41 ADMIN. SCI. Q. 116, 122-24 (1996); Weijan Shan, Gordon Walker & Bruce Kogut, *Interfirm Cooperation and Startup Innovation in the Biotechnology Industry*, 15 STRATEGIC MGMT. J. 387, 387-88 (1994) .

92 Bengt Holmstrom, *Agency Costs and Innovation*, 12 J. ECON. BEHAV. & ORG. 305, 305 (1989).

93 John C. Coates IV, *Thirty Years of Evolution in the Roles of Institutional Investors in Corporate Governance*, *in* RESEARCH HANDBOOK ON SHAREHOLDER POWER 79, 90 (Jennifer G. Hill & Randall S. Thomas eds., 2015).

94 *See* Josh Lerner, Morten Sorensen & Per Strömberg, *Private Equity and Long-Run Investment: The Case of Innovation*, 66 J. FIN. 445, 447 (2011) ("We find some evidence that patent portfolios become more focused in the years after private equity investments.").

95 *See, e.g.*, Jennifer Francis & Abbie Smith, *Agency Costs and Innovation: Some Empirical Evidence*, 19 J. ACCT. & ECON. 383, 406 (1995) (associating insider block ownership with greater innovation); James M. Mahoney, Chamu Sundaramurthy & Joseph T. Mahoney, *The Effects of Corporate Antitakeover Provisions on Long-Term Investment: Empirical Evidence*, 18 MANAGERIAL & DECISION ECON. 349, 350 (1997).

96 Ying Wang & Jing Zhao, *Hedge Funds and Corporate Innovation*, 44 FIN. MGMT. 353, 363 (2015).

time periods. Persistent rules and politics stymieing such efforts historically are plausible for the United States, which historically cut finance down and kept blockholders small and ineffective; these could be reconsidered.[97] But market incentives to counterbalance are there, even if imperfect.

3. *Stock market organizational correctives.* Ronald Gilson and Jeffrey Gordon have put forward the idea that the (purportedly short-term) hedge fund activists need more votes than they wield directly, to push boards and executives to change strategies.[98] The activists' need for votes tempers potential short-term tendencies[99] because the votes they need are in mutual funds and pension funds that hold their stock for the long term, like the growing index funds. These investors do not trade and would not support activist initiatives that would damage their stock, which they hold for the long run.

4. *Short-termism theory's predicates.* Perhaps the predicates to stock-market–driven short-termism are weaker than they are usually thought to be. Both trading and activist engagements have sharply increased over the past two decades, as Figures 1 and 2 illustrate. I accepted these as true because the initial data was supportive.

The big increase in trading in recent years comes from program traders, who use computer algorithms to trade much stock, often for only a few seconds. Meanwhile, America's core shareholders—mutual funds like Fidelity and Vanguard—have lengthened the duration of their stock holdings.[100] Program traders, however, are inert in corporate governance—they do not militate for short-term or any other corporate decisions. And the growing index funds that trade infrequently now own much more stock.

Moreover, much of the measured increase in trading during the past half-century came in the decade after 1975. Return to Figure 1: stockholding duration shortened sharply from 1975 to 1987 and then flattened. In 1975, the stock exchanges' high fixed commissions ended; trading costs declined dramatically and trading rose. Trading and holding duration, apart from the

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97 *See* MARK J. ROE, STRONG MANAGERS, WEAK OWNERS: THE POLITICAL ROOTS OF AMERICAN CORPORATE FINANCE 3-8 (1994); *cf.* Marcello Puca & Massimiliano Vatiero, Ownership and Innovation: Evidence from Switzerland 3 (Sept. 26, 2017) (working paper), available at www.ssrn.com/abstract=2739880 [https://perma.cc/7VPA-2QST] (noting that concentrating ownership encourages innovation in Swiss firms).

98 *See* Ronald Gilson & Jeffrey N. Gordon, *The Agency Costs of Agency Capitalism: Activist Investors and the Revaluation of Governance Rights*, 113 COLUM. L. REV. 863, 866-67 (2013).

99 *Id.* at 897-99.

100 *See* Jarrad Harford, Ambrus Kecskés & Sattar Mansi, *Do Long-Term Investors Improve Corporate Decision Making?* 50 J. CORP. FIN. 424, 428 (2018) (indicating that the volume of long-term investors has been steady over time); Roe, *supra* note 36, at 1000 ("Fidelity and Vanguard . . . have holding durations that have not budged since 1985."); Anne M. Tucker, *The Long and the Short: Portfolio Turnover Ratios & Mutual Fund Investment Time Horizons*, 43 J. CORP. L. 581, 583, 613 (2018); Paul H. Edelman, Wei Jiang & Randall S. Thomas, *Will Tenure Voting Give Corporate Managers Lifetime Tenure?* 28-36 available at ssrn.com/abstract=3107225 [https://perma.cc/KM2M-KFY6] (analyzing how high-frequency traders push up aggregate trading data).

program traders, has not dramatically changed in decades, making trading's impact on corporate time horizons questionable.

Activism as increasing could also be questioned. Prior to the rise of the activists, hostile takeovers were common. The takeover was a stock market pressure on public firm management similar to that which activists exert.[101]

Hence, we could be seeing little impact from an increase in American stock-market–driven short-termism, because basic trading and activism have shifted form, but not intensity or frequency. If roughly unchanged, the purported rise in stock market short-termism is weak—or is for the future.

5. *Hidden in the economy-wide data.* R&D is rising, but perhaps it should be rising even more, with stock market short-termism holding it back. And while buyouts, net of borrowings, are not draining the public firm sector of much cash, if there were no buyouts, perhaps cash from the borrowings would persist and firms, with even more cash than now, would spend more and spend wisely. Finally, although capital spending is declining all around the developed world and declined sharply in the United States during the 2007–2009 financial crisis, perhaps if the United States had no stock market short-termism, our decline would be less.

All these are logically possible. I leave it to the reader to assess whether they are likely and whether policymakers should act unless and until good evidence is brought forward that the aggregates do hide a true, major, and pernicious outcome. I have not seen this evidence.

B. *With Pernicious Stock Market Short-Termism Not Prevalent: Apple and Occam's Razor*

1. *Short-termism's theoretical underpinnings.* The disconnect could be due to weakness in stock market short-termism's underpinnings. Briefly, the thinking is that executives whose compensation is tightly tied to stock price seek to keep their current stock price high at the expense of longer-term stock price. Relatedly, executives fear their jobs will be threatened if stock price weakens in the short term. Lastly (and in my view most plausibly in principle), asymmetric information could induce executives to favor the short run: if shareholders, particularly smaller ephemeral shareholders, cannot process long-term information well, and rely on simple-to-understand quarterly results, then stock price will be weighted to this short-term information. Executives will manage accordingly.[102] Whether this channel is strong or weak is an empirical question; the fact that the impact of economy-wide short-termism is difficult to detect suggests that asymmetric information has only a modest economy-wide impact.

101 *See generally* Jensen, *supra* note 47, at 327.

102 Jeremy C. Stein, *Takeover Threats and Managerial Myopia*, 96 J. POL. ECON. 61 (1988).

2. *Occam's Razor.* I have until now in this article not formally picked sides in the debate as to whether activists induce more short-termism or more efficiency,[103] whether the quarterly focus is not as excessive as it's sometimes thought,[104] and whether rapid trading is a deep problem or just a sideshow.[105] I have instead pushed forward the thesis that the evidence seems more consistent with any negative effect being minor at the economy-wide level, or at least not yet shown to be major.

But the existing economy-wide data points to a winner in these disputes. It fits well with the activists not inducing widespread and inefficient short-termism,[106] with a quarterly focus not being particularly damaging, and with program traders as being a sideshow. The view that Part I's "Type A" short-termism, which shortchanges long-term shareholders for the profit of short-term shareholders, is strong would be false.

3. *Product market competition.* Product markets are more concentrated in the United States than before.[107] Weak competition could produce weak investment in long-lived assets and, with profit high in recent years, low investment in long-lived assets has weak competition as a plausible cause, more plausible it seems than stock-market–driven short-termism. (A monopolist or oligopolist contrives scarcity, to raise prices.) Such a weakening of R&D and capital expenditures from weakened competition is regrettable but is not due to trading or horizon-shortening activism. Short-term theory looks to change *stock* trading frequency and reduce activism; but, if industrial

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103 *Compare* Bebchuk, *supra* note 39, *and* Swanson & Young, *supra* note 39, *with* Cremers et al., *supra* note 40, *and* Memorandum from Martin Lipton, Wachtell, Lipton, Rosen & Katz, Bite the Apple; Poison the Apple; Paralyze the Company; Wreck the Economy (Feb. 22, 2013), available at http://www.wlrk.com/webdocs/wlrknew/WLRKMemos/WLRK/WLRK.22303.13.pdf [https://perma.cc/UBT6-TFR9].

104 *Contra* Dominic Barton, *Capitalism for the Long Term*, HARV. BUS. REV., Mar. 2011.

105 *See* Roe, *supra* note 36, at 998-1001 (discussing how program traders inflate turnover and showing that the duration of investment of core American shareholders, like Fidelity and Vanguard, has stayed steady in recent decades).

106 *See* Harford, Kecskés & Mansi, *supra* note 100, at 448 (concluding that *long-term* investors, not short-term investors, induce firms to invest less and pay out more, thus *reducing* corporate waste and generating less but better R&D spending results); Zhongzhi He, Jiaping Qiu & Tingfeng Tang, Hedge Fund Activism and Corporate Innovation 31 (2014) (working paper), available at www.ssrn.com/abstract=2411739 [https://perma.cc/PE75-YDSV] (finding improved R&D output with hedge fund activism).

107 *See* Einer Elhauge, *Horizontal Shareholding*, 129 HARV. L. REV. 1266, 1268-69 (2016); Gustavo Grullon, Yelena Larkin & Roni Michaely, Are U.S. Industries Becoming More Concentrated? 1 (2017) (working paper), available at www.ssrn.com/abstract=2612047 [https://perma.cc/5Gt5-2W3A]; *see also* Jose Azar, Martin C. Schmalz & Isabel Tecu, *Anti-Competitive Effects of Common Ownership*, J. FIN. 1, 6 (2018); Germán Gutiérrez & Thomas Philippon, *Investmentless Growth: An Empirical Investigation*, BROOKINGS PAPERS ON ECON. ACTIVITY, Fall 2017, at 89 (2017) (finding decreased product market competition could induce less investment); Lawrence J. White & Jasper Yang, *What Has Been Happening to Aggregate Concentration in the U.S. Economy in the 21st Century* 1-2 (Mar. 30, 2017) (NYU Working Paper), www.ssrn.com/abstract=2953984 [https://perma.cc/CZ28-X4JL].

concentration is the source of a low investment problem, dampening stock market trading or giving executives more authority would fix little and could damage much. Revamping the government's merger and monopolization policies would be the right policy initiative. Misattributing the cause to stock market short-termism will lead to unfit policy solutions.

C. *Limits, Partial Results, and Economy-Wide Fundamentals*

1. *Limits: judges still must decide.* This economy-wide approach has limits. First, it does not give judges a full metric for decisionmaking; it tells them to be wary of worrying that the stock market is inducing economy-wide short-termist results, without telling them how to handle local controversies with short- and long-term implications for a particular company.

Recall the earlier distinction between: (1) hedge funds forced this firm, or this class of firms, to be too short-term and (2) hedge fund activism is seriously harming the economy by making it too short-term. Firm-by-firm inquiries tell us something about proposition (1), but much less about proposition (2). But judges decide cases involving proposition (1), not (2).

2. *Limits: research methodology, partial impact, and the burden of proof.* The broad data could still embed stock market short-termism, as I have stated. Perhaps it rests beneath the rising total. Perhaps R&D is not rising enough or perhaps it's the wrong kind of R&D—too short term and not transformative, long-term R&D. But this has not been shown. Similarly, perhaps American public firms, pressured by the stock market, skewed their capital equipment toward short-lived, quick-return machines, although the data suggests otherwise.[108]

3. *Multiple causes.* Short-term theorists have a third response: Short-termism has many causes. Perhaps the stock market is not the most important cause, they might concede. But it contributes. Something must be done about it, especially if the other causes are out of reach.

This argument is wrong. The economy-wide data means one cannot even be confident that stock-market–driven short-termism is a problem.

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108 The data on capital spending shows its duration is not shortening. *See infra* Appendix Figure 9. I deemphasize this aspect here, because it is not core to the short-term theory and, as far as I know, no short-term theorist has brought forward the idea or the supporting data. But if the idea is brought forward, it would have to contend with the initial look at the data, which does not show capital equipment's expected life shortening over time.

Stephen Terry extrapolates from earnings management an R&D-induced .1% reduction in annual economy-wide growth. *See* Stephen Terry, The Macro Impact of Short-Termism (unpublished manuscript 2015), available at http://economics.mit.edu/files/10386 [https://perma.cc/9Q5K-VQTZ]. But, as he indicates, the firms reducing R&D could be those in need of managerial disciplining. *Id.* at 32. Also, the paper reaches its conclusion by assuming that short-term pressures in private firms are the same magnitude as in public firms, *id.* at 27, an idea that fits best with short-termism not emanating primarily from the stock market.

The story is similar with buybacks as draining cash. The public firm in the 1970s and 1980s hoarded cash, and when it spent the money, it often spent that cash on nonviable projects, like buying companies that were poor long-run corporate fits, leading to overly large firms that were later broken up.[109] Anti-buyback policies aiming to reduce short-termism could recreate that unwanted result.

4. *Economy-wide fundamentals: mismeasuring assets in a post-industrial information economy.* The world's wealthiest economies are shifting from hard asset manufacturing to information-based economies. That shift predicts more R&D and less spending on manufacturing assets, both of which we see in this article's data. In retailing, brick-and-mortar physical stores are disappearing; instead, online distribution is growing. Information technology's capacity to get more out of existing capital contributes to declining capital investment around the world.[110] Intangibles are more important relative to hard assets in today's economy than they once were.[111] Intangibles were one-tenth of public firms' assets in 1970 and 50% of assets by 2010.[112] Private firms could well manage intangibles better than public companies.[113]

5. *More fundamentals: secular stagnation and stalling innovation.* Secular stagnation has been brought forward to explain declining capital investment by Lawrence Summers.[114] Secular stagnation sees macroeconomic characteristics and cheaper capital equipment leading to high savings but low investment.

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109 Jarrad Harford, Mark Humphery-Jenner & Ronan Powell, *The Sources of Value Destruction in Acquisitions by Entrenched Managers*, 106 J. FIN. ECON. 247, 248 (2012) ("The post-merger operating performance for acquisitions by entrenched managers is worse than for others. . . ."). *Contra* Asli M. Arikan & René M. Stulz, *Corporate Acquisitions, Diversification, and the Firm's Life Cycle*, 71 J. FIN. 139, 140 (2016); Jensen, *supra* note 47, at 328.

110 *See* Tim Worstall, *Declining Capital Investment No Problem in a Digital Economy*, COMPUTERWEEKLY.COM (Nov. 2015), www.computerweekly.com/opinion/Declining-capital-investment-no-problem-in-a-digital-economy [https://perma.cc/V2V3-JTH3] (explaining that the capital to set up an internet company "can be hired for peanuts").

111 *See* JONATHAN HASKEL & STIAN WESTLAKE, CAPITALISM WITHOUT CAPITAL: THE RISE OF THE INTANGIBLE ECONOMY 7, 24 (2018); Gutiérrez & Philippon, *supra* note 107; Robin Döttling & Enrico C. Perotti, Secular Trends and Technological Progress 1 (June 2017) (working paper), available at www.ssrn.com/abstract=2996998 [https://perma.cc/TTX7-8F7M].

112 *See* Antonio Falato, Dalida Kadyrzhanova & Jae W. Sim, Rising Intangible Capital, Shrinking Debt Capacity, and the US Corporate Savings Glut 8, 41 (Fed. Res. Bd. Working Paper No. 67, 2013), www.federalreserve.gov/pubs/feds/2013/201367/201367pap.pdf [https://perma.cc/XK5R-LT26].

113 Craig Doidge, Kathleen M. Kahle, G. Andrew Karolyi & René M. Stulz, *Eclipse of the Public Corporation or Eclipse of the Public Markets?*, available at www.ssrn.com/abstract=3100255 [https://perma.cc/97RC-5WCR]. Industrial manufacturing became less important in the S&P 500 over the decades, while services and technology have become more so. To see whether changed composition is the primary explanation for the decline in capital expenditures and rise in R&D, the measures were redone, with initial sector weighting held constant; then the two were rescaled with the final sector division used. The trend—R&D up, capital expenditures down—persisted; the slope changed.

114 Lawrence H. Summers, *The Age of Secular Stagnation: What It Is and What to Do About It*, FOREIGN AFF. Mar.–Apr. 2016, (seeing secular stagnation and declining investment as "an imbalance resulting from an increasing propensity to save and a decreasing propensity to invest").

Robert Gordon reaches the same conclusion via a different channel: no new productivity technologies were strong enough in recent decades to generate a burst in capital spending.[115] Good technological ideas are getting harder and more expensive to find.[116] (I do not here say that these assuredly explain rising R&D and declining capital investment around the world; rather, they explain these trends better than does stock market short-termism.)

If a more basic economic imperative compels less capital equipment—an IT economy, more efficient use of equipment in place, lower cost capital goods, a lack of game-changing innovations, or secular stagnation—then activist investors could be aligning public firms with the underlying economic phenomenon and not be causing the change. Focusing on stock market short-termism could again have us pursuing an economically damaging remedy when the real problem lies elsewhere.

D. *Political and Social Reasons Why, Regardless of Prevalence: Schumpeter v. Polanyi*

Technological change and competitive pressures are sharper and deeper in the twenty-first century than ever before. What critics see as short-termism could be the consequence of disruptive technologies now coming every five years instead of every five decades, of government policy changes being deeper than ever, and of global markets now continually disrupting firms.[117]

This view can be expanded. What if productivity and technological upheavals demand that more economic decisions *should* be made for the short-run? What if technological change is so quick that many business sectors should *not* invest for multi-decade returns? Flexibility and adaptability may be more important than ever before. If so, the economy may pressure corporate executives more strongly to adapt than ever.

The body of this Article has examined whether stock-market–driven short-termism has been misanalyzed economically, because economy-wide consequences are hard to find. Stopping there would miss a more severe and more difficult-to-handle problem: *what if this conclusion were irrelevant to the backlash against disruption and disorientation* but arises from the political conditions of our time? Accelerating change, technological and otherwise, probably makes it *more* efficient than ever for more investments and decisions to be nimble,

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115 *See* ROBERT J. GORDON, THE RISE AND FALL OF AMERICAN GROWTH 2, 566-68, 574-76 (2016) (seeing a paucity of game-changing productivity-improving innovation in recent decades).

116 Nicholas Bloom, Charles I. Jones, John Van Reenen & Michael Webb, Are Ideas Getting Harder to Find? 46 (Mar. 5, 2018) (working paper), available at https://web.stanford.edu/~chadj/IdeaPF.pdf [https://perma.cc/D6HS-GC4M] ("Our robust finding is that research productivity is falling sharply everywhere we look"). This explanation fits awkwardly with the technological acceleration explanation.

117 For globalization and corporate governance, see generally Jonathan Macey, *Their Bark is Bigger Than Their Bite: An Essay on Who Bleeds When the Wolves Bite*, 126 YALE L.J. F. 526 (2017).

adaptable, and not set in concrete. This renders employees' economic security riskier. This uncertainty disrupts the workplace, ruins employees' careers, and then spills into the polity, with "short-termism" becoming a part of the rhetoric against change. If firms adapt rapidly and people are hurt and recurringly disoriented, those damaged and those representing them in the polity will react. They may not particularly care whether the disruptive change is efficient overall. They dislike it regardless and call it "short-termism."[118]

"Short-termism" in political rhetoric[119] then may be driven primarily by the view of ordinary people, and their political avatars, that Wall Street and stock markets are enriching the few and disrupting the many. With castigating stock market "short-termism" rhetorically legitimated by respected businesspeople,[120] the phrase became a politically acceptable way to attack twenty-first century capitalist disruption. Lawmakers who excoriate stock market short-termism typically see vulnerable employees and stakeholders as victims of a Wall Street casino. Vice President Joe Biden's earlier-cited disquisition on stock market short-termism, published shortly after he had considered a presidential run, concluded that "most of the harm is borne by workers."[121] Senators lamenting investor short-termism see it as costing factory workers their jobs.[122] Policy think tanks that worry about short-termism quickly turn to the concomitant harm to employees and other corporate stakeholders.[123] They are not concerned with the damage a myopic stock market does to stockholders, but the impact on employees and corporate stakeholders.

Disruption generates backlash.

1. *The accelerating velocity of technological change and corporate turnover.* Consider Figure 10 and the time needed for technologies like the telephone, the radio, the personal computer, the cell phone, and Internet access to spread: nearly three-quarters of a century for the telephone to reach half of

118 In this view, Part I's Type A short-termism is false: long-term stockholders profit from rapid adaptation. But Type B short-termism is here the core disruptive issue: the rapid change alters too many employees' work lives for the worse to be left politically uncontested.

119 *See* sources cited *supra* notes 19–24 (describing views on short-termism taken by prominent political figures).

120 *See* Lipton, *supra* note 42 (arguing that short-termism's harms are significant); *see also* Dimon & Buffett, *supra* note 16 (same).

121 Biden, *supra* note 19.

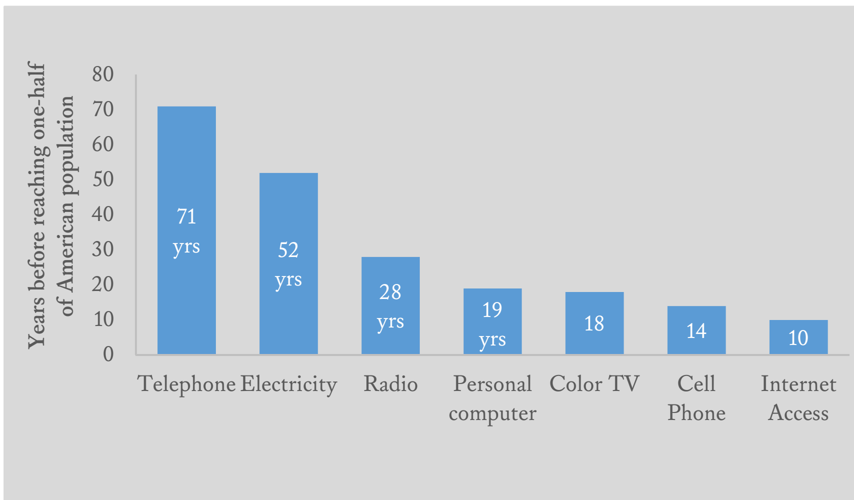
122 Senators Baldwin & Merkley, *supra* note 21 ("We cannot allow our economy to be hijacked by a small group of investors who seek only to enrich themselves at the expense of workers, communities, and taxpayers.").

123 MIKE KONCZAL, J.W. MASON & AMANDA PAGE-HOONGRAJOK, ENDING SHORT-TERMISM: AN INVESTMENT AGENDA FOR GROWTH 16-18 (Nov. 6, 2015), www.rooseveltinstitute.org/wp-content/uploads/2015/11/Ending-Short-Termism.pdf [https://perma.cc/D5XJ-G7MH] (arguing that adding worker directors could combat short-termism); THE ALL-PARTY PARLIAMENTARY CORP. GOVERNANCE GRP., PROMOTING LONG-TERM WEALTH: RESHAPING CORPORATE GOVERNANCE 3 (2017), https://tomorrowscompany.com/wp-content/uploads/2017/01/Promoting-long-term-wealth.pdf [https://perma.cc/8XZX-UUNN] (arguing that stakeholder voice protects shareholders from short-termism).

the population; a quarter of a century for the next mass technology, the radio; and nearly 20 years for the personal computer. A decade for the internet.

The number of patents has tripled in the past twenty-five years, as Figure 9 showed. And 94% of the responding Fortune 500 CEOs agreed with the statement: "My company will change more in the next five years than it has in the last five years," with 72% seeing the rapid pace of technological innovation as among the handful of the company's biggest challenges.[124]

Figure 10: The Accelerating Rate of Diffusion of New Technologies[125]



The same phenomenon, seen analogously: "In the nineteen-twenties, an engineer's 'half-life of knowledge'—the time it took for half of his expertise to become obsolete—was thirty-five years. In the 1960s, it was a decade. Now it's five years at most and, for a software engineer, less than three."[126]

Corporate turnover is accelerating as well. The number of new firms rose until 2006, took a break during the financial crisis, and then started rising again, reaching its historical high by 2015.[127] The average duration of a firm

124 *2015 Fortune 500 CEO Survey*, FORTUNE (June 4, 2015), www.fortune.com/2015/06/04/fortune-500-ceo-survey/ [https://perma.cc/8Z2Q-UR3V].

125 ADAM THIERER & GRANT ESKELSEN, MEDIA METRICS: THE TRUE STATE OF THE MODERN MEDIA MARKETPLACE 18 (PROGRESS & FREEDOM FOUND., 2008); Michael J. Mauboussin & Dam Callahan, *A Long Look at Short-Termism: Questioning the Premise*, 27 J. APPLIED CORP. FIN. 70, 72 (2015).

126 Tad Friend, *Getting On*, NEW YORKER, Nov. 20, 2017, at 46.

127 ENTREPRENEURSHIP & THE U.S. ECONOMY, U.S. BUREAU LAB. STAT. (2016), https://www.bls.gov/bdm/entrepreneurship/entrepreneurship.htm [https://perma.cc/BHZ3-JH8W].

in Standard & Poor's list of the 500 largest firms is shortening.[128] "[P]ublic companies are perishing sooner than ever before."[129] In 1970, the average life span of all corporations listed on stock exchanges was about a half-century, while by 2010 the life span had halved.[130] "[B]usinesses move [through] their life cycles twice as quickly as they did 30 years ago."[131]

2. *Creative destruction.* Creative destruction is, in Joseph Schumpeter's classic formulation, the crux of market capitalism:

> Capitalism . . . never can be stationary. . . . The fundamental impulse that sets and keeps the capitalist engine in motion comes from the new consumers' goods, the new methods of production or transportation, the new markets, the new forms of industrial organization that capitalist enterprise creates.
>
> . . . The opening up of new markets, foreign or domestic, and the organizational development from the craft shop and factory to such concerns as U.S. Steel illustrate the same process of industrial mutation—if I may use that biological term—that incessantly revolutionizes the economic structure *from within*, incessantly destroying the old one, incessantly creating a new one.[132]

The United States, more than any other major economy, has let the forces of creation and destruction operate in the economy. But there comes a rate of destruction that is too fast and too severe for the body politic to absorb.

3. *Employment uncertainty.* The average person is insecure about his or her job and career. Many skills have an ever-shortening half-life.

Phenomena that disrupt people's jobs will not always be taken in stride. Some want to block or slow down that change, criticizing it as short term. Technology is predicted to make employment even more insecure in the United States, with automation displacing nearly forty million workers and prompting fifteen million to change occupations—disrupting about a quarter of the workforce.[133]

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128 *Creative Destruction Whips through Corporate America*, INNOSIGHT (Feb. 2012), https://www.innosight.com/wp-content/uploads/2016/08/creative-destruction-whips-through-corporate-america_final2015.pdf [https://perma.cc/GYK3-LSJP].

129 Martin Reeves & Lisanne Pueschel, *Die Another Day: What Leaders Can Do About the Shrinking Life Expectancy of Corporations*, BCG PERSP. (Dec. 2, 2015), http://img-stg.bcg.com/BCG-Die-Another-Day-Dec-2015_tcm9-76807.pdf [https://perma.cc/A6YU-U5RY].

130 *Id*. at 3, ex. 1 (juxtaposing the increasing lifespan of humans against the decreasing lifespan of public companies).

131 *Id*. at 2.

132 JOSEPH A. SCHUMPETER, CAPITALISM, SOCIALISM AND DEMOCRACY 82-83 (Routledge Classics 1994) (1942) (footnote omitted).

133 MCKINSEY GLOBAL INST., JOBS LOST, JOBS GAINED: WORKFORCE TRANSITIONS IN A TIME OF AUTOMATION 102-03 (2017), https://www.mckinsey.com/~/media/McKinsey/Featured%20Insights/Future%20of%20Organizations/What%20the%20future%20of%20work%20will%20mean%20for%20jobs%20skills%20and%20wages/MGI-Jobs-Lost-Jobs-Gained-Report-December-6-2017.ashx [https://perma.cc/2P7C-UGU2].

4. *Material interests.* Important players have an economic interest in policymakers accepting short-term theory. Executives and boards of directors gain from short-term theory as an analytic lever to reduce the power of activists and shareholders. Employees whose jobs would be disrupted by change also have an interest in slowing down corporate change. Repetition of a plausible theory that fits one's interests can engender deep belief in that theory.

5. *Public opinion.* Public opinion separately explains short-termism's pull. Attacking short-termism appeals to the average citizen's aversion to Wall Street.[134] Across the polity, 58% of America thinks that Wall Street harms the economy more than it helps it.[135] A loose coalition unites under the banner of short-termism, with its constituents' underlying goals differing: for executives, the question is who should have authority in the firm, shareholders or executives; for the broader polity, the question is whether businesses and Wall Street are helping or hurting the average person.

The American populace has long distrusted Wall Street and finance, often manifesting this by keeping finance broken up and reducing its power to act on industry.[136] The short-term debate is partly its latest manifestation.

6. *Polanyi's popular revolt against the market.* This tension is not new and is fundamental to capitalism. Since Karl Polanyi's *Great Transformation*, a thick strand of analysis has been on how markets are politically-constructed and can destabilize the polity, because markets and the polity must fit. If too much of a democratic polity dislikes the results that markets bring—uncertainty, job shifts, job losses—then the market's sharp edges must be rounded off for political stability, usually via social stabilizers, like social security and workplace rules.[137] The political rhetoric of short-termism subsumes much of this sensibility.

> Not economic exploitation, as often assumed, but the disintegration of the cultural environment of the victim is then the cause of the degradation. The economic process may, naturally, supply the vehicle of the destruction, and almost invariably economic inferiority will make the weaker yield, but the immediate cause of his undoing is not for that reason economic; it lies in the lethal injury to the institutions in which his social existence is embodied. The

134 Philip Bump, *Shock Poll: Everyone Hates Wall Street*, WASH. POST, June 30, 2016; *cf.* Jim Lardner, *Americans Agree on Regulating Wall Street,* U.S. NEWS & WORLD REP. (Sept. 16, 2013), https://www.usnews.com/opinion/blogs/economic-intelligence/2013/09/16/poll-shows-americans-want-more-wall-street-regulation-five-years-after-the-financial-crisis [https://perma.cc/6HM5-6W5N] (finding that "[r]egulating financial services and products is seen as either 'important' or 'very important' by more than 90 percent of voters . . . ."); Eric Orts, *A Stock Market for the Rich*, LINKEDIN (Feb. 3, 2018), https://www.linkedin.com/pulse/stock-market-rich-eric-orts/) [https://perma.cc/3EGY-WX3T] (arguing that "the stock market has become a vehicle too much composed and tilted toward the interests of the very rich").

135 *Id*.

136 ROE, *supra* note 97.

137 KARL POLANYI, THE GREAT TRANSFORMATION: THE POLITICAL AND ECONOMIC ORIGINS OF OUR TIME 75-80, 136-39, 151-55, 185-86, 210-12, 260 (1944).

> result is loss of self-respect and standards, whether the unit is a people or a class, whether the process springs from so-called culture conflict or from a change in the position of a class within the confines of a society.[138]

Or, summarized: "Polanyi got . . . the big picture right. Democracy cannot survive an excessively free market . . . ."[139] Polanyi's process maps onto this view of short-termism as a reaction to disorienting change as much as an analysis of stock market economics of the time-efficiency of investments.[140]

* * *

One explanation for the disconnect between hard evidence and wide belief is that repetition from self-interested corporate elites seeds discourse in the media and in politics, so that the view is taken as probably true. Examples are vivid and to many prove the point. Second is a popular animus against Wall Street, which is doing the trading—and a sense that a powerful Wall Street is not benefiting the average person or the economy. And the third possibility is the self-interest of those who would be displaced and fear change. Combine the three and we see an idea whose time has come.

CONCLUSION

The short-termism inquiry has become a vital part of corporate law and governance in the past decade, engaging academics, judges, and lawyers; it is one of the few corporate law issues that spills over into national politics and the nonbusiness media. Most media and political commentary see corporate short-termism as widespread, debilitating affected firms, and pernicious for the economy overall, as corporate America cuts R&D, cripples itself by wasting cash in excessive stock buybacks, eats away at its own foundations by failing to invest in new capital and equipment, and fails to support future-oriented firms.

Academic analyses are more mixed, but to a distant reader will seem inconclusive: a study showing that activists do not destroy long-term value is countered by one showing the contrary; a study showing that institutional investors do not undermine R&D is rejected by one saying the opposite. Hence, we turned here, and I believe this is the first effort to do so systematically, to see whether the pernicious economy-wide outcomes that short-term theory posits are afflicting the American economy can be found.

They cannot be found in the data. Capital expenditure is down since the 2008–2009 recession, but it is also down around the developed world. And it

138 *Id.* at 164-65.

139 Robert Kuttner, *The Man from Red Vienna*, N.Y. REV. BOOKS, Dec. 21, 2017, at 55, 57 (book review).

140 *Cf.* MARK J. ROE, POLITICAL DETERMINANTS OF CORPORATE GOVERNANCE 116-41 (2003); Jeffrey N. Gordon, *Corporations, Markets, and Courts*, 91 COLUM. L. REV. 1931, 1972-74 (1991); Mark J. Roe, *Backlash*, 98 COLUM. L. REV. 217, 217-19 (1998).

is down for nations that use stock markets as a major source of corporate financing and for those that do not. Moreover, American factory utilization is in 2018 still low compared to historic norms: the decade after the 2008–2009 U.S. recession has not been propitious for strong capital investment. Stock buybacks are up, but so is corporate borrowing, with the cash inflow and outflow roughly netting out; historically low interest rates explain why large firms have been substituting borrowings for stock. Research and development is not declining in the American economy. Nor is it declining in the 500 largest nonfinancial firms over the last several decades when shareholder activism rose to prominence and rapid trading accelerated. Maybe there should be more R&D, but that has not been shown. The largest American firms by stock market capitalization are tech-based, innovation-oriented companies.

Thus the big four consequences of stock market short-termism brought forward previously are either contradicted (buybacks draining cash, stock markets shunning long-term firms), better explained otherwise (declining capital expenditures), or without supporting economy-wide data (R&D).

Those promoting the short-term theory seek major policy changes because, they assert, stock market short-termism is harming the overall economy. These policy changes could be costly, could harm other economic channels, and, even if there is a capital spending, R&D, or cash problem, focusing on a falsely accused stock market, if stock markets are not the source of any underlying problems, could leave the real culprits to roam the economy, doing damage.[141] Declining competition, for example, is an alternate explanation. But the economy-wide approach does tell us that the proponents of stock-market–driven short-termism have not yet made their case that stock-market–driven short-termism is seriously damaging the economy. Burdens of proof are well known to lawyers. If one recommends policy changes based on a detrimental economy-wide impact, one should bring forward evidence of its economy-wide presence, power, and perniciousness. Not only has this not been done, but the broad evidence points to the contrary.

Worse yet, seeing R&D degradation, buybacks, and capital spending as assuredly affecting the economy faces serious conceptual difficulties. A local degradation could be offset elsewhere in the economy and often is. Venture capital and private equity firms profit by picking up public firm slack (in R&D); reallocating cash from older to younger sectors is good not bad (buybacks); and a post-industrial economy has less reason to invest in hard assets than an industrial economy (capital expenditures). While it is too high a burden of proof to ask proponents of wide stock-market–driven short-termism

141 Some short-term critics' recommendations, such as greater board accountability, enhanced disclosure, and tightening gaps in buyback regulation, are worthy objectives. But they do not need stock market short-termism for justification. ASPEN INST., *supra* note 10, at 3.

to show an impact on GNP, it is not too much to want to see an impact on the intermediate channels through which stock market short-termism is said to harm GNP. That has not been forthcoming. The economy-wide look reveals as good or better a fit with functional capital markets moving cash out from older firms and into younger ones, and in putting innovation into private organizations that may well innovate better than large public firms.

Overall, first, the decline in capital expenditure is better explained otherwise than by stock market short-termism, cash is not draining from corporate America by buyouts or otherwise, data showing an economy-wide hit to R&D has not been forthcoming. Second, firm-by-firm data points to (but is not analyzed here) the likelihood that the stock market is not driving firms overall to excessive short-termism. And, third, the logic of market organization points to most stockholders as wanting long-term value; plenty of players make money by finding long-term valuable investments; a long-term profitable investment produces more value overall than forgoing that investment. This is tautological but fundamental; hence, there will always be some pressure to revert to the long-term and some players that favor doing so, because there is more total money and incentive for long-term investment. Positional roadblocks disrupt these overall incentives but do not repeal them. Fourth, the logic of market organization with two industries—venture capital and private equity—often doing the job better than public firms limits economy-wide costs from stock market short-termism; some firms lose, but oftentimes not the economy overall. And, fifth, the success of long-term, technologically oriented companies like America's big five—Amazon, Apple, Facebook, Google, and Microsoft—tell us that short-termism cannot be corrosively destructive everywhere in the American stock market.

All told, the stock-market–driven short-termism story is weak.

What explains the discrepancy between (1) the broad, economy-wide data, on the one hand, and (2) the micro, firm-by-firm mixed message combined with the widespread belief in short-termism having a pernicious economy-wide impact on the other hand? A strong possibility is that as long as wide sectors of the economy can compensate for any stock market short-termism with their own long-termism, then the economic damage from stock market short-termism, if it exists, is minor.

A simple explanation is that those firm-by-firm micro studies that show short-termism not to be a problem, and to often be an economic benefit, may be correct, with the contrary studies less important. Perhaps the short-termist idea is overblown, pushed rhetorically by corporate executives and their representatives as justifying according executives and boards yet more autonomy from shareholders. Executives have self-interested reasons to push the short-termism story, as it justifies more executive autonomy and less power for shareholders.

Short-termism theory also serves executives in deflecting blame. The polity distrusts large corporations, seeing them as not run for the average person and as a means to perpetuate a wealthy elite, while often stifling employees, customers, and society overall. The short-termist argument allows executives to deflect those charges and point a finger at Wall Street: "We're not the problem," they can say. "It's the short-term traders and the activist shareholders that prevent us from being the good guys we'd really otherwise be. Our hands are tied."

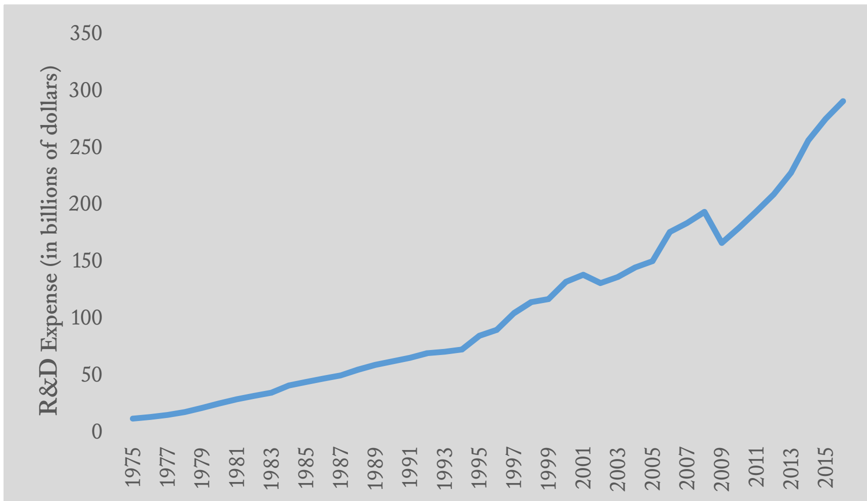
Another but subtle self-interested channel is in play. The ideology of short-termism gives believing executives a coherent world view. They are not being selfish when seeking power to elide shareholders and diminish shareholder authority inside the corporation; they are doing the right thing for the economy and society. It is not self-aggrandizement. Ideological coherence—the banishment of self-doubt—provides its own source of managerial power.

A more insidious and destabilizing version of this political thesis has not yet been vividly raised. Stock markets could have become *efficiently* more short-term because product cycles are shortening, technology is changing more rapidly than ever, and the impact of that technological change is wider, deeper, and more disruptive than before. These market forces are channeled into and through the corporation, which cannot or at least does not provide security for its constituents. But even if this efficiency dynamic is true—and to be transparent, I believe it to be largely true—understanding that truth will not end the problem: whether it's efficient or not, people whose working lives, personal lives, and sense of self are disrupted by workplace change and made vulnerable will react. They often blame markets, financial and otherwise. This short-termist criticism is thus in this sense accurate: markets caused the disruption, *irrespective of* whether markets were efficiently or inefficiently short term. Fear of short-termism is a tool to attack the shareholder-oriented, profits-based goals of the large corporation. Those affected react politically and can conveniently, even if inaccurately, call the problem stock market "short-termism."

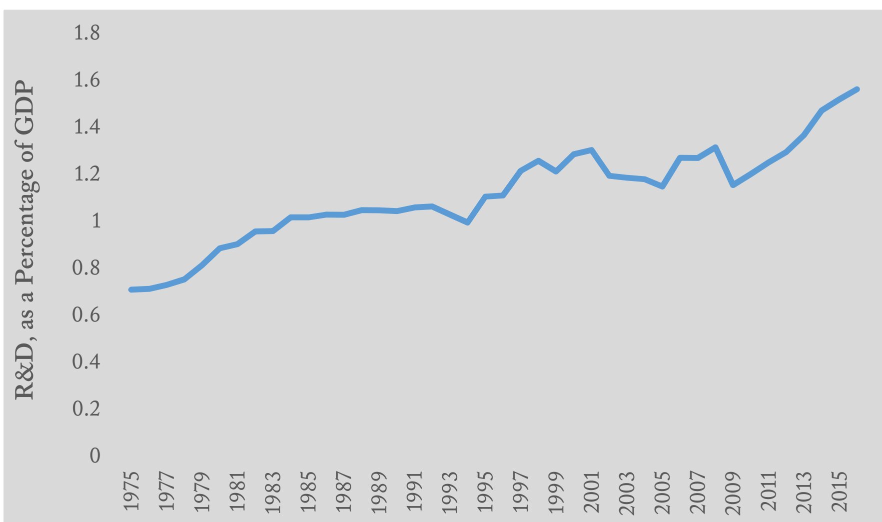
But this possibility would mean that the truth or falsity of the stock market short-termist idea is politically and socially unimportant. Even if change brings about economic progress overall, that overall progress fails to comfort those who lose from the transformed economy. We thus have more than a simple interpretive problem at hand—does the evidence support short-termism as perniciously coming from excessive stock market trading?—but serious conflict. And it may well be serious conflict that will not abate.

Appendix

Appendix Figure 1: R&D Expenditures in the Non-Financial S&P 500, 1975–2016[142]



Appendix Figure 2: R&D in the Non-Financial S&P 500, Scaled by GDP, 1975–2016[143]



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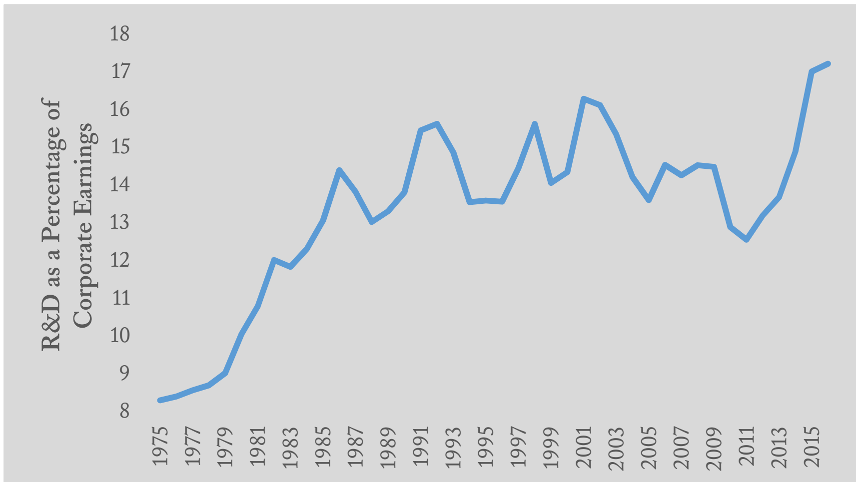
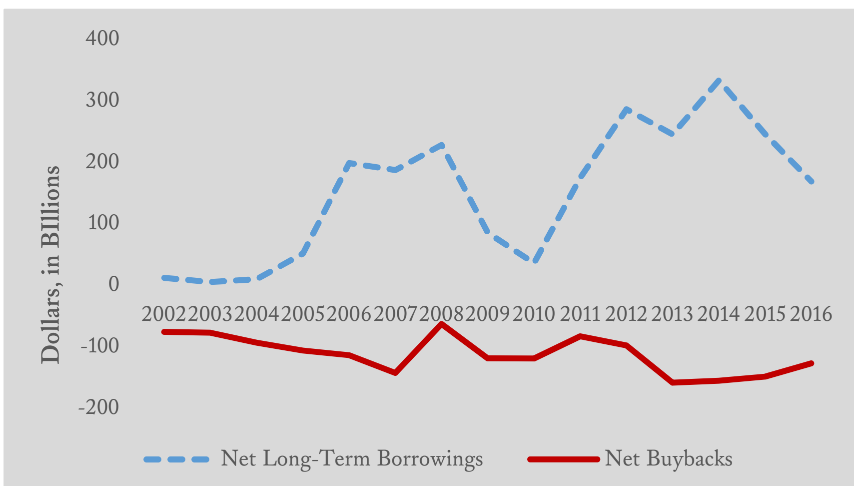
142 S&P GLOBAL MARKET INTELLIGENCE, *supra* note 53.

143 For R&D, S&P GLOBAL MARKET INTELLIGENCE, see *supra* note 53; for GDP, U.S. DEP'T OF COMM., see *supra* note 71.

Appendix Figure 3: R&D in Nonfinancial S&P 500, Scaled by Corporate Earnings (EBITDA)[144]



Appendix Figure 4: Non-S&P 500 Buybacks and Borrowings[145]



In this graphic, the solid line shows the net stock buybacks in nonfinancial public corporations outside the S&P 500. Buybacks here are generally negative, meaning that outside of the S&P 500 companies are, overall, *raising* money in the stock market (unlike S&P 500 companies). Non-S&P 500 companies are raising yet more cash by borrowing.

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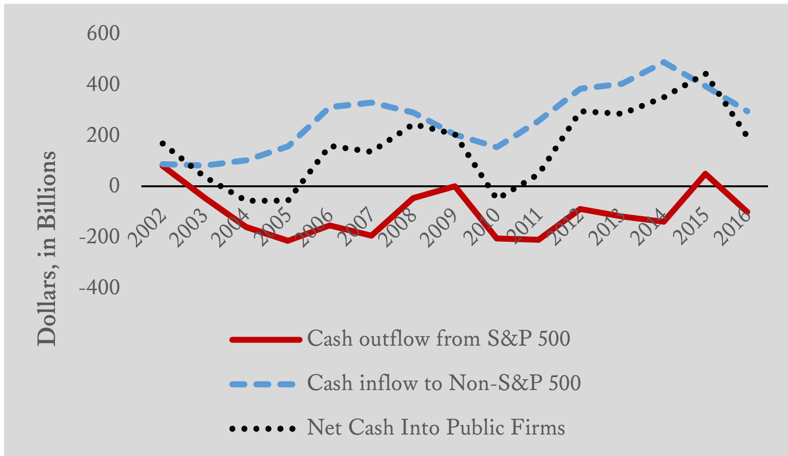
144 S&P GLOBAL MARKET INTELLIGENCE, *supra* note 53.

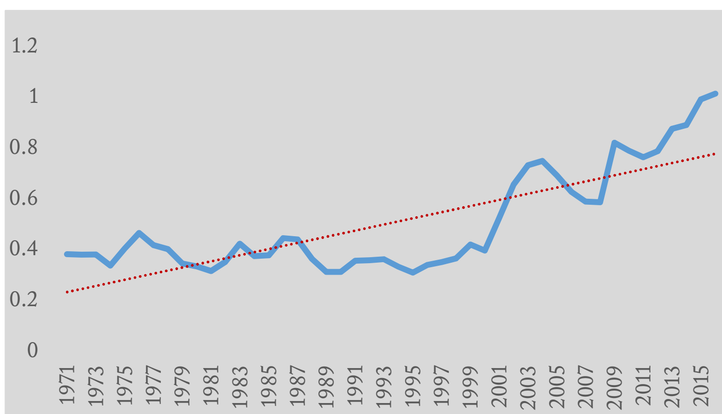
145 *Id.*

Appendix Figure 5: Net Cash Inflow to S&P 500 and Non-S&P 500, Net Borrowings Minus Net Buybacks, 2002–2016[146]



In this graphic, I combine net buybacks and borrowings for the nonfinancial S&P 500 and outside the S&P 500. Gross buybacks in the S&P 500 since 2002 average one-quarter trillion dollars annually, illustrated in Figure 5. But when netting borrowings against buybacks, the net cash outflow drops 60%, to $100 billion annually, seen above in the solid red line. The non-S&P 500 cash inflow further offsets this, as seen in the dashed blue line, with their total inflow exceeding the S&P 500 outflow, as seen in the dotted black line. This result suggests an outflow from large, mature S&P 500 firms and an inflow to smaller firms.

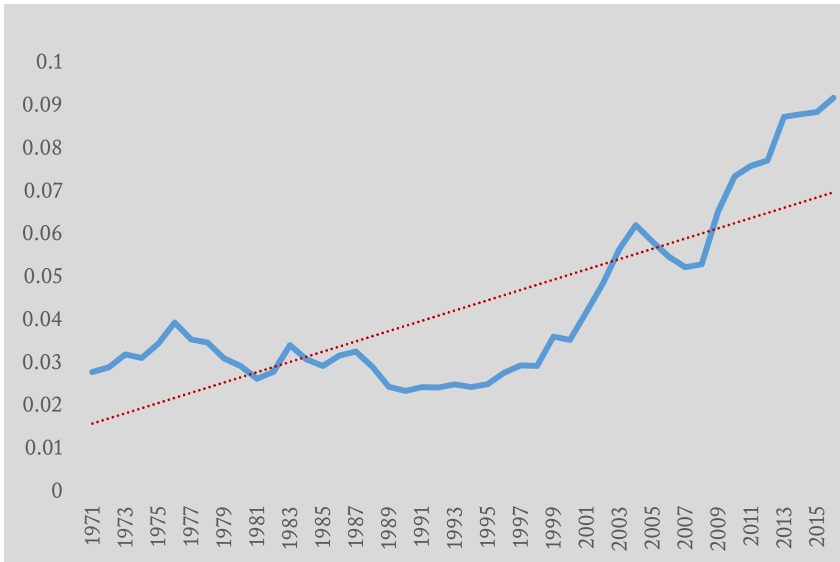
Appendix Figure 6: S&P 500 Cash-on-hand as Portion of GDP, 1971–2016[147]



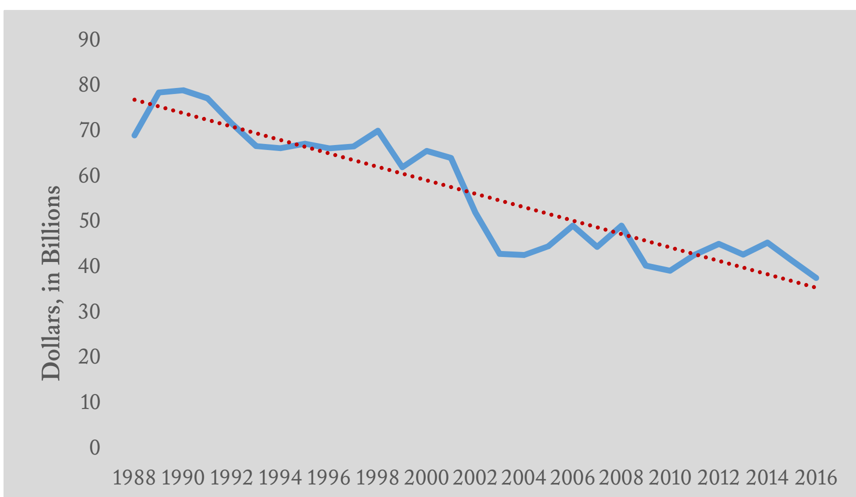
That is, in 2016, the S&P 500 collectively held nearly $100 of cash for each $1000 of GDP. In 2009, the S&P 500 held about $50 of cash for each $1000 of GDP; in 1980, they held about $25.

146 *Id.*
147 *Id.*

Appendix Figure 7: S&P 500 Cash as a Portion of Earnings, 1971–2016[148]

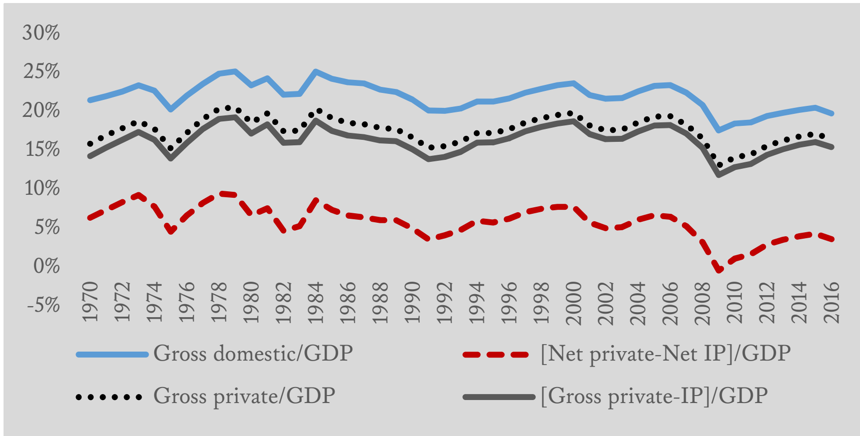


Appendix Figure 8: Capital Expenditure, Scaled to Corporate Cash Flow, S&P 500, 1988–2016[149]



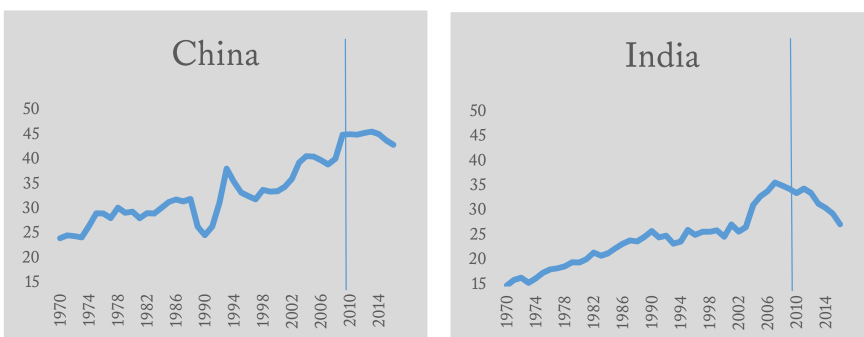
148 *Id.*
149 *Id.*

Appendix Figure 9. Capital Expenditure as a Percentage of GDP, Without Intellectual Property and After Depreciation, 1970–2016[150]



This figure accounts for the Department of Commerce adding films to intellectual property investment and then adding IP to capital expenditures, boosting the total. See *supra* note 71. The two lower lines subtract out all IP expenditures, including film. The resulting trend still resembles the gross capital expenditure trend, in the top line of this graphic and Figure 3. Further, gross capital expenditure does not capture whether short-lived or long-lived assets are being purchased. But deducting capital that wears out (depreciation), as in the lower dashed line, accounts for this. Again, no major change in the shape of the curve. For all four, the sharpest drop occurs during the 2008–2009 financial crisis.

Appendix Figure 10: Capital Investment in China and India, 1970–2016[151]



[150] U.S. DEP'T OF COMM., *supra* note 71.
[151] WORLD BANK, *supra* note 51.

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