RAVI K. MEHROTRA INSTITUTE FOR BUSINESS, MARKETS & SOCIETY

2025 Mehrotra Short-termism Summit Proceedings

A COMPILATION OF STUDENT PAPERS ON SHORT-TERMISM

Introduction

The Ravi K. Mehrotra Institute for Business Markets and Society's Inaugural Summit focused on the topic of Short-Termism at Boston University, April 10-11, 2025. We convened scholars, students, and practitioners to probe an enduring managerial dilemma: how can firms satisfy urgent market demands without sacrificing long run value?

This document contains:

- short summaries of the Questrom undergraduate honors student capstone research papers,
- a primer on short-termism, written by Marcel Rindisbacher, Director of the Mehrotra Institute
- the six capstone research papers, prepared by small groups of undergraduate students in the honors program of Boston University's Questrom School of Business.

The six student-authored capstone papers provide the empirical and conceptual backbone for this conversation, examining short-termism through the lenses of comparative political economy, executive pay design, disclosure regulation, capital allocation, and sustainable finance. Together, they trace a coherent narrative: short-term incentives are pervasive yet malleable, and well-chosen institutional, contractual, and reporting mechanisms can realign managerial horizons with society's longer run interests.

Summit Student Research Projects and Panels

Short-Termism and Corporate Governance around the Globe

1. *International Perspectives on Short-termism*

Adriana Eid, Zachary Held, Jenny Huang, and Jordan Kramer compare the United States with China and several coordinated market economies to show how legal origin, investor composition, and industrial policy shape corporate time horizons. Drawing on "Varieties of Capitalism" theory, the authors argue that the U.S. mix of dispersed ownership, active capital markets, and quarterly reporting creates powerful myopic pressures, whereas coordinated systems with patient block holders, bank finance, or state guidance support longer investment cycles. Policy levers they highlight include board representation for long-term stakeholders and tax incentives for retained earnings.

Short-Termism and Executive Pay

2. *Political Affiliation and ESG-Linked CEO Pay*

Zhiyu Chen, Araav Gupta, and Fiona Chiu investigate whether shifts in U.S. state level political control affect firms' willingness to tie executive compensation to environmental, social, and governance (ESG) metrics. Using a proprietary panel of 71 utilities, energy, and extraction companies, they find tentative evidence that firms headquartered in states transitioning from Democratic to Republican control are more likely to discontinue ESG pay clauses—suggesting that political headwinds can shorten managerial horizons even when ESG incentives have already been adopted. The authors caution that the sample is small, but call for federal standard setting to insulate long-term sustainability goals from partisan cycles.

3. *Designing Executive Pay for Long-Term Value*

Mackenzie Dawson, Joseph Giovinco, Paige Palinski, and Jackson Palmer synthesize agency theory and recent empirical studies to identify compensation features that blunt short-termism. They find the most robust evidence for (i) longer vesting horizons for equity awards, (ii) a balanced mix of restricted stock and performance shares with multiyear targets, and (iii) claw back provisions tied to future performance restatements. Short-dated options and bonuses pegged to non-GAAP earnings, by contrast, consistently correlate with earnings manipulation and investment cuts. The authors conclude that boards should extend vesting to five years or more, and weight ESG or innovation metrics at least 20% in bonus scorecards.

Short-Termism and Earning Pressures

4. *Financial Reporting Frequency: Transparency vs. Myopia*

Michael Giacchetto, Amanda Lou, Justin Kay, and Zachary Cook revisit the long-running debate on quarterly reporting. Surveying theory and cross-country natural experiments (EU, Singapore, U.S.), they confirm the transparency benefits—lower bid–ask spreads, better analyst accuracy, and cheaper capital—but show that mandatory quarterly disclosure is also linked to lower R&D and greater earnings management. They propose a "hybrid" regime: semiannual financial statements complemented by qualitative interim updates and voluntary guidance, tailored by firm size and industry maturity. Such calibration, they argue, could preserve information flows while relieving the pressure to "meet the quarter."

Short-Termism and Stock Buybacks

5. *Stock Buybacks in Science Based Industries*

Maddie Beery, Nicholas Cucchi, Andrew Mulligan, and Xinyi Zuo analyze 25 leading life science firms (2015-2024) and document a negative correlation between the intensity of share repurchases and subsequent growth in R&D expenditure, intellectual property assets, and clinical trial pipelines. They argue that buybacks can be rational when shares are undervalued, yet in an industry where innovation timelines exceed a decade, aggressive repurchase programs often crowd out high risk research. The paper recommends contingent safe harbor rules: firms exceeding a buyback to R&D ratio of 1.0 would need to disclose a forward-looking innovation plan and justify capital allocation to regulators and investors.

Short-Termism and Sustainable Business

6. *Is There an ESG Equity Premium?*

Aaron Ahmed, Marwan Buheiry, Devin Hirsch, and Eric Ye test whether superior ESG scores translate into higher valuation multiples and lower downside risk. Combining MSCI and KLD data with a matched pairs methodology, they estimate a 3 to 5 % "ESG premium" in price to book ratios, attributable largely to risk mitigation effects (e.g., reduced controversy costs, regulatory fines). Yet they caution that realizing this premium requires long-term investment horizons; firms that cut sustainability budgets to hit near-term earnings targets quickly forfeit the valuation benefit. Their findings reinforce the case for linking executive pay to multiyear ESG milestones rather than annual metrics.

Cross-Cutting Insights of Student Papers

Across divergent topics, three themes recur:

1. **Institutional context matters.** National legal systems, political regimes, and industry characteristics condition how short-term pressures manifest, and which remedies work. Comparative evidence suggests that one-size-fits-all prescriptions are unlikely to succeed.
2. **Contract and disclosure design can realign horizons.** Whether through elongated vesting schedules, hybrid reporting calendars, or ESG-linked incentives, carefully structured rules can soften the tradeoff between transparency and patience.

3. **Capital allocation sends powerful signals.** Share repurchases and R&D cuts, or conversely, sustained innovation spending, quickly reveal managerial intent and shape external perceptions of long-term value. Stakeholders, including regulators, boards, and investors—can leverage disclosure to encourage investments that generate durable social and financial returns.

Conclusion

Taken together, the six papers enrich the Summit's dialogue by offering actionable pathways to temper short-termism without abandoning the accountability that vibrant capital markets demand. They call for nuanced, evidence-based reforms —stretching from the boardroom to the legislature—that reward patient capital, protect innovation budgets, and embed social purpose into performance metrics. As these studies make clear, the tension between the next quarter and the next decade is not immutable; with the right institutional scaffolding, firms can pursue both.

A Primer on Short-Termism in Business: Perspectives from Investors, Employees, Stakeholders and aspiring Business Leaders

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Short-termism—the practice of prioritizing immediate gains over sustainable, long-term growth—has become a persistent issue in modern business. It shapes decision-making in various sectors and can significantly affect investors, employees, and other stakeholders. To build a more balanced, forward-looking business environment, corporate governance and regulatory frameworks may need to evolve to prevent short-term value extraction and to encourage long-term value creation.

Concerns about short-termism extend to supporters of both shareholder capitalism and more stakeholder-oriented, "conscious" or "sustainable" capitalism.

When does short-termism emerge, and when do the investment horizons matter?

According to financial theory, the value of a publicly traded company equals the risk-adjusted present value of its future cash flows. If each period's cash flows and the discount rate (reflecting the opportunity cost of capital) are independent, then maximizing short-term cash flows will also maximize long-term value. In this simplified case, focusing on near-term returns is optimal regardless of the investment horizon, and short-termism poses no problem. However, most cash flows — especially those dependent on R&D — and the risk factors influencing discount rates, are serially correlated. As a result, myopic decisions that focus on short-term cash flows can undermine long-term share values and the investment horizons of shareholders matter for the optimality of corporate investment decisions.

Heterogeneous investment horizons among shareholders play a critical role in driving short-termism. Investors with short-term horizons, such as high-frequency traders or certain hedge funds, often prioritize quarterly earnings and rapid returns, pressuring corporate managers to cut long-term investments like R&D, employee development, or sustainability initiatives. This dynamic can distort decision-making, encouraging actions that boost short-term performance metrics but erode future competitiveness and resilience. In contrast, long-term investors, such as pension funds or endowments, value strategies that enhance enduring profitability and risk management. When short-term investors wield disproportionate influence—through voting power, activism, or market pressure — companies may cater to their preferences, even when it undermines broader, long-term shareholder value. Thus, the coexistence of divergent investment horizons within the shareholder base can lead to suboptimal corporate behavior and contribute to systemic short-termism.

What exacerbates short-termism? The role of incentives and executive compensation

Executive compensation structures that tie compensation to stock prices play a pivotal role in fostering short-termism, in particular, when they are heavily tied to near-term financial metrics such as quarterly earnings or short-term stock price performance. These incentives can encourage executives to prioritize immediate results—like cost-cutting, share buybacks, or deferring long-term investments—to maximize their personal rewards. When compensation packages lack meaningful long-term performance measures or deferral mechanisms, they misalign executive incentives with the sustainable health of the firm, often at the expense of innovation, resilience, and long-term shareholder value.

What do companies say about the prevalence of short-termism?

A survey of 300 companies in Germany, the UK, and US focusing on the causes of short-termism (How Short-Term Orientation Dominates Western Businesses and the Challenges They Face—An Example Using Germany, the UK, and the USA) identify the following three reasons for the prevalence of a short-term orientation:

1. **Annual Bonus Systems**: Managers often prioritize short-term results because their compensation is tied to annual performance metrics.

2. **Shareholder Expectations**: There is a prevalent emphasis on immediate returns, leading to a preference for short-term goals over long-term strategic planning.

3. **Implementation Challenges**: Developing long-term strategies can be complex and breaking them into actionable short-term objectives is often difficult.

Despite recognizing the necessity of long-term planning for sustainable growth, many managers continue to focus on short-term achievements due to these systemic incentives and pressures. Therefore, to shift from short-term to long-term orientation strategies, systemic changes in performance evaluation and reward systems to support sustainable business development may be needed.

What research about short-termism shows

Overall, it is difficult to assess the costs and benefits of contracts that may induce a rationale for short-termism. Stephen Terry estimates in an article in 2023 (The Macro Impact of Short-Termism) that the effects of firms reducing R&D growth and innovation to favor short-term profits reduce annual GDP growth by 5 basis points and lower social welfare by about 1%. This finding is consistent with a 2005 article (The Economic Implications of Corporate Financial Reporting) based on a survey among 400 executives that found that half of the executives would prefer to reject a positive NPV project over missing the analyst's target.

Incentives, agency issues and compensation

Concerns about short-termism have been around since the 1980s. Jensen and Meckling's seminal work in1976 (Theory of the Firm: Managerial Behavior, Agency Costs, and Ownership Structure) introduced agency theory and highlighted how misaligned incentives between managers (agents) and owners (principals) can lead to suboptimal decision-making. By focusing on the costs of managing these relationships (agency costs), they demonstrated how risk-bearing arrangements, incentive systems, and monitoring mechanisms shape managerial behavior. This insight is central to the short-termism debate: if managers are incentivized and monitored primarily on near-term performance metrics based on compensation linked to short-term stock performance, they may prioritize immediate gains over investments that ensure long-term value creation, thus exacerbating the very agency problems Jensen and Meckling identified.

How significant is short-termism? A critical assessment

However, in the 2019 article (Are U.S. Companies Too Short-Term Oriented: Some Thoughts), Steve Kaplan points out that there is little evidence that corporate profitability over time has been negatively impacted by short-termism as one would expect if the negative effects dominated. In fact, corporate profits before taxes were below the long-term average of 10% in the eighties and nineties but except for 2008 did rise above 10% since 2000. He also points out that investors continue to be willing to fund IPOs with no previous earnings: the percentage of US companies doing an IPO but are unprofitable when going public has increased from 20% in 1980 to 80% in the dotcom bubble in the early 2000s and approximately 75% of IPOs since 2015 are done by unprofitable Tech companies. Similarly, venture capital and private equity successfully capitalize on underinvestment of public companies, and the average holding periods of companies in their portfolios have increased since 2000. This suggests that short-termism isn't a real problem.

Optimal degree of short-termism?

The debate about short-termism continues. The recent article [Optimal Short-Termism] by Dirk Hackbarth and co-authors emphasize that short-term focus can increase the volatility of the assets of a firm. Because of limited liability, stock prices are equal to the value of a call options on the underlying assets and therefore as option prices increase with volatility, volatility increasing short-termism will increase the value of stocks. Therefore, as short-termism that increases volatility is not necessarily detrimental to the value of a company, there in fact may be an optimal degree of short-termism. Similarly, the article [Agency Conflicts and Short- vs Long-Termism in Corporate Policies] by Sebastian Gryglewicz and co-authors studies how agency conflicts among managers and shareholders can induce short- and long-term investment levels beyond first best, leading to short- or long-termism in corporate policies. This latest research suggests that the debate about short-termism requires a deep level of analysis to assess whether corporate decision making is a constrained optimal given default concerns and/or agency problems or indeed is value extracting in favor of shareholders.

Investor Perspective: A Balancing Act

Investors are often at the forefront of short-term pressures, as their expectations can drive corporate behavior. Institutional investors hold significant sway over company strategies due to their substantial ownership stakes. The primary reason behind their short-term focus is the pressure to generate returns for their clients, which often leads to an emphasis on quarterly earnings reports and stock price movements. The fiduciary duty of those who manage other people's money requires investment professionals to act in the best interests of beneficiaries. While recommendations such as the [UN Principles of Responsible Investment] strive for regulations that require investors to consider all material value drivers such as ESG issues, it remains unclear how this can be achieved in the presence of pecuniary and sustainability related tradeoffs.

However, many investors recognize the risks associated with short-termism. Focusing on immediate returns can lead to underinvestment in innovation, neglect of sustainability initiatives, and poor risk management—all factors that threaten the future growth and stability of companies. If capital markets are not fully informationally efficient, these future costs may not be fully reflected in current asset prices.

ESG investment and short-termism

While hedge funds and certain activist investors may favor rapid value extraction, a growing number of asset managers and pension funds advocate for sustainable investment practices. The emergence of Environmental, Social, and Governance (ESG) criteria is testament to this shift. The challenge, however, is how to accurately measure and price ESG risk given that investor preferences are not homogenous, the shareholders of a company change, and their preferences are unknown.

Investors who prioritize long-term value creation are more likely to support companies that reinvest in their workforce, pursue sustainable growth strategies, and engage in responsible corporate practices. Still, the tension between meeting immediate expectations and nurturing future opportunities remains.

New corporate governance and short-termism

For corporate governance to align with long-term goals, regulatory frameworks must support investors in balancing these competing priorities. Oliver Hart and Luigi Zingales in their recent article New Corporate Governance suggest focusing on shareholder welfare rather than shareholder value in order to acknowledge the importance of non-pecuniary aspects of investor preferences. As preferences are heterogeneous and unknown, implementing new governance structures that maximize shareholder welfare is non-trivial.

Hedge funds and activist investors

Many claim that activist hedge funds trading strategies are the source of short-termism by corporate managers and recommend long-term value focused buy-and-hold strategies as a remedy against short-termism. These recommendations do not consider that this may result in a decrease in the informational efficiency of markets and misallocation of capital that itself can result in losses that is larger than the ones perceived to be a consequence of activist trading.

In contrast, the 2015 articles The Real Effects of Hedge Fund Activism: Productivity, Asset Allocation, and Labor Outcomes by Alon Brav and co-authors and The Long-Term Effects of Hedge Fund Activism by Lucian Bebchuck and co-authors provide evidence that activists increase long-term performance at the companies that they target.

The tyranny of quarterly earning calls

Quarterly earning calls are often considered a cause for short-termism, and to switch to a semi-annual frequency is considered preferable by some. Many CFOs are hyper-focused on meeting earning targets after an earning guidance has been issued. Reporting frequencies directly impact the information flow in financial markets. Reducing the reporting frequency may decrease the informational efficiency of financial markets and as such have social costs as stock prices do not adequately represent the value of a corporation.

Nevertheless, the 2018 article, Is It Time to Get Rid of Earnings-per-Share (EPS)? by Heitor Almeida argues that overall hyper focusing on earnings-per-share, significantly affects stock repurchases, R&D investments, capital expenditures, employment, and the structure of M&A deals. It claims that chasing EPS with changes in real investments appears to lead to long-term underperformance and can significantly affect economic growth and welfare. As a conclusion, it recommends that analysts, investors, and companies should stop focusing on EPS as a measure of performance. Finding alternative measures is not trivial, however. To break the link between performance targets and short-termism, changes to executive compensation contracts are needed.

Stock buyback programs and R&D underinvestment

Since the 1970s, and especially since 2000, stock buybacks have surged, often criticized as evidence of value extraction driven by short-termism (see the article Profits without Prosperity by Bill Lazonick for a summary). However, increased payouts alone don't necessarily mean value extraction, even if they limit wage growth or cuts in customer service. True value extraction occurs only if payouts hinder investments in long-term growth that would have generated higher profits and stock prices.

The article Short-Termism and Capital Flows by Jesse Fried and co-authors examines whether substantial shareholder payouts harm long-term investment and innovation. It highlights that focusing solely on gross payouts, without considering capital inflows, presents a skewed perspective. Capital inflows are substantial, and the payouts as a percentage of net income are significantly smaller than the payouts as a percentage of net income. Payouts often coincide with increased investments and cash reserves, suggesting that high payouts do not necessarily constrain investment or innovation.

Concerns about short-termism based only on gross payouts may be overstated, as these figures fail to capture the broader capital dynamics within firms. Assessing the opportunity costs of short-termism and the prevalence of value extraction at the expense of value creation remains complex and nuanced.

The relevant question regarding stock buyback programs is whether they are an efficient use of the marginal dollar. In some cases, investors will reinvest the proceeds from stock buybacks of high cash-flow companies into investment opportunities that create more value for society than what would be achieved by the company investing into low profitability investment opportunities. It's difficult to assess this trade-off because there is no way to track the investments of those who receive the proceeds from stock buybacks. It also requires considering the benefits from reinvestment holistically by assessing the return of investing not just into say, R&D projects, but also by the returns obtained by improving benefits for the workforce that result in a productivity increase of employees and in a performance focused corporate culture at all levels that improves future profits.

Employee Perspective: Job Security and Engagement

Employees are another group profoundly affected by the short-term focus of businesses. When companies prioritize short-term results, it often translates to cost-cutting measures, hiring freezes, or job redundancies aimed at maintaining profit margins. This environment can create a sense of instability, reducing employee morale and loyalty. Over time, it may also undermine the talent pool, as skilled employees seek out more secure, value-driven companies.

Human capital is considered instrumental for corporate success. Underinvestment in human capital in favor of short-term profits can undermine corporate success in the same way as it can undermine innovation.

Engagement and productivity are closely tied to an organization's long-term vision. Employees are more motivated when they feel that their contributions are part of a meaningful, sustainable strategy, rather than just a mechanism for meeting the next quarter's earnings target. Companies that invest in training, research and development, and workplace culture tend to cultivate stronger teams and foster innovation. Such firms may experience slower financial returns initially, but they benefit from a more resilient and engaged workforce.

If capital markets are fully efficient, underinvestment in human capital will be fully reflected by share prices. However, in times of uncertainty about what the future of work looks like, it is difficult to assess how today's human capital acquisition or investment decisions will affect future cash flows. While may investors increasingly recognize the importance of human capital for the long-term success of a company, activist investors often lack complete information to assess the quality of a company's workforce and underestimate the importance of intangibles such as how corporate culture may affect the long-term success of a corporation.

To shift focus away from short-term gains and improve employee engagement, companies must create a corporate culture that values long-term strategic goals. This can be encouraged through governance policies that promote transparency and communication between management and employees about the company's vision and objectives. Including employees as stakeholders in decision-making processes can also help align their incentives with the company's long-term ambitions. However, as corporate governance in Germany has shown, this can also become a major impediment in times of crisis when radical restructurings of corporations and their workforce is the long-term optimal strategy.

Stakeholder Perspective: Trust and Societal Impact

From the perspective of external stakeholders—customers, communities, and society at large—short-termism can damage a company's reputation and erode trust. When businesses focus solely on immediate profits, they may neglect their social and environmental responsibilities, leading to negative consequences that resonate beyond the corporate sphere. Examples include environmentally harmful practices, reduced product quality, or a lack of meaningful community engagement.

The erosion of trust in institutions, both corporate and government institutions, can be associated with high socio-economic costs. It can affect the functioning of both political and economic systems. The erosion of a shared belief in a common good and political polarization exploited by short-term focused political election cycles can be detrimental to the value creation potential of business.

Stakeholders are increasingly demanding that businesses take a proactive approach to address issues such as climate change, social inequality, and ethical supply chain practices. Companies that respond to these expectations are more likely to build loyal customer bases and establish themselves as leaders in their industries. Short-termism, however, often conflicts with these aims, as socially responsible initiatives can take years to yield tangible results. In addition, it can be detrimental to the functioning of society when corporate oligarchs take charge of what a healthy democracy should achieve through elections and functioning legislative processes.

Corporate governance reforms can play a critical role in embedding stakeholder interests into business strategies. This could include mechanisms such as stakeholder advisory boards or enhanced disclosure requirements that compel companies to report not just on financial metrics, but also on their social and environmental impact. By integrating stakeholder interests into the core governance structure, businesses can be encouraged to pursue policies that prioritize long-term value.

Changes Needed in Corporate Governance and Regulatory Frameworks

Addressing short-termism in business requires systemic changes to corporate governance and the regulatory landscape. Here are some key areas where reform can help:

1. **Reimagining Performance Metrics**: The emphasis on quarterly earnings reports is a significant driver of short-term behavior. While transparency is vital, companies should be encouraged to adopt performance metrics that reflect long-term growth,

such as customer retention rates, employee development, and sustainability milestones. Shifting the focus from quarterly to annual or multi-year performance reviews can alleviate short-term pressures on management.

2. **Incentive Structures**: Executive compensation is often tied to stock performance and other short-term targets. By restructuring incentive plans to reward long-term achievements, such as successful product development or sustained profitability over multiple years, companies can align the interests of leadership with sustainable growth. Long-term stock options and deferred bonuses can motivate executives to make decisions that prioritize the company's future rather than immediate returns.

3. **Enhanced Shareholder Engagement**: Regulatory frameworks can be modified to encourage or require companies to engage more meaningfully with their shareholders about their long-term strategy. This could include more detailed sustainability reporting and opportunities for shareholders to vote on company policies related to environmental and social initiatives. Enhanced shareholder engagement allows investors to reveal their preferences, and as such allows corporations to understand the importance of non-pecuniary costs of their actions.

4. **Fostering Long-Term Investment**: Regulators could incentivize investment funds to focus on long-term outcomes through tax benefits or special certifications for funds that prioritize sustainable investment strategies. This would encourage more investors to adopt an approach that aligns with long-term corporate success, benefiting all parties involved.

5. **Strengthening Stakeholder Representation**: Companies can be required to have a portion of their board members represent stakeholders other than shareholders, such as employees or community leaders. This multi-stakeholder board composition ensures that a range of perspectives is considered in decision-making, promoting a more balanced approach to strategy and risk management. A company is often as good as its board. Boards need to agree on a common vision and must fully recognize all aspects of the business the corporation is engaged in. Boards dominated by finance professionals who don't understand the technical aspects of the value chain can lead corporations to the brink of bankruptcy. The recent struggles at Boeing are evidence of this.

6. **Reform of Proxy Voting Systems**: Institutional investors often have significant influence over corporate governance through proxy voting. Reforms that require

investors to justify their voting decisions in the context of long-term outcomes could help align investment practices with sustainable corporate behavior.

Before advocating reforms, it is important to assess whether the observed corporate decisions are indeed symptomatic of short-termism or if they are optimal.

A Path Forward

To curb short-termism and foster a business environment conducive to long-term value creation, collaboration between companies, investors, regulators, and other stakeholders is essential. Change will not happen overnight, but by implementing forward-thinking governance and regulatory measures, businesses can align short-term actions with sustainable strategies that benefit everyone involved. Boards need to be transparent and work with investors towards a long-term focus.

Investors, employees, and stakeholders all have a role to play in advocating for these changes. By doing so, we can create a business landscape that supports not just economic success, but also social progress and environmental stewardship. In the end, aligning corporate goals with long-term value creation is not just a vision—it is an imperative for future resilience and prosperity.

Why Young Business Students Care

The next generation of business leaders—many of whom are currently studying in universities and business schools—has grown up in an era defined by both technological progress and global challenges. They witnessed economic downturns in 2008 and were severely affected by the pandemic. Their childhood and adolescence were accompanied by concerns about climate crisis, social upheavals, and significant shifts in consumer expectations. As young professionals, their income is mostly labor income. They carry significant interest burdens from student debt, and they did not profit from the gains from trading in capital markets generated by extraordinary monetary policies that allowed highly leveraged investment strategies to generate high returns. These experiences can shape their perspectives and priorities in ways that differ from previous generations. This may explain some of the skepticism of the young generation regarding capitalism as a system.

In addition, as students, they were increasingly drawn to roles that align with their values, whether in start-ups with a purpose-driven ethos or in established corporations that demonstrate a commitment to sustainable practices. Short-termism clashes with their ambitions for meaningful careers that offer more than a paycheck; they want to drive change, inspire innovation, and contribute to solutions that go beyond short-lived financial metrics. Their interest in business stems not only from an interest in strategy and finance, but from the potential to effect positive change.

Success for many young business students isn't defined solely by shareholder returns. Instead, it includes metrics that reflect sustainable growth, social impact, and environmental stewardship. These should not just be buzzwords in coursework in business schools as they represent the type of leadership many students aspire to bring into the workplace.

Young students recognize that while profitability is essential, it should not come at the expense of long-term value creation. They aim to challenge the status quo by championing business strategies that balance immediate financial obligations with a broader view of growth and impact. This approach reflects a more holistic view of business success, one that integrates the interests of shareholders, employees, customers, and the communities in which we operate.

From this perspective, short-termism is an important topic independent of whether one believes in the primacy of shareholder value maximization or takes a stakeholder view of the corporation.

Practical Examples of Companies Affected by Short-Termism

Discussions about short-termism can appear abstract given that quantifying the effects of value extraction compared to value creation is difficult. Nevertheless, there are practical examples where the consequences of a short-term vs. long-term focus are real:

- **General Electric (GE):** GE's shift under CEO Jack Welch to prioritize quarterly earnings and aggressive cost-cutting is often cited as a prime example of short-termism. The long-term consequences included a decline in innovation and eventual financial troubles for the company.
- **Enron:** Enron's focus on short-term gains and stock price manipulation led to one of the most infamous corporate scandals, showcasing how extreme short-termism can result in catastrophic failures and undermine trust in financial reporting.
- **Kodak:** The company's focus on maintaining its profitable film business over investing in digital photography innovations is an example of how short-term profits can hinder adaptation to industry changes, ultimately leading to significant business decline.
- **IBM:** IBM's pivot to short-term financial engineering through stock buybacks in the 2000s, instead of investing heavily in long-term technological advancements, is a study in how short-termism can stifle growth and competitive advantage.
- **R&D Investment in the Pharmaceutical Industry:** Short-term pressures can influence pharmaceutical companies to prioritize drugs with high profit margins over groundbreaking, but riskier, research initiatives.

- **Amazon:** A counterexample, as Amazon has shown how a long-term focus on growth and innovation can lead to sustained success, despite early years of minimal profitability and skepticism from investors focused on short-term returns.
- **Apple under Steve Jobs and Tim Cook:** The strategic focus on long-term product development and brand equity showcases how balancing investor expectations with visionary leadership can support sustained innovation

The examples demonstrate that short-termism can lead to business failure, while a genuine long-term perspective is often critical to lasting success. In hindsight, it's usually easy to trace a company's downfall to short-term thinking. The real challenge, however, lies in recognizing and addressing short-termism before it takes root. To that end, corporate boards should implement proactive mechanisms that discourage short-term decision-making and promote sustained strategic focus.

Further Readings

- **"Short-Termism and Capital Flows"** by Jesse M. Fried and Charles C.Y. Wang, *The Review of Corporate Finance Studies*, 2019.
  This study analyzes capital distributions by public firms, challenging the notion that high shareholder payouts hinder long-term investments.

- **"Managerial Short-Termism and Investment: Evidence from Accelerated Option Vesting"** by Tomislav Ladika and Zacharias Sautner, *Review of Finance*, 2020.
  The authors demonstrate that executives with shortened incentive horizons tend to reduce investments, thereby boosting short-term earnings at the cost of long-term value.

- **"Short-Termism—The Causes and Consequences for the Sustainable Enterprise"** by M. A. H. D. Jong, in *Contemporary Issues in Sustainable Finance*, 2021.
  This chapter explores the drivers of short-termism and its implications for sustainable business practices.

- **"Exploring the Debate on Short-Termism: A Theoretical and Empirical Analysis"** by Bruce Kogut and Joseph P. MacDuffie, *Management Science*, 2006.
This paper provides a comprehensive review of the short-termism debate, integrating theoretical perspectives with empirical findings.

- **"Short-Termism: A Step Forward Toward Long-Term Performance or a Dead End"** by Radu-Alexandru Șerban, in *Emerging Issues in the Global Economy*, 2018.
The author examines whether short-term strategies contribute to or detract from achieving long-term organizational performance.

- **"Short-Termism, Managerial Talent, and Firm Value"** by Richard T. Thakor, *The Review of Corporate Finance Studies*, 2021.
This article investigates how short-termism affects the allocation of managerial talent and the subsequent impact on firm value.

- **"Optimal Short-Termism"** by Dirk Hackbarth, Alejandro Rivera, and Tak-Yuen Wong, *Management Science*, 2022.
This paper develops a dynamic contracting model of a levered firm, where the manager selects long-term and short-term efforts, and shareholders choose optimal debt and default policies. The study finds that excessive short-termism can be optimal for shareholders due to the asymmetric effects of debt, with shareholders receiving all gains from short-term efforts but sharing gains from long-term efforts.

- **"Short-Term Debt and Incentives for Risk-Taking"** by Marco Della Seta, Erwan Morellec, and Francesca Zucchi, *Journal of Financial Economics*, 2020.
This study examines how short-term debt influences managerial risk-taking behaviors. The authors find that reliance on short-term debt can exacerbate agency conflicts, leading managers to undertake riskier projects that may not align with long-term firm value.

- **"The Long-Term Consequences of Short-Term Incentives"** by Alex Edmans, Vivian W. Fang, and Allen H. Huang, *Journal of Accounting Research*, 2022.
This study examines how short-term incentives, measured by the amount of equity vesting in a given period, influence corporate decisions such as share repurchases and mergers and acquisitions (M&A). The authors find that higher levels of vesting

equity are associated with an increased likelihood of repurchases and M&A announcements. However, these actions are followed by negative long-term returns, suggesting that they may be driven by managerial motives to boost short-term stock prices rather than to enhance long-term firm value.

- **The Myth that Insulating Boards Serves Long-Term Value"** by Lucian A. Bebchuk, *Columbia Law Review*, 2013.
  This article critically examines the argument that insulating corporate boards from shareholder pressure enhances long-term value. Bebchuk challenges the notion that shareholder interventions lead to myopic corporate actions, presenting both theoretical analysis and empirical evidence to suggest that board insulation may not serve, and could even harm, long-term shareholder interests.

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Professor Cortes

Team: Professor Furman, Adriana Eid, Zachary Held, Jenny Huang, and Jordan Kramer

International Perspectives on Short-Termism

I. Overview of Short-Termism

The increasing tension between short-term gains and long-term stability is a major challenge in today's corporate and economic landscape. BlackRock CEO Larry Fink has warned against "the powerful forces of short-termism afflicting corporate behavior."[1] Short-termism prioritizes immediate rewards over strategies that ensure long-term success and sustainability, often leading companies to focus on quarterly earnings reports at the expense of research and development, employee training, infrastructure upgrades, and innovation. While this approach may boost short-term profits, it can undermine future growth and competitiveness. This issue raises a critical question: how can businesses and policymakers move beyond short-term incentives to prioritize sustainable, long-term growth?

The concern that U.S. companies prioritize short-term gains over long-term growth has been debated for decades. In 1979, corporate lawyer Marty Lipton argued that short-term profit-seeking could "jeopardize the long-term interests of the nation's corporate system and economy."[2] In the 1980s, economist Peter Drucker warned that short-term financial strategies could lead to "costly, if not suicidal, mistakes."[3] In 1992, Harvard's Michael Porter echoed these concerns, warning that underinvestment in R&D and workforce development was putting U.S.

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[1] Larry Fink, *2016 Corporate Governance Letter to CEOs*, BlackRock, February 1, 2016, https://www.reit.com/sites/default/files/meetings/REITWise16/Governance/Full%20Document(s)/Blackrock%20-%20Larry%20Fink%202016%20Corporate%20Governance%20Letter%20to%20CEOs%20(2-1-16).pdf.

[2] Steven N. Kaplan, "Are US Companies Too Short-Term Oriented? Some Thoughts," Journal of Economic Perspectives 29, no. 1 (2015): 105–128, https://doi.org/10.1086/694409.

[3] Roger L. Martin, "Yes, Short-Termism Really Is a Problem," Harvard Business Review, October 9, 2015, https://hbr.org/2015/10/yes-short-termism-really-is-a-problem.

companies “at a serious disadvantage” in global competition.[4] These arguments have persisted into the 21st century, such as the 2019 Business Roundtable’s commitment to “generate long-term value for all stakeholders.”[5] Research supports these concerns, with a survey showing that 63% of board members and executives report increased short-term pressures, and 79% believe they must deliver results within two years to satisfy investors.[6] Stock buybacks exemplify this trend, as they boost immediate earnings but divert funds from long-term investments.[7]

While most scholars and executives agree that short-termism remains a challenge, examining international models can offer insights for development of a more efficient and long-term focused corporate system. By examining financial markets and corporate governance in other countries, U.S. policymakers and business leaders can identify strategies to foster long-term growth and innovation in the U.S. economy.

This paper explores both sides of the short-termism debate in Section II and introduces the institutional differences and variations in short-termist behavior among firms in different countries in Section III. Section IV discusses case studies from the U.S., China, the U.K., Sweden, and UAE. Section V integrates insights derived from a research panel on short-termism hosted by the Mehrortra Institute on April 11th, 2025. Section VI synthesizes our findings.

II. To What Extent is Short-Termism a Problem?

While some argue that short-termism often leads to unethical company management, including suboptimal investment decisions, earnings manipulation, and reduced innovation,

[4] Kaplan, “Are US Companies Too Short-Term Oriented?.”

[5] Business Roundtable, Business Roundtable Redefines the Purpose of a Corporation to Promote “An Economy That Serves All Americans”, August 19, 2019, https://www.businessroundtable.org/business-roundtable-redefines-the-purpose-of-a-corporation-to-promote-an-economy-that-serves-all-americans.

[6] Dominic Barton and Mark Wiseman, "Focusing Capital on the Long Term," Harvard Business Review, January–February 2014, https://hbr.org/2014/01/focusing-capital-on-the-long-term.

[7] Martin, “Yes, Short-Termism Really Is a Problem.”

others contend that short-term performance is essential for business survival and does not necessarily hinder long-term growth.

The main arguments against short-termism in management include: 1. Short-termism is inherently detrimental to a firm's long-term performance; 2. A short-term focus on long-term investments yields poor returns; 3. Shareholder activism is a distraction to effective and efficient management; 4. Quarterly reporting drives short-term decision making.

While critics of short-termism propose that it is inherently detrimental to a firm's long-term performance, some argue that a short-term focus is not itself damaging. Rather, short-termism can be viewed as the "cornerstone of the future" since companies must achieve short-term financial stability to sustain long-term growth.[8] Given the "natural human tendency to prefer the immediate to the distant," building and realizing short-term results can be gratifying for businesses and their decision makers.[9]

Companies also cannot sacrifice short-term performance while expecting to build long-term value. Therefore, it is essential to find a balance and understand the connection between short-term results and future investments.[10] Empirical evidence does not conclusively support whether short-termism has a positive or negative impact on long-term investments. Some studies suggest a negative association between short-term investors and long-term R&D investments, while other studies "report a positive association between them."[11] For instance, total U.S. R&D spending has actually increased since the 2008–2009 recession, challenging the claim that companies are neglecting long-term innovation.[12]

[8] Radu-Alexandru Șerban, "Short-Termism: A Step Forward Toward Long-Term Performance or a Dead End," chapter, in *Emerging Issues in the Global Economy*, 2018, 341–50, https://link.springer.com/chapter/10.1007/978-3-319-71876-7_30.

[9] Masakazu Ogami, "The Conditionality of Political Short-Termism: A Review of Empirical and Experimental Studies," May 2, 2024.

[10] Șerban, "Short-Termism: A Step Forward Toward Long-Term Performance or a Dead End," 341–50.

[11] Șerban, "Short-Termism: A Step Forward Toward Long-Term Performance or a Dead End," 341–50.

[12] Nathan and Goldberg, "The Short-Termism Thesis: Dogma vs. Reality."

Shareholder activism is often associated with short-termism. Critics argue that such activism distracts management from long-term focus, instead shifting them toward short-term solutions that alleviate current needs but exacerbate future ones.[13] However, activism can serve as a useful corrective mechanism against managerial inefficiencies and overly optimistic long-term biases about their own projects.[14] Furthermore, quarterly reporting can cause earnings manipulations to improve short-term stock-performance at the expense of long-term returns on assets.[15]

However, there is mixed evidence on this issue on the impact of quarterly reporting requirements. Critics of quarterly reporting argue that companies may sacrifice long-term opportunities "for immediate profit" and "cut investments from R&D" to meet their quarterly targets.[16] A study found no significant impact on investment decisions following the introduction of mandatory quarterly reporting in the U.K.[17] Furthermore, despite the EU removing its mandate for quarterly reporting, many companies continue to report voluntarily. Initially implemented EU-wide to increase market transparency, frequent reporting is argued to enhance market transparency and accountability, which ultimately benefits both short- and long-term investors.[18]

Still, studies show the negative impact of short-termism on corporate decision making and economic sustainability. For example, quarterly earnings target pressures often lead to decisions that are not representative of the full complexity and importance of corporate

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[13] "UC Davis Law Review," Shareholder Activism & Unconstitutionally Compelled Speech | UC Davis Law Review, accessed March 21, 2025, https://lawreview.law.ucdavis.edu/archives/58/3/shareholder-activism-unconstitutionally-compelled-speech.

[14] Małgorzata Janicka, Artur Sajnóg, and Tomasz Sosnowski, "Short-Termism—The Causes and Consequences for the Sustainable Development of the Financial Markets," chapter, in *Innovations and Traditions for Sustainable Development*, 2021, 485–501, https://link.springer.com/chapter/10.1007/978-3-030-78825-4_29.

[15] Șerban, "Short-Termism: A Step Forward Toward Long-Term Performance or a Dead End," 341–50.

[16] Șerban, "Short-Termism: A Step Forward Toward Long-Term Performance or a Dead End," 341–50.

[17] Janicka, Sajnóg, and Sosnowski, "Short-Termism—The Causes and Consequences for the Sustainable Development of the Financial Markets," 485–501.

[18] Janicka, Sajnóg, and Sosnowski, "Short-Termism—The Causes and Consequences for the Sustainable Development of the Financial Markets," 485–501.

management and investments. Moreover, a 2005 report claimed that quarterly reporting did not prevent corporate scandals in the U.S. but rather encouraged short-termism.[19]

Additionally, research shows that publicly traded firms exhibit lower investment rates than privately held firms. These declining returns over a multi-year period suggest that market pressures like quarterly reporting, a symptom of short-termism, negatively impact decision making.[20] Furthermore, in 2017, while 25% of publicly owned companies were owned by short-term investors and 75% owned by long-term investors, the volume and pace of daily transactions were dominated by short-term investors. These frequent transactions are considered high risk, based on profit maximization, and discourage long-term value creation and investment. Another example of short-termism is corporate stock buybacks, where companies reallocate their earnings to repurchase their own stock instead of reinvesting in future growth.[21]

III. National Differences in Institutions and Short-Termism

In 1980, amidst the rush of worries that the United States was losing its competitiveness relative to emerging economies, including those of Japan and West Germany, Robert Hayes and William Abernathy raised the possibility that American competitive decline was the result of substandard management practices endemic to U.S. management.[22] Specifically, Hayes and Abernathy suggested that, "instead of meeting the challenge of a changing world, American business today is making small, short-term adjustments…", including a focus on mergers and acquisitions and a decline in the real growth rate of R&D investment, particularly in basic research, relative to optimal rates.[23] Further, the authors lament a shift in the United States towards hiring CEOs with backgrounds in Finance and Law rather than in the production

[19] Șerban, "Short-Termism: A Step Forward Toward Long-Term Performance or a Dead End," 341–50.
[20] Șerban, "Short-Termism: A Step Forward Toward Long-Term Performance or a Dead End," 341–50.
[21] Șerban, "Short-Termism: A Step Forward Toward Long-Term Performance or a Dead End," 341–50.
[22] Hayes, R. H., & Abernathy, W. J. (1980) "Managing our way to economic decline," Harvard Business Review 58(4), 67-77. https://hbr.org/2007/07/managing-our-way-to-economic-decline.
[23] Hayes, R. H., & Abernathy, W. J. (1980) "Managing our way to economic decline."

technologies on which firms' products are based. The authors suggest that these choices are the result of a common American management mindset as well as U.S. government policies that "either overconstrain or undersupport U.S. producers."[24] These contrast with approaches in Europe and Japan, whose leading companies had improved competitiveness relative to American firms. By suggesting that the drivers of U.S. firm myopic behavior are uniquely American in nature, Hayes and Abernathy are among to imply that national institutions may undergird short-termist behaviors.

The specific idea that variations in national institutions are linked to heterogeneity in firm short-termist behavior is a particular manifestation of the general idea that country-specific institutions drive national differences in firm investment and strategic behavior. These ideas were introduced by a set of political scientists, including Peter Hall and David Soskice[25] and Michel Albert[26]. Each set of authors in this tradition argues that systematic differences in national policies, including commitments to social welfare, regulations affecting the nature of banking, infrastructures affecting vocational and higher education, antitrust policies, and others, lead to systematic differences in firm structure, goals, and behaviors. Hall and Soskice introduce a "Varieties of Capitalism," framework, which distinguishes between Liberal Market Economies (LMEs), like that of the United States," and Coordinated Market Economies (CMEs), like those of Germany and France, which emphasize long-term relationships, firm-based vocational training, and stakeholder coordination. Michel Albert, in his Capitalism vs. Capitalism approach, also contrasts Anglo-Saxon capitalism with Rhineland (continental European) capitalism, arguing that the different approaches of these capitalisms yield different social priorities and

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[24] Hayes, R. H., & Abernathy, W. J. (1980) "Managing our way to economic decline."
[25] Peter Hall and David Soskice (2001) *Varieties of Capitalism: The Institutional Foundations of Comparative Advantage,* Oxford, UK: Oxford University Press.
[26] Michel Albert (1993) *Capitalism vs Capitalism: How America's Obsession with Individual Achievement and Short-Term Profit has Led it to the Brink of Collapse*, New York, NY: Four Walls Eight Windows.

economic outcomes, including differing styles of innovation and differing levels of economic and social inequality.

The approaches of these political scientists preview analyses by economists, including Daron Acemoglu, Simon Johnson, Rafael la Porta, James Robinson, Florencio Lopez de Silanes, and Andre Shleifer, who use large-scale analyses to identify linkages between national institutions and varying economic outcomes.[27] In a series of books and academic papers, these authors argue that the quality of institutions, including investor protection, government efficiency, and contract enforcement are strongly correlated with economic outcomes, like financial development, firm size, and national income. La Porta, Lopez de Silanes, and Shleifer focus on legal traditions, arguing that countries with common law traditions tend to have stronger property rights and better financial markets than those with civil law traditions, highlighting how institutional traditions inherited from colonial history tend to shape modern economies.[28] The views of Acemoglu, Johnson, and Robinson are similar, but these authors emphasize the roles of political power and historical colonization strategies in shaping the nature of institutions.[29] Specifically, they argue that countries that develop inclusive economic institutions, i.e., those that protect property rights, uphold the rule of law, and encourage broad participation in economic activities, will induce economic development and will provide a structure in which firms and the economy can thrive.

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[27] James Robinson is a political scientist, but he has co-authored work with Acemoglu and Johnson for which the group was honored with the 2024 Nobel Prize in Economics.

[28] Porta, Rafael La, Florencio Lopez-de-Silanes, Andrei Shleifer, and Robert W. Vishny (1998) “Law and finance,” Journal of Political Economy, 106(6), 1113-1155; La Porta, R., Lopez‐de‐Silanes, F. and Shleifer, A (1999) “Corporate ownership around the world,” *Journal of Finance*, 54(2), 471-517; Glaeser, Edward L., Rafael La Porta, Florencio Lopez-de-Silanes, and Andrei Shleifer (2004) “Do institutions cause growth?” *Journal of Economic Growth,* 9, 271-303; Porta, Rafael La, Florencio Lopez-de-Silanes, and Andrei Shleifer (2008) “The Economic Consequences of Legal Origins,” *Journal of Economic Literature,* 46(2), 285-332.

[29] Acemoglu, Daron, Simon Johnson, and James A. Robinson (2001), “The colonial origins of comparative development: An empirical investigation." American Economic Review, 91(5), 1369-1401;Acemoğlu, Daron, Simon Johnson, and James A. Robinson (2004) “Institutions as the fundamental cause of long-run growth,” Centre for Economic Policy Research; Robinson, James A., and Daron Acemoglu (2012) *Why nations fail: The origins of power, prosperity and poverty*. London, UK: Profile.

Management scholars build on these ideas in exploring the relationship between national institutional contexts and particular firm behaviors.[30] A set of such scholars have investigated the relationship between national institutions, particularly those related to corporate governance, and firms' myopic behaviors. Aguilera and Jackson (2010) develop a framework for understanding cross-national corporate governance by examining the ways that different paradigms, including economic, legal, political, and sociological paradigms, shape corporate structures and firm strategies.[31] They contrast two main models. First, they describe the Anglo-American model, which emphasizes dispersed ownership, strong shareholder rights, and flexible labor markets, all of which support a shareholder-centric, market-based form of governance. In contrast, Continental European systems (e.g., Germany) feature concentrated ownership, strong labor representation, and bank-based finance, which results in a more stakeholder-oriented governance model. Aguilera and Jackson argue that these systems are deeply embedded in broader institutional environments and that, despite global pressures, they resist convergence. Their analyses suggest that national institutions condition the internal mechanisms of firms, such as board structures and ownership patterns, which, in turn, influence corporate time horizons.

Meier and Meier (2014) support this comparative analysis by contrasting U.S. and European corporate governance systems.[32] They emphasize the legal underpinnings of governance models, noting that U.S. firms are governed by a single-tier board system focused on independent oversight and shareholder accountability, reinforced by legislation like Sarbanes-Oxley. In contrast, many European firms operate under dual board structures with more inclusive stakeholder representation. As described in Exhibit 1, these institutional structures

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[30] Furman, Jeffrey L., Michael E. Porter, and Scott Stern (2001) "The determinants of national innovative capacity," *Research Policy* 31(6), 899-933.

[31] Aguilera, R. V., & Jackson, G. (2010) "Comparative and international corporate governance,"*Academy of Management Annals*, 4(1), 485-556.

[32] Meier, Heidi Hylton, and Natalie C. Meier (2014) "Corporate Governance: An examination of US and European models," *Corporate Ownership & Control,* 11(2), 347-351.

contribute to different norms of managerial accountability and information disclosure. Meier and Meier imply that these governance differences have implications for firm behavior: the U.S. model's emphasis on transparency and market responsiveness can encourage a short-term orientation, whereas European models' embedded stakeholder structures support more balanced, long-term decision-making.

Gajurel (2020) builds on Hall and Soskice's Varieties of Capitalism framework in conducting cross-national comparisons of public firms in the United States, United Kingdom, Germany, and Japan.[33] His central finding is that firms in the Liberal Market Economies (LMEs) of the United States and United Kingdom are substantially more short-termist and that they, for example, distribute higher shares of profits to shareholders via dividends and buybacks. By contrast, firms in the Coordinated Market Economies (CMEs) of Germany and Japan exhibit lower shareholder payouts and greater concern for long-term firm sustainability and employment. Gajurel argues that institutional factors mediate the influence of "impatient capital" in financial markets. In LMEs, institutional arrangements favor shareholder value maximization and managerial incentives linked to stock performance, while CMEs feature stronger labor protections, cross-shareholding, and cultural norms that prioritize firm longevity.

Farah et al. (2021) extend the comparative perspective to the Middle East and North Africa (MENA) region, highlighting the unique challenges and hybrid characteristics of corporate governance in these countries.[34] These authors argue that many MENA nations do not fit neatly into the shareholder vs. stakeholder dichotomy or the Varieties of Capitalism structures highlighted by other authors. Instead, their governance systems are shaped by concentrated

[33] Gajurel, Hridesh (2020) "Short-Termism in Varieties of Capitalism," University of Queensland.
[34] Farah, Bassam, Rida Elias, Ruth Aguilera, and Elie Abi Saad (2021) "Corporate governance in the Middle East and North Africa: A systematic review of current trends and opportunities for future research," *Corporate Governance: An International Review* 29(6), 630-660.

family or state ownership, weak formal institutions, and the influence of Islamic law. The authors argue that these conditions foster informal governance practices, limited transparency, and weak enforcement of shareholder protections. Although their paper does not address firm-level short-termism directly, it emphasizes that poor institution enforcement and low investor trust can exacerbate opportunistic behaviors, hinder long-term investment, and deter foreign direct investment. The MENA region, thus, illustrates how governance vacuums and informal institutional reliance can impede the development of robust corporate governance frameworks and long-term firm investment.

IV. Case Studies of Institutions and Short-Termism

This section illustrates distinct approaches to short- and long-term focus in corporate and economic governance worldwide. The U.S. serves as a baseline due to its longtime struggle with short-term pressures and the recent benefits observed as many companies start adopting long-term strategies. China is examined to demonstrate the negative impact of short-termism on corporate social responsibility. The U.K., with systems similar to the U.S., is included to show how additional regulatory mechanisms help counterbalance short-term pressures. Sweden provides a model of long-term financial stability through its long-term dividend policies. Lastly, the UAE presents a unique case where rapid economic development encouraged short-termism, though recent reforms are shifting the country toward longer-term sustainability.

Based on the following evidence, Sweden exhibits the least short-termism, followed by the U.K., the U.S., China, and the UAE, which shows the most.

IV.A. United States

The U.S. has long struggled with short-term pressures, but recent benefits observed may encourage companies to adopt long-term strategies. The McKinsey Global Institute study found that companies with a long-term orientation significantly outperformed short-term focused firms in terms of revenue, earnings, market capitalization, and returns to shareholders. For example, “among the firms identified as focused on the long term, average revenue and earnings growth were 47 percent and 36 percent higher, respectively, by 2014.”[35] In addition, companies with a long-term focus perform better than others during financial crises and recover more quickly afterward, highlighting the benefits of long-term planning despite pressures to focus on short-term financial results. Furthermore, long-term companies created more value for society and the overall economy by generating more jobs. During the sample period from 2001 to 2015, these companies created nearly 12,000 more jobs on average than other companies, contributing to GDP growth.[36] As a result, companies should attract and retain intrinsic investors who focus on long-term value creation to combat the negative impacts of short-termism.[37]

Recognizing the risks posed by short-termism, the U.S. government has taken steps to address the issue, particularly through the Securities and Exchange Commission (SEC). In 2018, the SEC sought public comment on the potential link between reporting frequency and short-term investment focus, as well as whether shifting from quarterly to semi-annual reporting could help reduce short-termism and support long-term performance.[38]

IV.B. China

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[35] Tim Koller, James Manyika, and Sree Ramaswamy, “The case against corporate short termism,” McKinsey Global Institute, August 4, 2017, https://www.mckinsey.com/mgi/overview/in-the-news/the-case-against-corporate-short-termism.

[36] Tim Koller, James Manyika , and Sree Ramaswamy, “The case against corporate short termism.”

[37] Jay Gelb, David Honigmann, and Werner Rehm, “What your most important investors need to know,” McKinsey & Company, November 28, 2023, https://www.mckinsey.com/capabilities/strategy-and-corporate-finance/our-insights/what-your-most-important-investors-need-to-know.

[38] Matt Slattery, Christine Mazor, and Mark Miskinis, “SEC Seeks Input on Quarterly Reports and Earnings Releases,” Deloitte, December 21, 2018, https://dart.deloitte.com/USDART/home/publications/archive/deloitte-publications/heads-up/2018/sec-seeks-input-quarterly-reports-earnings.

A study examines the impact of managerial short-termism on corporate social responsibility (CSR) engagement in China, using 23,253 firm-year observations from 2007 to 2022 among Chinese publicly listed companies.[39] The study finds that managerial short-termism has a negative impact on CSR engagement by analyzing data from CSMAR, which provides CSR scores "based on a company's performance in eight areas, namely, employee welfare, environmental protection, workplace safety, supplier relations, shareholder rights, customer protection, creditor rights, and CSR system construction."[40]

There are variations in the impacts of managerial short-termism on CSR across different regions, ownership structures, and industries. Regional economic development and market maturity influence regional variations, with more developed regions showing stronger negative effects of short-termism on CSR. Ownership characteristics also affect how companies respond to short-term pressures. State-owned enterprises are more likely to experience the negative impact of managerial myopia on CSR performance compared to non-state-owned enterprises. Furthermore, short-term thinking affects non-polluting industries more, while polluting industries benefit from strict environmental regulations that protect CSR efforts from myopic management.

To promote a long-term managerial orientation and improve CSR performance in China's evolving business environment, region-specific policies should address economic disparities, industry-specific approaches should strengthen regulations in non-polluting sectors, and ownership-specific governance reforms for state-owned enterprises should focus on resolving

[39] Cong Zhang, Wei Teng, and Zhaoqian Liu, "Does managerial short-termism affect corporate social responsibility?" Science Direct, December 4, 2024, https://www.sciencedirect.com/science/article/pii/S1544612324016106.
[40] Cong Zhang, Wei Teng, and Zhaoqian Liu, "Does managerial short-termism affect corporate social responsibility?"

commercial-social conflicts. These changes are crucial steps toward achieving sustainable business practices.

IV.C. United Kingdom

Out of all the systems evaluated in this paper, the U.K. remains the most similar to the U.S. as outlined in Exhibit 1. Both countries rely heavily on public equity markets due to their equity-based financial structures.[41] However, the U.K. employs additional regulatory mechanisms such as the Corporate Governance and Stewardship Codes to foster long-term oversight.[42] The U.K. Corporate Governance Code ensures listed companies operate with accountability by setting principles on leadership and risk management, following a “comply or explain” approach.[43] The U.K. Stewardship Code guides investors toward responsible investing by integrating ESG factors and promoting long-term value through transparent reporting.

Researchers find that these codes have been effective in fostering compliance. By 2004, “more than half of the non-financial constituents of the FTSE350 were fully compliant with all provisions of the Code.”[44] However, enforcement remains a challenge, as many non-compliant firms provide little-to-no explanations for deviations.[45] The Corporate Governance and Stewardship Codes measures in the U.K. help mitigate some pressures of short-termism, suggesting that a combination of equity-based financing and long-term oversight can create a balanced approach to corporate governance and sustainable growth if administered properly.

IV.D. Sweden

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[41] Karen van der Wiel, Lu Zhang, and Natasha Kalara, "Firm Financing in Bank-Based and Market-Based Financial Systems After the Global Crisis," VoxEU, March 9, 2019, https://cepr.org/voxeu/columns/firm-financing-bank-based-and-market-based-financial-systems-after-global-crisis.

[42] Financial Reporting Council. UK Stewardship Code. Accessed March 25, 2025. https://www.frc.org.uk/library/standards-codes-policy/stewardship/uk-stewardship-code/.

[43] Sridhar Arcot, Valentina Bruno, and Antoine Faure-Grimaud, "Corporate Governance in the UK: Is the Comply or Explain Approach Working?" International Review of Law and Economics 30, no. 2 (2010): 193–201, https://doi.org/10.1016/j.irle.2010.03.002.

[44] Arcot et al., "Corporate Governance in the UK: Is the Comply or Explain Approach Working?"

[45] Arcot et al., "Corporate Governance in the UK: Is the Comply or Explain Approach Working?"

In Sweden, the dividend system operates as a countermeasure against short-termism. Swedish firms use stable and predictable dividend payouts, typically three to five times the yield of comparable U.S. companies, not merely to satisfy immediate shareholder demands but serve as an indicator of sustainable financial management and governance.[46] In Sweden, dividends are closely linked to long-term performance. Additionally, Swedish companies complement their dividend policies with substantial investments in research and development.

Due to this system, a group of researchers at the Stockholm School of Economics found "no material implication of short-termism" in the Swedish corporate context, suggesting that the dividend system combined with equity-based financial structure effectively mitigate the negative impact of short-term pressures.[47] This approach creates a cycle of stability and innovation, in contrast to the more volatile, short-term oriented practices observed in the U.S. and U.K.[48] Together, these elements underscore why the Swedish equity-based system is more successful in promoting sustainable growth while minimizing the adverse effects of short-termism.

IV.E. United Arab Emirates

The UAE presents a unique case of short-termism, unlike the other countries examined. Short-termism in the UAE is particularly evident in its labor market, real estate and investment strategies, and is driven by rapid economic development, reliance on foreign labor, and regulations that prioritize short-term over long-term economic gains. For many years, government regulations like the "Kafala" sponsorship and short-term visa policies have built a transient workforce that fueled immediate short-term development but left no room for long-term

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[46] Simply Wall St, "Top Swedish Dividend Stocks Yielding Up to 5.5%," *Yahoo Finance*, August 20, 2024, https://finance.yahoo.com/news/top-swedish-dividend-stocks-yielding-020515699.html.

[47] Martin Carlsson-Wall et al., *Corporate Governance and Short-Termism: An In-Depth Analysis of Swedish Data* (Stockholm: Stockholm School of Economics, 2021), https://ecoda.eu/wp-content/uploads/2019/08/Carlsson-Wall-et-al-2021-Dividends-in-Sweden_final.pdf.

[48] Esbjörn Segelod, "A Comparison of Managers' Perceptions of Short-Termism in Sweden and the U.S.," *International Journal of Production Economics* 63, no. 3 (1999): 243–254, https://www.sciencedirect.com/science/article/pii/S0925527399000183.

labor stability and growth.[49] In the real estate sector, Dubai has recently seen a surge in vacation rentals, supported by looser property laws that attract global investors seeking immediate profit.[50] A recent study also found that short-term corporate goals are affecting youth career aspirations, with few pathways for long-term growth.

Nevertheless, recent regulatory decisions suggest that the UAE is rethinking its strategy. The introduction of long-term residency visas and policies allowing 100% foreign ownership in various sectors reflect efforts to reduce short-termism by encouraging long-term investments, talent retention, and sustainable future.[51]

V. Panel Expert Insights

To get a deeper understanding of what's driving short-term thinking in today's business world and how it's different across countries, it's important to consider expert insights. Their insights highlight not just why short-termism persists, but also what might help push companies to take a longer view. From ESG metrics to shifts in corporate governance and investor expectations, this section looks at some of the key ideas shaping the conversation around long-term thinking. We heard from Professor Jay Zagorsky, a research professor whose work examines the factors that influence personal wealth accumulation and mobility over time. Also, Professor Fernando Zapatero shared insights from his extensive research in asset pricing and financial economics, particularly on how different investment horizons affect market dynamics and investor behavior.

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[49] Hamza, Sara. "Migrant Labor in the Arabian Gulf: A Case Study of Dubai, UAE." Pursuit - The Journal of Undergraduate Research Pursuit - The Journal of Undergraduate Research at The University of Tennessee at The University of Tennessee. Accessed March 25, 2025. https://trace.tennessee.edu/context/pursuit/article/1244/viewcontent/Sara_Hamza.pdf.

[50] R, Kristine. "The Evolution of Vacation Rentals and Short-Term Property Management in Dubai." Kaizen Asset Management Services, July 8, 2024. https://www.kaizenams.com/the-evolution-of-vacation-rentals-and-short-term-property-management-in-dubai/.

[51] Parambath, Pushpakaran. "New Mindset of Foreign Investments to UAE – Case Studies." Kreston Menon, January 22, 2025. https://www.krestonmenon.com/new-mindset-of-foreign-investments-to-uae-case-studies/.

V.A. Effect of ESG Metrics

The integration of Environmental, Social, and Governance (ESG) metrics into investment decisions is increasingly influencing corporate strategy. ESG inherently promotes a long-term perspective, urging firms to align their operational strategies with sustainable outcomes that prioritize long-term investing.[52] As emphasized by Professor Jay Zagorsky, ESG adoption explicitly encourages companies to consider their longevity over decades, particularly by prioritizing governance structures that allow for sustainable operations and environmental practices that address global concerns.[53]

However, as Professor Fernando Zapatero suggests, the notion of what constitutes "long-term" can significantly vary depending on context and industry specifics. While environmental initiatives seem to align with long-term timelines, the financial implications of ESG ratings are still ambiguous.[54] Zapatero highlights skepticism regarding ESG ratings due to concerns about manipulation and treating it as a "game". Moreover, evidence on whether ESG performance directly correlates with stock returns in shorter periods (one to five years) is inconclusive, reflecting challenges in validating ESG's impact.[55]

Globally, these diverging perspectives suggest that while ESG frameworks may or may not counteract corporate short-termism, the effectiveness of ESG depends substantially on standardized, credible measurements and international consistency. Thus, while ESG holds promise in a broader shift towards sustainability, its practical impact may remain contingent upon improved global coordination and transparency in ESG metrics.

V.B. Effects of Cultural Attitudes on Corporate Risk and Timing

[52] Jay Zagorsky, remarks during panel discussion, "Short-Termism," hosted by the Mehrotra Institute at Boston University, Boston, MA, April 11, 2025.

[53] Zagorsky, remarks during panel discussion, April 11, 2025.

[54] Fernando Zapatero, remarks during panel discussion, "Short-Termism," hosted by the Mehrotra Institute at Boston University, Boston, MA, April 11, 2025.

[55] Zapatero, remarks during panel discussion, April 11, 2025.

Cultural differences and variations in individuals' attention spans both influence whether societies and organizations adopt short-term or long-term approaches. Professor Zagorsky stated that Japan tends to prioritize long-term outcomes rather than short-term profits, whereas the U.S. typically exhibits a much shorter-term focus. He also highlighted that social media has impacted the time orientation of younger generations compared to older ones.[56] According to a study conducted by Microsoft Corporation, the average human attention span has dropped from twelve seconds to eight seconds since the early 2000s.[57] Professor Zagorsky further noted that countries with lower levels of social media use tend to exhibit a longer-term focus.[58] While direct cross-country studies are limited, it is reasonable to infer that populations with lower social media engagement may maintain greater attention spans, potentially encouraging more long-term planning and reducing short-termism. This relationship highlights the importance of considering digital media consumption patterns when addressing issues related to short-term focus in societal and corporate contexts.

Professor Zapatero offered new perspectives, suggesting that the origins of short-termism stem from peer pressure.[59] The desire to belong and fit in can cause individuals to conform to group opinions, even when those views conflict with their own. This pressure to align with the group can lower the quality of contributions and lead to poorly considered decisions.[60] As a result, innovation may be stifled, and long-term thinking may be affected. He also emphasized

[56] Jay Zagorsky, remarks during panel discussion, "Short-Termism," hosted by the Mehrotra Institute at Boston University, Boston, MA, April 11, 2025.
[57] Kevin McSpadden, “You Now Have a Shorter Attention Span Than a Goldfish,” Time, May 14, 2015, https://time.com/3858309/attention-spans-goldfish/.
[58] Zagorsky, remarks during panel discussion, April 11, 2025.
[59] Fernando Zapatero, remarks during panel discussion, "Short-Termism," hosted by the Mehrotra Institute at Boston University, Boston, MA, April 11, 2025.
[60] “How does peer pressure influence your decision-making in groups” LinkedIn, Accessed April 22, 2025, https://www.linkedin.com/advice/0/how-does-peer-pressure-influence-your-decision-making-e4ite#:~:text=In%20the%20realm%20of%20business,and%20diverse%20perspectives%20are%20valued.

that asset managers are frequently compensated based on short-term performance.[61] This type of incentive structure, common in hedge funds, can have negative consequences, as large bonuses tied to immediate returns may encourage short-term, profit seeking behavior.[62] Such compensation models are seen as significant contributors to the broader issue of short-termism.

V.C. Implications of Potential Erosion of "Inclusive Economic Institutions"

Since countries with inclusive economic institutions have policies that help promote widespread involvement in the economy, they are more likely to experience economic growth and create a positive environment for business and overall economic success. However, changing politics could threaten the existence of such institutions.

Such an erosion would have varied implications for short-termism across countries depending on the structure of stock ownership and the nature of corporate governance. Professor Zapatero noted that in countries with high population ownership of stocks, such as the US, companies focus primarily on their stock prices and maximizing shareholder value, both forms of short-termism.[63] Contrarily, in countries where ownership is more concentrated and fewer individuals are stockholders, this dynamic shifts. Instead, there is less immediate pressure to deliver value to shareholders, thereby reducing short-termism.

Professor Zagorsky presented a more provocative view, suggesting that while short-termism has long been criticized as harmful, the current unpredictability and threat of erosion of inclusive economic institutions could make short-termism more practical.[64] He argued that focusing on the long-term could be foolish when future conditions are so uncertain that even

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[61] Zapatero, remarks during panel discussion, April 11, 2025.

[62] James Surowiecki, "Performance-pay Perplexes," The New Yorker 100, November 4, 2007, https://www.newyorker.com/magazine/2007/11/12/performance-pay-perplexes?utm_source=chatgpt.com; "Short-termism pressures from financial market," ESMA Report on Trends, Risks and Vulnerabilities, 2020, https://www.esma.europa.eu/sites/default/files/trv_2020_1-short_termism_pressures_from_financial_markets.pdf.

[63] Fernando Zapatero, remarks during panel discussion, "Short-Termism," hosted by the Mehrotra Institute at Boston University, Boston, MA, April 11, 2025.

[64] Zagorsky, remarks during panel discussion, April 11, 2025.

predicting what might happen next week is a challenge, let alone the next decade. Therefore, his view is that the relevance and risks of short-termism are both context-dependent; particularly, they could be more justified or volatile in potentially rapidly changing environments when long-term planning is unpredictable.

VI. Conclusion

In conclusion, short-termism remains a challenge, but its impact varies significantly across national and institutional contexts. Some argue that short-termism results in reduced innovation, earnings manipulation, and poor long-term investment, while others argue that short-term performance is crucial for business survival and does not necessarily undermine long-term growth. International comparisons highlight how institutional differences offer unique mechanisms for balancing immediate returns with sustainable growth. Case studies from the U.S., China, the U.K., Sweden, and UAE further illustrate how regulatory and institutional factors shape corporate behavior. A combination of regulatory oversight, long-term investor engagement, and corporate governance reforms can help firms navigate the tension between short-term pressures and long-term success. Moving forward, businesses and policymakers must take an approach that acknowledges the trade-offs while fostering an environment that prioritizes sustainable growth.

Exhibit

Exhibit 1: Models of Corporate Governance across countries

	United States	United Kingdom	Germany	Netherlands	Switzerland
Goals of Corporate Governance	Shareholder model	Shareholder model	Stakeholder model	Shareholder model	Shareholder model
Board Structure	One-tiered	One-tiered	Two-tiered	Two-tiered	One-tiered
Mandatory	Required by SOX	Comply or explain	Required by law	Comply or explain	No
CEO/ Chair Duality	Permitted	Not Permitted	Prohibited	Not Permitted	Permitted
Appointment of Independent Auditor	Independent Audit Committee	Independent Audit Committee	Supervisory Board	Shareholders through the Audit Committee	Shareholders elect
Required Disclosure	Limited in 10K, details in Proxy Statements	In Annual Report, less than U.S. requires	In Annual Report	In Annual Report	In Annual Report
Independence Achieved	Committee Structure	Committee Structure	Board Structure	Board Structure	Shareholder Autonomy

To what extent does political affiliation influence firms' adoption of ESG-linked executive compensation policies?

Research leader: Prof. Hao Xing

Researchers: Zhiyu (Eric) Chen, Araav Gupta, Fiona (Yi Jou) Chiu

Abstract

The goal of this research project is to better understand the extent to which companies are incentivized to use ESG-linked compensation—executive pay tied to environmental, social, and governance goals—based on the political affiliation of the elected governor of the state in which they are headquartered. Specifically, it aims to examine whether the political affiliation of the state where companies locate impacts the decision to adopt or discontinue such a compensation structure.

I. Introduction

In the United States, the two principal political parties—Democrats and Republicans—hold fundamentally divergent views on policies intended to incentivize corporate emission reductions. This study seeks to examine the extent to which the political environment shapes corporate approaches to ESG-linked compensation, specifically whether firms adopt a short-term or long-term orientation. In particular, it investigates whether the party in power—at both the federal and state levels—influences corporate decisions to either shift toward short-termism or sustain a commitment to long-term, sustainability-driven performance incentives.

Based on the findings of this study, which analyzes the behavior of 71 companies operating in industries where ESG criteria are commonly emphasized (e.g., energy, utilities, extraction), there does not appear to be a clear or immediate correlation between the discontinuation of ESG-linked compensation policies and the political orientation of state governments. However, there is evidence of a trend wherein companies begin to discontinue such policies following a change in the governing political party. However, this conclusion is drawn from a limited dataset comprising only a small number of companies that have discontinued such policies, which may limit the generalizability of the results. This trend is also very recent, having emerged only in the past few years. Future political uncertainty could alter this pattern, but more time is needed to better understand the long-term effects.

II. Research Context

Historically, Republican-led states are less likely to have ESG-linked compensation policies compared to Democrat-led states. In many Republican-led states, there has been a continuous effort to counteract ESG initiatives and policies that are thought to have a negative impact on traditional energy sectors such as coal and natural gas. For instance, between 2021 and 2024, Republican lawmakers in 40 states introduced 392 bills seeking to use state contracting to steer money manager investments away from investments that are deemed to disadvantage the fossil fuel industry, according to a report Pleiades Strategy released.[1]

In contrast, Democrat-led states are more likely to incentivize ESG-linked compensation policies compared to Republican-led states. For instance, Washington state's Climate Commitment Act established a cap-and-invest program to reduce greenhouse gas emissions, which reflects a broader commitment to sustainability. Even though there has been no specific state-level policies in Democratic-led states that incentivize the integration of ESG metrics into executive compensation structure, a study published in the "Studies in Economics and Finance" journal found that companies with headquarters in Democratic-leaning states have a 31% higher incorporation rate of ESG-linked compensation plans compared to those in Republican-leaning states.[2]

Given the variation in ESG mandates across states, particularly the weaker ESG political affiliation in Republican-led states, this paper examines whether utility, energy, and extraction companies in these states are more likely to discontinue ESG-linked compensation policies than those in Democratic-led states. The analysis of this paper will focus on the discontinuation rate of such policies among 71 utility, energy, and extraction companies, assessing correlations between state-level political affiliation and corporate decisions on executive incentives.

[1] Karin Rives, "Dozens of New State Anti-ESG Bills Introduced; Federal Legislation Expected," S&P Global Market Intelligence, January 31, 2025, https://www.spglobal.com/market-intelligence/en/news-insights/articles/2025/1/dozens-of-new-state-antiesg-bills-introduced-federal-legislation-expected-87342102?

[2] Emma Y. Peng and William Smith III, "Politics, Integration of ESG in CEO Compensation, and Firm Credit Ratings: Evidence from the USA," Studies in Economics and Finance, November 24, 2023, https://www.emerald.com/insight/content/doi/10.1108/sef-06-2023-0350/full/html?skipTracking=true.

By researching this question, the goal is to better understand to what extent companies are currently incentivized to use ESG-linked compensation due to the government political affiliation. By identifying whether companies used short-termism vs long-termism with their ESG-linked compensation, it is possible to deduce if companies are motivated by their social responsibility goals or government incentives to decide their ESG-linked compensation policies.

This paper focuses on comparing the discontinuity rate of ESG-linked compensation policy, rather than the ESG-linked compensation rate between Democrat-led and Republican-led states because the presence of such policies alone does not reflect how durable or committed firms are to ESG principles. Through examining the discontinuation rate, the paper can better understand the influence of regulatory shifts in Republican-led states where anti-ESG legislation has intensified especially over the past several years. Hence, examining the discontinuity rate helps to examine how external pressure like changes in government may cause companies to retract previously enacted ESG-linked compensation policies. This approach can help to offer insights into if companies are truly committed to ESG and sustainability, or if they are only implementing such initiatives to capitalize on government incentives.

A company that discontinues these practices when regulatory support weakens may suggest that its ESG efforts were either performative or compliance-driven. In contrast, companies that maintain their ESG-linked compensation despite shifting political or regulatory landscapes may demonstrate a stronger internalization of ESG principles as part of their core mission and values.

III. Literature Reviews

Recent academic research has documented the growing prevalence of ESG-linked executive compensation as a corporate governance mechanism, and within the ESG-linked executive compensation structure, an increasing emphasis on ESG metrics such as increased sustainability and reduced carbon emission. A seminal study by Flammer et al. (2019)[3] examining S&P 500 companies found that the adoption of ESG contracting increased significantly from 12% in 2004 to 37% by 2013. Their analysis demonstrates that incorporating environmental and social metrics into executive pay leads to meaningful organizational changes, including enhanced long-term orientation, improved firm value, and better environmental performance. Particularly noteworthy is their finding that ESG contracting reduced toxic emissions by 8.7% and increased investment in green innovation. The effectiveness of these incentives was found to be significantly greater when ESG-based compensation constituted a substantial rather than symbolic portion of total executive pay.

As international research shows, this trend of incorporating ESG criteria into executive compensation extends beyond the U.S. market. A comprehensive study by Tsang et al. (2021)[4] examining firms across 30 countries found that ESG contracting increased from 2% to over 24% between 2004 and 2015. Their research reveals that ESG-linked compensation is particularly effective in promoting innovation in countries with weak stakeholder orientation and legal environments. The authors identify several channels through which ESG contracting drives innovation, including enhanced employee productivity, increased managerial risk-taking, and improved allocation of R&D investments. These findings suggest that ESG contracting can

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[3] Caroline Flammer and Bryan Hong, “Corporate Governance and the Rise of Integrating Corporate Social Responsibility Criteria in Executive Compensation: Antecedents and Outcomes,” *SSRN Electronic Journal*, 2016, https://doi.org/10.2139/ssrn.2831694.
[4] Albert Tsang et al., “Integrating Corporate Social Responsibility Criteria into Executive Compensation and Firm Innovation: International Evidence,” *Journal of Corporate Finance* 70 (October 2021): 102070, https://doi.org/10.1016/j.jcorpfin.2021.102070.

serve as an effective mechanism to overcome institutional weaknesses and promote long-term value creation through innovation. The study demonstrates that the impact of ESG incentives varies significantly based on institutional context.

As deducted from the reading “ESG-linked pay trend”,[5] It can be summarized that ESG-linked pay adoption is influenced by a country’s culture, legal, and institutional environment. Overall, companies in wealthier economies are more likely to adopt ESG-linked pay than those in emerging economies, and government incentives are also highly linked to the adoption rate. For instance, France and Germany had higher adoption rates, and extractive industries generally showed the highest adoption rate. This is likely due to government incentives in these industries and nations, where companies can face fewer penalties if they adopt an ESG-linked pay system. Based on the reading “CSR contingent executive compensation contracts”, it can be seen that there has been an overall growing trend of companies tying executive pay to CSR metrics, which include ESG criteria such as environmental sustainability metrics. Based on the reading, industries with significant environmental and regulatory scrutiny are more likely to adopt ESG-contingent pay. Companies with strong governance and high credit ratings are more likely to adopt ESG-linked pay.

Both readings demonstrate that company types and company performance influence ESG-linked compensation. Overall, companies with strong governance and high stability in the extractive industries are more likely to adopt ESG-linked pay. Linking back to the research question, “If the political party changed, would fewer companies adopt ESG-linked compensation?” This led to the hypothesis that companies with higher scrutiny on their environmental practices are more likely to adopt ESG-linked pay to prevent public criticisms.

[5] Sonali Hazarika et al., “ESG-Linked Pay around the World -Trends, Determinants, and Outcomes,” *SSRN Electronic Journal*, 2023, https://doi.org/10.2139/ssrn.4410068.

IV. Theoretical Framework

The theoretical framework employed in this paper is institutional theory, which posits that companies respond to regulatory, normative, and cultural pressures within their environment. According to this theory, firms operating in states with specific political affiliation are subject to greater coercive pressure to adopt ESG-linked incentives. In line with this framework, the paper explores the following hypothesis:

> ***Firms in Republican-led states are more likely to exhibit higher discontinuation rates of ESG-linked executive compensation, reflecting an institutional environment that fosters short-termism.***

V. Methodology

This study builds on prior ESG-related research, including the work of Professor Hao Xing from Boston University. Due to its strong connection to ESG considerations, the utility, energy, and extraction industries were selected for analysis. These sectors have a significant environmental impact, social responsibility obligations, and governance requirements, making them subject to intense scrutiny from stakeholders and regulators regarding sustainability performance. Therefore, analyzing ESG-linked executive compensation policies within this industry is particularly relevant.

The first step of the analysis involved reviewing company proxy statements to determine whether firms included ESG-linked executive compensation. These proxy statements either directly or indirectly indicated the use of ESG-related performance metrics in executive pay structures. The findings were recorded in an Excel spreadsheet, with a value of “1” representing the presence of ESG-linked compensation and “0” indicating its absence. This initial classification was then verified using ChatGPT; if discrepancies were found between the model’s output and the recorded data, further manual research was conducted. Once verification was complete, additional company information—including the state location of headquarters and stock ticker—was added. Finally, the data was sorted and analyzed to identify which companies had discontinued ESG-linked compensation. For instance, if a company had a value of “1” from 2010 to 2019 and a “0” starting in 2020, it was considered to have discontinued such compensation.

Following the implementation of this methodology, 35 companies were identified as having adopted—or previously adopted—ESG-linked executive compensation from a total of 71 companies in the utility, energy, and extraction sectors. Among these, 5 companies were found to have discontinued ESG-linked compensation. By collecting information about the geographical location of company headquarters and the political leaning of each state, companies were categorized into three groups: (1) those in Democratic states (states that majority voters have consistently voted for Democratic candidates in Presidential election since 2008), (2) those in Republican states (states that majority voters have consistently voted for Republican candidates in Presidential election since 2008), and (3) those in swing states (states where the majority vote in Presidential election shifted from one political party to another between 2008 and 2024). Adoption and discontinuation rates were then calculated for each state and group. To further assess whether geographic or political factors influence ESG compensation discontinuation, correlation analyses and chi-square significance tests were conducted.

VI. Research findings

Based on the state-by-state analysis on discontinuity rate and adoption rates by states headquartered in by the 71 companies on the list, it can be concluded that democratic states show the highest adoption rate of ESG-linked compensation at 59.09%, Swing states fall in between at 47.83%, while Republican states have the lowest adoption rate at 42.31%, as seen in Appendix 3. This confirms our research that firms located in Democratic states are likely to have a higher adoption rate of ESG-linked compensation policy. Evidence from the literature reviews mentioned previously also back this up, where a *Studies in Economics and Finance* study found companies in Democratic-leaning states are 31% more likely to adopt ESG-linked compensation plans than those in Republican-leaning states.[6]

When comparing the discontinuity rate of ESG-linked compensation policy based on states' political orientation, Swing states exhibit the highest discontinuity rate at 21.43% compared to Democratic states at 11.11% and Republican states at 4.17%. Unexpectedly, Republican states have both the lowest adoption rate of ESG-linked policy and discontinuity rate after adopting such policy. This suggests the opposite of our hypothesis: while companies in Republican-led states are less likely to adopt ESG-linked compensation policies, those that do are comparatively more likely to retain them.[7]

Despite the unexpected finding, another pattern shown in swing states discontinuity rate raised our interest in exploring more. Companies in swing states exhibit a higher possibility of discontinuing using ESG-linked compensation structures compared with companies located in states that consistently support one political party. An assumption was made that this may be due to the shifting balance of power between Democratic and Republican parties, which can

[6] See Appendix 1 and 2 for more details
[7] See Appendix 1 and 2 for more details

lead to a fluctuating regulatory environment and bring companies uncertainties regarding ESG initiatives.

In order to develop a clearer understanding of the adoption of ESG-related compensation over the years based on political affiliation, further analysis was conducted. Companies were sorted into two groups depending on the political affiliation of the state they are headquartered in. Overall, the number of companies adopting ESG-related compensation in both Democratic and Republican states are increasing. However, there are several trends that can be observed based on the change in presidency. In 2016, when President Trump first came into office, there were no companies in Democratic states that had ESG-related compensation. This changed when Biden came into power and the number of companies in Democratic states suddenly increased. However, once again, President Trump's win in 2024 has seen a decrease in the number of companies. While it is too early to label this trend, it seems as if companies in Democratic states are more likely to discontinue ESG-related compensation when the party in power is Republican. It will be interesting to see how this plays out in the coming years and if more companies in Democratic states begin to discontinue.

Conversely, companies in Republican states have seen more stable growth. The number of companies has grown significantly from 2010 to 2024. However, a similar trend to the one seen in companies in Democratic states seems to occur in 2020. The year that Biden came into office saw a decline in the number of companies in Republican states who implemented ESG-related compensation. While this may signal that companies in Republican states too react unfavorably when the party in power is Democratic, this occurred during 2020 when the effects of Covid-19 were being felt by corporations. Whether the discontinuation is due to cost-savings or a change in the political party is hard to evaluate.[8]

[8] See Appendix 3 for more details

VII. Connection With Short Termism

Our research indicates that inconsistent government support for ESG criteria poses significant challenges to corporate sustainability efforts. Shifts in political leadership at the federal or state level often lead to unstable ESG-related policies and fluctuating regulatory requirements. This volatility compels companies to continuously adjust their ESG strategies in response to evolving political landscapes, rather than committing to long-term sustainability objectives.

Moreover, investor priorities further reinforce this short-term focus. Financial returns and dividend yields remain central to many investors' expectations, exerting additional pressure on companies to emphasize near-term profitability. This dynamic becomes particularly pronounced when political backing for ESG initiatives weakens, prompting firms to scale back or delay long-term sustainability investments.

As a result, both political uncertainty and investor demands contribute to a corporate environment in which short-term economic outcomes take precedence over the potential long-term benefits of robust ESG engagement. In the face of regulatory unpredictability, organizations often adopt a more conservative stance—prioritizing financial stability and investor confidence by reallocating resources from long-term ESG initiatives to short-term financial objectives.

VIII. Panel Discussion

The 2025 Ravi K. Mehrotra Institute's Inaugural Summit on Short-Termism provided an opportunity for various panelists, students, and faculty members to engage in conversations and discuss the implications of these topics. Two such panelists who shared their thoughts on ESG and executive compensation were Xinxin Wang, Head of MSCI America Sustainable Investment Solution Research, and Charles Tharp, former professor at Boston University Questrom School of Business. There were three key themes that were repeatedly emphasized throughout the summit and by Xinxin and Charles: the idea of short-termism, the ideal ESG strategy, and the regulation of ESG reporting.

Majority of the panelists believe that short-termism is simply the newest buzz-word in the business world. They believe this word does not hold much weight in its meaning, and is only to be used as a discussion point. Business strategy has always been about balancing short-term and long-term goals, although this has been a struggle. Firms prioritize short-term goals because that is what a capitalist economy promotes. Many investors look to allocate capital based on the short-term performances of firms so firms will simply prioritize short-term goals to satisfy these investors. In relation to ESG initiatives, these are also implemented on a short-term basis, even though long-term initiatives may be more profitable in the future.

The general consensus on ESG strategy is that firms should look to balance short-term actions with long-term commitments. Although short-term actions may be more tempting, establishing a management structure that enforces the implementation of long-term commitments is something firms need to work on. Linking both short-term and long-term goals is another way firms address this imbalance. Finally, ESG compensation incentivizes firms to properly implement ESG initiatives into the business. If firms can implement long-term compensation and bonuses into the pay structure, they will be more likely to succeed.

Governments can play a larger role in the regulation of ESG initiatives. Policies that enforce greater transparency and standardization of ESG goals and metrics can help increase the number of firms that both implement and report such initiatives. This can also help prevent executives from gaming ESG metrics to maximize their bonuses without making a real impact.

IX. Recommendations

This paper proposes the following recommendations to corporate management, government policy makers, and shareholders based on the analysis results above:

1. Corporate management should ensure an internal commitment to ESG in the company.

As discovered in the analysis results above, companies that are in swing states with a volatile political environment are more reactive to the changes in external political environments. Hence, it is vital for the company to develop a stronger internal ESG framework that allows the company's ESG decisions to be less reactive to external political shifts or political pressures, but instead more based on the company's own internal commitment to sustainability and ESG goals. To achieve this, it is important for the company to integrate ESG goals such as carbon emission reduction, waste management, and energy efficiency into its core corporate mission to protect the long term sustainability objectives of the company.

2. Government policymakers should mandate ESG transparency standards nationwide.

The governments at both state and federal levels should mandate companies especially in sectors that are known for high carbon emissions such as companies in the utility, energy, and extraction industry to align with nationally or internationally recognized ESG reporting standards, such as GRI (Global Reporting Initiative) or SEC climate disclosure rules. These standards can enable transparency and comparability in ways the company disclose their environmental impacts regardless of which state they are headquartered in. This enables the company to drive long term-value creation to mitigate regulatory risks while avoiding short-termism in their commitment to ESG.

3. Institutional investors should incentivize ESG persistence in companies.

Continuous support from institutional investors on shareholder resolutions that compensate ESG goals such as encouraging companies to maintain ESG-linked pay can signal investor demand for long term sustainability and accountability. This can incentivize companies to continue to adapt ESG initiatives even in times of political push backs or uncertainty. This in terms will benefit institutional investors by improving long term financial performance, reduce social risks that could negatively impact financial performance, and protect their investment portfolio stability by avoiding environmental disasters that could potentially lead to public backlash that lowers the entire sector's profitability.

X. Limitations In The Research

A limitation of this study is that because of the small sample size each state has, it might be challenging to determine a pattern of discontinuation rate. For instance, out of the 13 companies in Democratic states that have adopted the ESG initiative, only one discontinued. Hence, it is important to note that adoption rates vary between states due to a limited sample number of utility, energy, and extraction companies located in each state. For instance, although all are headquartered in Democratic states, firms in California exhibit a 0% ESG adoption rate, whereas those in Colorado, Connecticut, and Delaware show a 100% adoption rate.This can make it difficult to determine the real trends between ESG-linked compensation adoption vs the political status of the state due to the limited number of the companies that discontinued such practice. Future research with a larger sample across a greater number of different companies could help address this issue and uncover more reliable patterns.

XI. Future Outlook

Prospectively, the impact of the new U.S. presidency on ESG-linked executive compensation will largely depend on the administration's political and regulatory priorities. A presidency that supports climate action, social equity, and strong corporate governance is likely to accelerate the adoption of ESG metrics in executive compensation plans. Conversely, a presidency that deprioritizes or pushes back against ESG initiatives may slow or even reverse that momentum. A supportive administration may expand their efforts to require greater transparency and standardization. The extent to which ESG principles are promoted, enforced, or challenged at the federal level will play a critical role in shaping corporate behavior, in regarding the integration of sustainability or ESG-linked metrics into executive compensation structures.

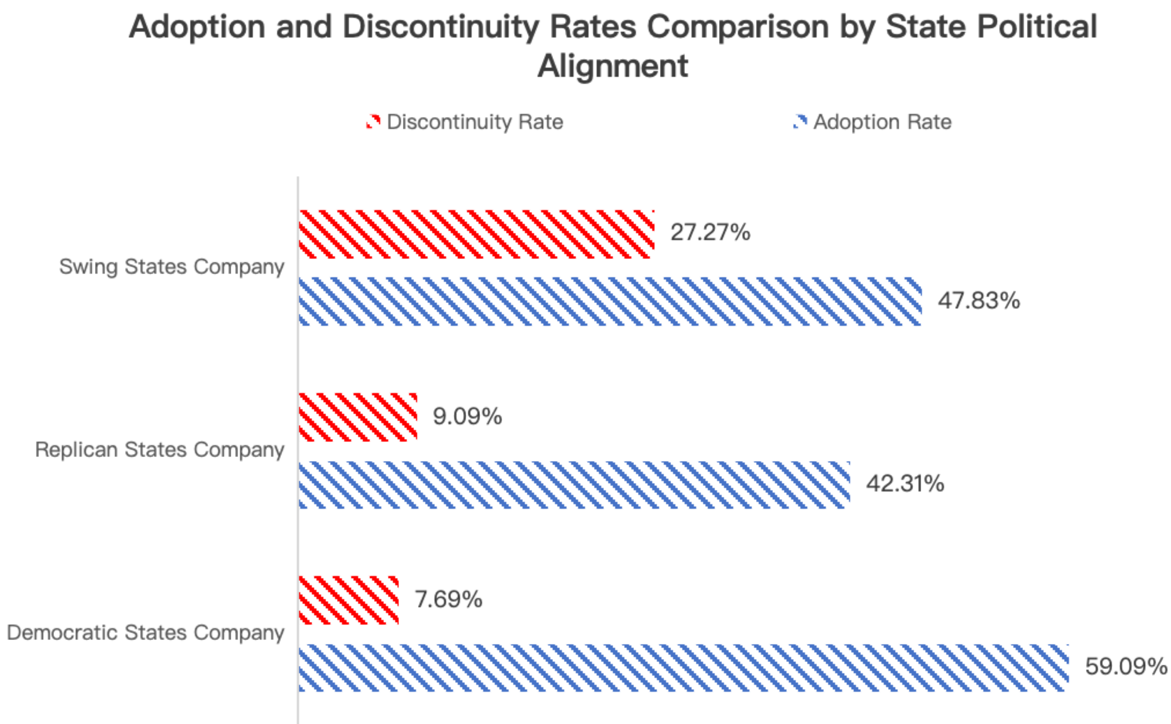
Additionally, a supportive administration would likely strengthen the hand of institutional investors, such as BlackRock and State Street, who have been vocal advocates for ESG accountability. These investors often support shareholder resolutions that link ESG targets to compensation, especially in sectors like energy, manufacturing, and technology. If the presidency is critical of ESG initiatives or adopts a deregulatory stance, the push for ESG-linked executive pay could lose momentum and more companies may discontinue this type of compensation. In such an environment, boards of directors may choose to prioritize traditional financial performance metrics such as revenue growth, earnings per share, or total shareholder return, rather than environmental or social goals.

Appendix

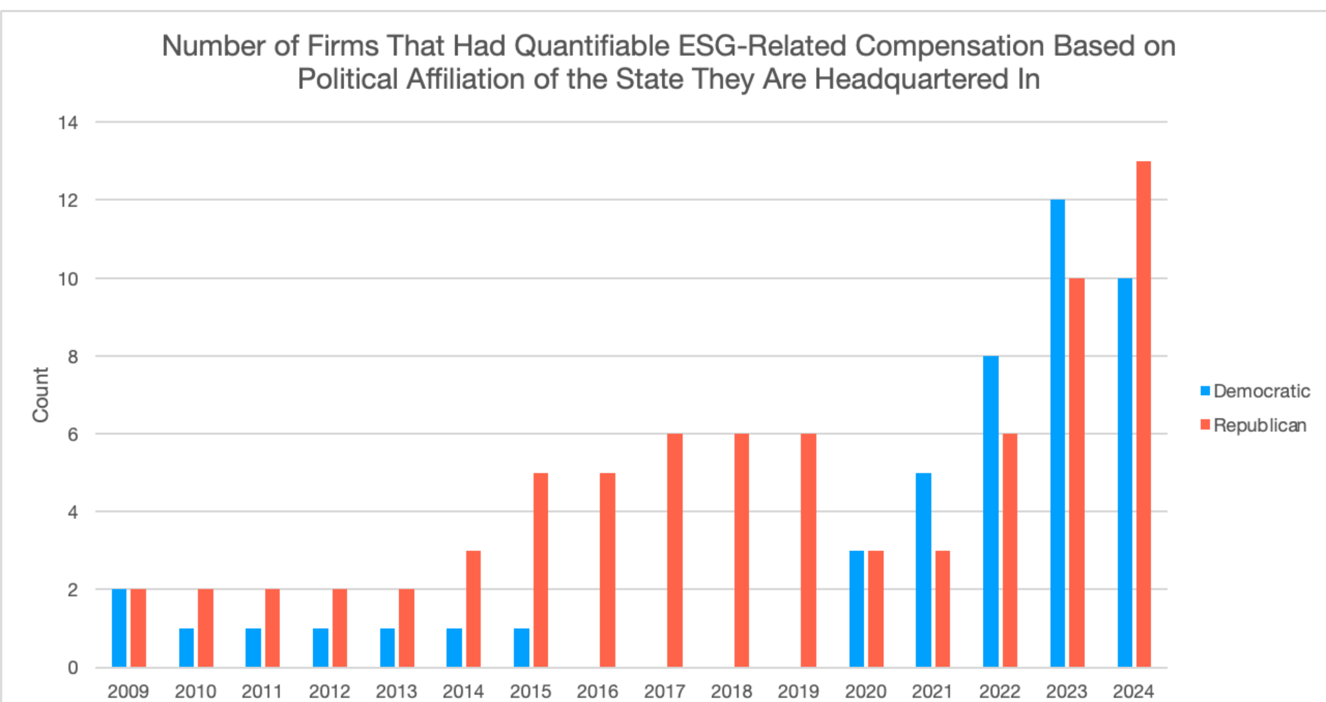
Democratic States	Company count by state	ESG incentive adopting companies by state	States by number of companies that dropped ESG incentives.	Adoption Rate (# of ESG-adopting companies (Dem)/# of companies (Dem))	Discontinuity rates (#ESG dropouts (Dem)/ #ESG adopters (Dem))
California	2	0	0	0.00%	0.00%
Colorado	3	3	0	100.00%	0.00%
Connecticut	2	2	0	100.00%	0.00%
Delaware	1	1	0	100.00%	0.00%
Illinois	5	2	0	40.00%	0.00%
Massachusetts	2	1	1	50.00%	100.00%
New York	3	2	0	66.67%	0.00%
Virginia	2	0	0	0.00%	0.00%
Washington	2	2	0	100.00%	0.00%
TOTAL	**22**	**13**	**1**	**-**	**-**
AVG.	**-**	**-**	**-**	**59.09%**	**7.69%**
Republican States	**Company count by state**	**ESG incentive adopting companies by state**	**States by number of companies that dropped ESG incentives.**	**Adoption Rate (# of ESG-adopting companies (Rep)/# of companies (Rep))**	**Discontinuity rates (#ESG dropouts (Rep)/ #ESG adopters (Rep))**
Alabama	1	0	0	0.00%	0.00%
Idaho	1	1	0	100.00%	0.00%
Indiana	3	1	0	33.33%	0.00%
Kansas	1	0	0	0.00%	0.00%
Mississippi	1	0	0	0.00%	0.00%
Missouri	2	1	0	50.00%	0.00%
Nebraska	1	1	0	100.00%	0.00%
North Carolina	4	3	0	75.00%	0.00%
Oklahoma	1	1	0	100.00%	0.00%
South Carolina	2	0	0	0.00%	0.00%

Tennessee	3	1	0	33.33%	0.00%
Texas	6	2	1	33.33%	50.00%
TOTAL	**26**	**11**	**1**	**-**	**-**
AVG.	**-**	**-**	**-**	**42.31%**	**9.09%**
Swing States	**Company count by state**	**ESG incentive adopting companies by state**	**States by number of companies that dropped ESG incentives.**	**Adoption Rate (# of ESG-adopting companies (Swing)/# of companies (Swing))**	**Discontinuity rates (#ESG dropouts (Swing)/ #ESG adopters (Swing))**
Arizona	1	1	0	100.00%	0.00%
Florida	3	1	0	33.33%	0.00%
Georgia	1	0	0	0.00%	0.00%
Nevada	1	0	0	0.00%	0.00%
Ohio	9	4	1	44.44%	25.00%
Pennsylvania	7	4	1	57.14%	25.00%
Wisconsin	1	1	1	100.00%	100.00%
TOTAL	**23**	**11**	**3**	-	-
AVG.	**-**	**-**	**-**	**47.83%**	**27.27%**

Appendix 1: ESG Incentive Adoption and Discontinuation Counts and Calculated Rates by Companies' Headquarters States



Appendix 2: Adoption and Discontinuity Rates Comparison by State Political Alignment



Appendix 3: Number of firms that had quantifiable ESG-related Compensation based on the political affiliation of the state they are headquartered

SM460 Capstone
Mackenzie Dawson
Joseph Giovinco
Paige Palinski
Jackson Palmer

Executive Compensation: What features of the structure of executive compensation can mitigate or reduce short-term incentives?

Introduction

Short-termism is the tendency of corporate leaders to prioritize immediate financial performance, often at the expense of long-term growth and sustainability (Wierseman, 2025). For decades, academics and researchers have discussed the link between executive compensation packages and short-termism. Narayanan (1985) developed a model showing that short-term projects can benefit managers by increasing wages and bolstering reputation. Similarly, Von Thadden (1995) highlights that fear of early project termination by outsiders, such as boards or investors, can lead executives to favor short-term investment biases.

Although short-termism has been a hot topic in recent years, there are conflicting views about whether executive compensation structures are the root cause. To explore this complexity, Boston University's Questrom School of Business hosted the inaugural Mehrotra Summit. Among the panelists were Jevin Eagle, a Board Director at Carter's, and Charles Tharp, Senior Advisor for the Center on Executive Compensation. Eagle emphasized an often-overlooked but crucial distinction: "Is there short-termism in executive compensation? Or is there short-termism in how companies are managed and run?" Many scholars and practitioners argue the real issue lies less in the structure of compensation packages and more in management's decision-making behavior under pressure. Eagle and Tharp further questioned whether altering pay structures alone can address short-termism or whether broader issues of managerial incentives and external pressures must be considered.

Given the complicated relationship between compensation structures and executive behavior, this paper will first outline key conceptual frameworks such as agency theory, review current practices and trends in executive compensation, summarize relevant academic literature, analyze selected corporate case studies, and synthesize expert insights from the Mehrotra Summit. We aim to assess whether specific executive compensation features can realistically mitigate short-termism.

Conceptual Framework

Executive compensation structures play a pivotal role in corporate decision-making by influencing how executives prioritize short-term and long-term goals. Executive compensation typically consists of a combination of fixed and variable pay. The base salary provides a fixed annual income and serves as a foundation for total compensation. Annual cash bonuses are often tied to short-term performance metrics like quarterly earnings or revenue targets. Stock options give executives the right to purchase company shares at a fixed price in the future, incentivizing them to increase the firm's stock price. Restricted stock options and performance shares are forms of equity compensation that vest upon achieving specific long-term goals, such as total shareholder return or earnings per share growth. Over the last few decades, there has been a shift from salary- and bonus-based compensation toward equity-based pay, raising concern about short-sighted decision making at the expense of long-term goals.[1]

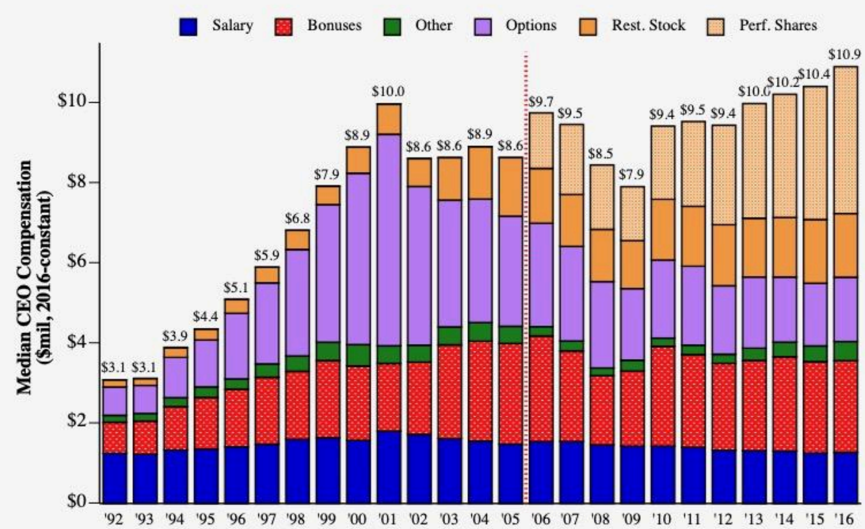
Agency theory highlights the potential conflict of interest between managers (agents) and shareholders (principals). This theory explains that sometimes, agents do not always act in the best interest of the principal, to whom they perform work on behalf of. This raises concerns about agency costs, because the manager can take hidden actions that affect both earnings and firm growth. Executives often possess more information about a firm's operations and yield different incentives than shareholders, making information asymmetry and moral hazard critical concerns. Moral hazard, where executives take actions to benefit themselves, exposes the firm to unnecessary risk. Information asymmetry further complicates oversight, as managers control most information about the company's operations, making it difficult to assess whether decisions

[1] Pogach, Jonathan. *Short-Termism of Executive Compensation*. Federal Deposit Insurance Corporation Working Paper Series, December 2015.

truly serve the firm's long-term interests.[2] Principals use executive compensation in attempts to manage the agent, because information asymmetry exists. Despite this, certain compensation structures may incentivize an agent to act in their own interest (ie, a situation of moral hazard) if they will receive payout and not bear the costs of the decision, even if it is not in the best interest of the principal. Compensation package design attempts to align these incentives between short term payout for an agent and long benefits for the principal or firm. Executives may pursue strategies that benefit their personal short-term compensations strategies, such as inflating short-term earnings to boost stock price.

These dynamics contribute to the broader concern of short-termism, where executives focus on immediate financial results rather than long-term value creation. By understanding these theories, compensation can be designed to promote accountability, reduce opportunistic behavior, and encourage long-term strategic thinking.

Figure 1 Median Compensation for CEOs in S&P 500 Firms, 1992-2016



Note: Bonuses include both discretionary bonuses and payouts from non-equity incentive plans. Total compensation includes salary, bonuses, stock options (valued at grant date), restricted stock and performance shares (valued at grant date), perquisites and miscellaneous (and uncommon) items such as tax reimbursements, severance payments, signing bonuses, debt forgiveness, imputed interest, payments for unused vacation dates, and life insurance premiums. [3]

Understanding Modern Pay Structures: A Strategic Overview

[2] Gryglewicz, Sebastian, Colin Mayer, and Erwan Morellec. *Agency Conflicts and Short- versus Long-Termism in Corporate Policies*. November 1, 2017.
[3] Murphy, Kevin J., and Michael C. Jensen. "The Politics of Pay: The Unintended Consequences of Regulating Executive Compensation." *USC Law Legal Studies Paper No. 18-8, USC CLASS Research Paper No. CLASS18-8*, April 18, 2018.

By exploring corporate compensation practices and reviewing research, a clearer understanding emerges regarding the impact of pay structures on executive decision-making. Analyzing company strategies alongside academic research on compensation reform provides a comprehensive view of the tradeoffs involved and potential solutions for mitigating short-termism in business.

Literature Review

Many believe that executive compensation is the leading factor contributing to companies foregoing projects with long term growth potential by focusing on projects that bring short term, but immediate profits. A recent study from Guest found that short termism was especially prevalent with CEO's who 1. had limited influence on their company and 2. whose compensation was linked to short term stock performance.[4]

A study conducted by Caroline Flammer helps to exemplify an instance of long-term compensation through restricted stocks and restricted stock options, highlighting the complicated nature of short term versus long term decision making and its effects on company performance. Flammer conducted a study comparing the proposed compensation packages by boards of directors where long term compensation packages marginally pass versus marginally get rejected. She discovered firm evidence that companies who pass long term packages, packages that include compensation binded in restricted stock units and/or incentives tied to long term strategic objectives, will outperform in the long run, both through stock measures as well as operating performance measures like return on assets, net profit margin, or sales growth. This growth may occur because when executives sign long term compensation packages, the company tends to focus on investing in long term growth opportunities revolving around CSR and innovation.[5] These investments allow the company to see sustained growth, prompted from executives' pay being tied to the long term success of the company. Despite this long term growth potential after long term packages are passed, Flammer suggests that companies may

[4]Nicholas Guest, S.P. Kothari, and Robert Pozen, "Why Do Large Positive Non-GAAP Earnings Adjustments Predict Abnormally High CEO Pay?," January 2022.
[5] Flammer, Caroline (2021) : Short-Termism and Executive Compensation, CESifo Forum, ISSN 2190-717X, ifo Institut - Leibniz-Institut für Wirtschaftsforschung an der Universität München, München, Vol. 22, Iss. 03, pp. 17-19

experience lower operating performance in the short term, explaining why some CEOs may forgo long term growth strategies in fear of poorer short term performance which would decide their compensation. Flammer supports the notion that a long term executive compensation package can help to reduce short-termism.

Performance measures linked to stock options show conflicting results in mitigating short-termism through compensation. In one study conducted by Guest, those who vested within a year or two often led a CEO to "inflate" company earnings, not only to benefit from their compensation structure, but also to keep board members happy by bulking up little to no earnings into something more substantial. A company may opt to measure performance with non-generally accepted accounting principles (GAAP) earnings, earnings that "managers routinely claim [...] remove transient items" and are more informative about the "core" performance of the company.[6] Although this argument is generally thought to be true, CEOs of underperforming companies will often utilize this widely approved strategy to cover up "rent extraction."[7] Not only are these CEOs protecting themselves from backlash, but they may utilize these measures because their compensation and bonus packages are decided using non-GAAP measures, thus obtaining higher payouts for themselves. This rent extraction behavior reflects the short termed decision making of executives who rely on current performance for their performance based compensation. Martin, et. al. also come to the same conclusion, that stock options lead to more "deviant behavior," finding that "CEOs are more likely to use earnings management as their options wealth increases."[8]

Despite concurring evidence that certain executive compensation structures lead to short-termism, other literature suggests the opposite or is unable to draw a clear conclusion. Research by Sampson and Shi link managerial compensation to short-termism through implied discount rate (IDR) of a firm, to "[capture] how much investors discount future expected cash flows and values" as a proxy for firm time horizons. They include compensation as part of their

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[6] Nicholas Guest, S.P. Kothari, and Robert Pozen, "Why Do Large Positive Non-GAAP Earnings Adjustments Predict Abnormally High CEO Pay?," January 2022.
[7] Ibid.
[8] Geoffrey P. Martin, Robert M. Wiseman, and Luis R. Gomez-Mejia, "The Interactive Effect of Monitoring and Incentive Alignment on Agency Costs," *Journal of Management* 45, no. 2 (December 7, 2016): 701–27, https://doi.org/10.1177/0149206316678453.

model to understand how IDR influences short-termism. They find higher discounted future cash flows when share prices are relatively responsive to new earnings. This conclusion highlights long-term pay features, like new stock options or restricted stock grants, are correlated to lower IDR and may reduce short-term focus.[9]

In addition, studies have found that firms may be able to incentivize both time horizons depending on the kind of compensation package used. Gryglewicz, Mayer, and Morellec find that through their dynamic model where the agent controls both earnings via short term investment and firm growth via long term investment, an optimal contract prompts the agent to induce both short term and long term investment.[10] They argue that an agent/manager's compensation should be contingent on firm performance via exposure to firm stock prices and firm earnings. They also find that firm performance should be positively related to the corporate horizon, meaning that depending on how far into the future a firm may choose to target is influenced by the current performance of the firm, tending to the instance in which short-term current performance may also help to control the longevity of the firm's long-term performance. This recommendation to utilize stock prices and firm earnings highlights the dual nature of using firm earnings to account for short term performance, and also the long-term nature of stock-prices.

Short-termism compensation packages have also been argued to be beneficial to a firm in certain instances. Thakor's 2018 model suggests that shifting towards short-term compensation packages, for example, pay being tied to firm earnings, where a manager does not gain information rents may save the firm money. They argue that the main benefit of adopting short-termism is through more efficient contracting and revealing managerial ability faster, leading to more efficient allocation of managers to projects. In this model short-termism is value-maximizing for some firms as it leads to lower agency costs. With a firm's shift to short-term projects, they can reduce the need for success wages, meaning an incentive for observed success versus failure for long-term projects so that managers will search for these

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[9] Rachelle C. Sampson and Yuan Shi, "Are u.s. Firms Becoming More Short‐term Oriented? Evidence of Shifting Firm Time Horizons from Implied Discount Rates, 1980–2013," *Strategic Management Journal* 44, no. 1 (May 31, 2020): 231–63, https://doi.org/10.1002/smj.3158.
[10] Gryglewicz, Sebastian, Colin Mayer, and Erwan Morellec. *Agency Conflicts and Short- versus Long-Termism in Corporate Policies*. November 1, 2017.

opportunities. The short term focus also reduces the need for a "'performance wage,"' which results as an incentive for managers to not gamble and propose bad projects as a result of the previous incentive to search.

As highlighted by literature review on corporate short-termism, findings on whether specific executive compensation structures in relation to short termism can dissuade short-term perspective are not uniform.[11] Studies related to stock options have shown to have conflicting results with whether or not this form of compensation actually decreases short-termism. In addition, with each model studied, variations in factors like controls on external influences, actions taken by actors in the models, kinds of compensation that are being analyzed, and not distinguishing what constitutes short-term versus long-term performance are present. Because of the lack of precedent in how researchers configure models, literature regarding best practices are fragmented, situational, and are inconclusive on how to best recommend executive compensation implementations. Our review suggests that more research is required to determine which compensation models are most effective in reducing short-termism, with the variables listed above held constant, before more complex models are further developed to compare executive compensation strategies.

Proxy Statement Analysis

Executive compensation has become one of the most scrutinized elements of corporate governance, particularly for its role in shaping managerial time horizons. While compensation is intended to align executives' interests with those of shareholders, poor design can create incentives for short-term decision-making that undermines long-term value. Short-termism, characterized by an excessive focus on quarterly earnings and stock price performance, often arises when compensation is narrowly tied to immediate financial outcomes. However, not all executive pay systems produce such distortions. Through a comparative analysis of ExxonMobil, PepsiCo, MetLife, Meta, and Illinois Tool Works (ITW), this paper demonstrates that compensation structures that integrate long-term strategic metrics, defer rewards, and

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[11] Margarethe Wiersema et al., "Corporate Short-Termism: A Review and Research Agenda," Sage Journals, accessed April 5, 2025, https://journals.sagepub.com/doi/10.1177/14705958231214623?icid=int.sj-abstract.citing-articles.4.

contextualize performance within industry-specific realities are more likely to promote sustainable value creation and mitigate short-term pressures.

Aligning Capital Allocation with Time Horizon: The Case of ExxonMobil

ExxonMobil's executive compensation system is explicitly constructed to bridge the tension between delivering shareholder value in the short term and investing in large-scale, capital-intensive projects that unfold over decades. The company has maintained a stable and growing dividend for over forty years and committed to repurchasing $20 billion in shares annually through 2026. These actions directly reward investors and create pressure to sustain high near-term cash flows. However, ExxonMobil offsets these short-term incentives by embedding long-horizon metrics into its performance-based pay. Executives are assessed on return on capital employed (ROCE), a metric that captures efficiency in capital deployment over time, and total shareholder return (TSR), which considers both dividends and stock appreciation. In addition, more than 90 percent of ExxonMobil's capital expenditures are evaluated based on their ability to generate returns within ten years. This duration is long enough to encourage investment in multi-phase projects such as upstream oil fields or carbon capture infrastructure, yet short enough to maintain performance discipline. The company's compensation system also includes explicit references to emissions reductions and low-carbon investments, allocating over $20 billion to these initiatives. By connecting executive rewards to environmental performance and capital efficiency, ExxonMobil internalizes long-term risks while preserving accountability for short-term financial delivery. This hybrid model reduces the tendency toward short-termism by incentivizing outcomes that mature over a full investment cycle rather than a single fiscal year.[12]

Incentivizing Strategic Transformation: PepsiCo's Balanced Model

PepsiCo demonstrates how compensation can serve as a vehicle for long-term strategic repositioning while maintaining pressure for ongoing financial performance. During former CEO Indra Nooyi's tenure, PepsiCo undertook a deliberate shift toward healthier product lines and global market diversification. Such a pivot required leadership to manage near-term investor

[12] Exxon Mobil Corporation. 2024 Proxy Statement. Irving, TX, April 11, 2024. Accessed April 4, 2025. https://investor.exxonmobil.com/sec-filings/all-sec-filings/content/0001193125-24-092545/0001193125-24-092545.pdf.

expectations while executing a multi-year innovation strategy. Compensation reflected this dual agenda. Annual incentives were tied to net revenue, operating margin, and free cash flow which are traditional indicators of short-term performance. However, long-term incentives, which included performance shares and restricted stock units, were linked to multi-year growth targets and innovation success.

One of PepsiCo's most notable features was the use of innovation-related metrics to evaluate executive performance. These included internal product development goals and metrics tied to portfolio transformation, such as the growth of low-sugar or non-carbonated beverage lines. Moreover, the equity component of compensation vested over three- to five-year cycles, discouraging executives from deprioritizing long-term investments in favor of immediate earnings growth. The result was a compensation structure that demanded long-term thinking. Executives were required to meet current financial benchmarks without sacrificing the structural changes necessary to adapt to shifting consumer preferences. PepsiCo's model shows that tying a portion of compensation to innovation can create a governance framework where long-term strategy is not an exception but a mandate.[13]

Managing Delayed Feedback Loops: MetLife and Risk-Adjusted Compensation

The insurance industry presents a fundamentally different context for executive compensation. Because underwriting decisions may not reveal their full consequences for several years, performance is realized slowly and is often affected by long-tail liabilities. MetLife confronts this challenge by designing its executive pay with a multi-year lens and an emphasis on risk-adjusted outcomes. Annual bonuses are based on business-specific goals, but long-term incentive awards, including performance shares and restricted stock units, are deferred and measured over three-year periods. Crucially, performance is assessed using metrics such as adjusted return on equity (ROE), book value per share, and capital strength. These favor financial stability and prudent risk-taking over high short-term profits.

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[13] PepsiCo, Inc. Notice of 2025 Annual Meeting of Shareholders and Proxy Statement. Purchase, NY: PepsiCo, March 28, 2025. Accessed April 4, 2025. https://www.pepsico.com/proxy25.

This compensation structure is reinforced by clawback provisions and risk management reviews, which allow the company to adjust or rescind awards if performance is achieved through excessive risk exposure. In this way, compensation serves as a behavioral constraint, discouraging decisions that could inflate short-term performance at the expense of long-term viability. Moreover, deferred equity awards ensure that executives remain exposed to the consequences of their decisions well beyond the year in which they were made. MetLife's approach makes clear that when performance feedback is delayed, compensation must similarly be delayed and adjusted to reflect the true economic impact of executive choices. This reduces short-termism by eliminating the incentive to "game" earnings through temporary underwriting or investment decisions.[14]

Equity Incentives and Volatility: The Case of Meta

Meta's executive compensation model is dominated by equity awards, reflecting the company's belief in aligning leadership incentives with long-term shareholder value. According to the 2024 proxy, equity-based compensation remains the primary form of pay, with a focus on retaining top talent and promoting long-term ownership. However, the structure lacks transparency around intermediate performance milestones tied to innovation. Instead, compensation outcomes appear largely dependent on stock performance and broad financial outcomes, which may not fully capture the complexity or progress of long-term initiatives like the metaverse or AI integration. This creates a risk that executives, whose compensation is highly sensitive to fluctuations in market sentiment, may become more responsive to short-term investor pressures than to the slower, iterative work required to deliver on Meta's long-term strategic vision. The proxy emphasizes product launches and cost discipline in 2023 but does not tie these developments to compensation metrics. In the absence of clear, innovation-linked targets such as adoption milestones, R&D progress, or platform readiness, stock price becomes the default measuring stick of success.

Meta's case shows how equity-heavy models can undercut their own intent. Without performance measures that reflect internal progress toward strategic goals, executive behavior

[14] MetLife, Inc. 2024 Notice of Annual Meeting of Shareholders and Proxy Statement. New York: MetLife, April 26, 2024. Accessed April 4, 2025. https://www.metlife.com.

may drift toward protecting valuation rather than building for the future. To promote genuine long-termism, equity incentives must be paired with accountability mechanisms that track the milestones that matter most to innovation.[15]

Decentralization and Long-Term Accountability: Illinois Tool Works

Illinois Tool Works (ITW) exemplifies a compensation model that reinforces long-term value creation through its distinctive decentralized structure and disciplined performance management. With over 80 autonomous business divisions operating under the ITW Business Model, the company emphasizes localized decision-making, operational accountability, and strategic alignment. Executive compensation is designed to support this framework, with a strong emphasis on long-term incentives tied to performance metrics such as after-tax return on invested capital (ROIC), operating margin, and earnings growth.

According to the 2025 proxy statement, approximately 80 percent of total target compensation for named executive officers is performance-based, with a focus on long-term shareholder value. ITW's compensation committee explicitly avoids time-vested full-value equity awards, opting instead for performance-driven equity plans that require the achievement of financial goals over multi-year periods. Stock ownership guidelines and a mandatory clawback policy further align executive behavior with long-term performance and accountability.

ITW's system also reflects a minimalist approach to governance that discourages financial engineering or short-term earnings manipulation. The decentralized model allows business leaders to execute with autonomy while being held accountable for enduring outcomes. By measuring success through consistent financial returns and innovation-driven growth such as its "Customer-Back Innovation" yield, the company maintains strategic discipline without relying on high-level, centralized directives. In doing so, ITW demonstrates that long-term thinking can be institutionalized not only through financial metrics but also through cultural alignment and structural design.[16]

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[15] Meta Platforms, Inc. 2024 Proxy Statement. Menlo Park, CA: Meta, April 19, 2024. Accessed April 4, 2025. https://investor.fb.com.

[16] Illinois Tool Works Inc. 2025 Proxy Statement. Glenview, IL: ITW, March 21, 2025. Accessed April 4, 2025. https://investor.itw.com.

Expert Panel Discussion

As part of Questrom's inaugural Mehrotra Summit, executive compensation experts Jevin Eagle and Charlie Tharp offered key perspectives that reinforced themes in the literature while offering practical insights into how boards and compensation design can counteract short-termism.

Role of the Board

The panel discussion offered valuable real-world perspectives on how boards of directors shape the incentives and time horizons of executive teams. Eagle, a board member at Carter's, emphasized that while executives may have input on strategy and operations, decision-making authority ultimately rests with the board. At Carter's, the board is responsible for hiring the CEO, setting the company's strategic direction, and providing hands-on coaching and development for the executive team. Eagle also noted that boards are less sensitive to quarterly earnings pressure than management, which positions them to better uphold long-term goals without being swayed by short-term financial volatility.

Tharp added that serving on a board means "renting your reputation" to the company, highlighting the risk that directors take on. If a company faces backlash for poor executive pay practices or financial misconduct, it is often the board that is held accountable. This personal stake encourages board members to act as long-term stewards, ensuring executive compensation is structured to support sustainable performance rather than short-lived financial gains.

Both speakers advocated for a more active role for boards in monitoring how performance metrics are used in compensation plans. For instance, Tharp cautioned against allowing buybacks if a CEO's pay is tied to earnings per share (EPS), as this creates an incentive to manipulate financial optics rather than build value. Eagle echoed this, arguing that boards should prioritize compensating executives for operational income or strategic achievements rather than easily distorted metrics like EPS.

Compensation Design and Additional Insights

In addressing how compensation structures can fight short-termism, both panelists acknowledged that not all individuals behave rationally. Eagle posed a rhetorical dilemma: "Would you rather have $700,000 today or a chance at $3,000,000 in three years?" This illustrated why short-term incentives remain relevant for motivating employees at multiple organizational levels. While long-term incentives are critical, companies must also recognize that financial pressures or risk aversion can lead individuals to favor immediate gains, and thus balanced compensation plans that mix short-term rewards with long-term value drivers are necessary.

To better align compensation with strategic goals, Eagle recommended linking incentives to long-term stock performance or progress on long-term initiatives, citing PepsiCo's compensation tied to its healthier product portfolio as a good example. Tharp reinforced this by outlining the three core decisions a board must make when designing compensation:

1. **Pay versus whom** – selecting the right peer group for benchmarking,
2. **What form of pay** – determining the mix between stock, performance-based awards, and cash,
3. **Pay for what** – deciding which performance metrics best reflect the company's values and strategy.

Both panelists agreed that many boards now rely on external compensation consultants, whose standardized approaches offer safety and legitimacy but can also lead to a homogenization of pay structures across firms. Rodrigo Canales, Questrom faculty and industry expert, commented that among all governance topics, executive compensation tends to show the most uniformity, with most companies now implementing compensation frameworks that encourage long-term growth and discourage short-term manipulation.

Executive Compensation Solutions for Long Term Growth

Although executive compensation is often considered the biggest contributing factor that prevents long term investment for companies, compensation packages can be designed to benefit not only the executive but also the sustainable growth of the company. There are several tactics companies are using to foster long term growth and decision making including equity award vehicles like stock options and performance shares, vesting schedules, and utilization of performance metrics linked to long term growth.[17] These strategies are just a few examples of ways companies can encourage executives to invest in the long term growth of the company and

[17] 1. "Designing Effective Executive Compensation Plans: Balancing Incentives and Accountability," CBIZ, Inc., accessed March 28, 2025, https://www.cbiz.com/insights/articles/article-details/designing-effective-executive-compensation-plans-balancing-incentives-and-accountability.

link their success with that of the company. While much of the current literature assumes that a short term strategy is always beneficial, some research suggests that specific pay strategies to encourage long term behavior can be less costly to a firm. The argument of whether a firm needs to have long-term vision to be successful in the present time or if short-term success is what enables a firm to have the cash flow for long-term sustainability is present. While the strategies presented in the literature can be effective in preventing short-termism in certain situations, it is unclear whether these compensation packages would hold true across multiple different conditions like industry, firm horizon, and external market factors.

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The Impact of Financial Reporting Frequency: Balancing Transparency, Short-Termism, and Regulatory Implications

SM460 - Honors Senior Capstone Project

Professor Cortes

Faculty Leader: Professor Francois Brochet

Team: Michael Giacchetto, Amanda (Weng In) Lou, Justin Kay, Zachary Cook

Executive Summary

Research Question: What are the benefits and drawbacks of frequent (quarterly) financial reporting, and how does regulation shape its impact?

Key Benefits

- Increased Transparency: Reduces information asymmetry between firms and investors.
- Lower Cost of Capital: Investors demand lower risk premiums when they have timely, reliable information.
- Improved Market Efficiency: Narrows the information gap between sophisticated and average investors.
- Enhanced Credit Risk Management: Banks and credit agencies can better assess firm risk with more frequent data.
- Greater Forecast Accuracy: Financial analysts provide more accurate earnings projections with quarterly data.

Key Drawbacks

- Managerial Short-Termism: Firms may cut R&D or capital investment to meet near-term earnings targets.
- High Compliance Costs: Smaller firms face disproportionate burdens from frequent reporting mandates.
- Increased Market Volatility: Short-term trading and overreaction to quarterly earnings can destabilize prices.
- Reduced Voluntary Disclosures: Mandatory reporting can discourage firms from offering richer, optional insights.

Glocal Case Studies & Regulatory Evidence

- EU: Shift to quarterly reporting led to earnings management and short-term behavior, reversed in 2013.
- Singapore: Small firms saw a 5% drop in firm value after mandatory quarterly reporting was introduced.
- United States: Historic move from annual to quarterly reporting correlated with reduced long-term investment.

Earnings Guidance Insights

Though not required, earnings guidance helps investors forecast performance.

- *Benefits:* Improves analyst forecast precision and investor expectations
- *Drawbacks:* Can heighten short-term performance pressure on management

Firms that stop issuing guidance attract more long-term investors without increased volatility

Company Example: Google chose not to provide earnings guidance upon going public in 2004, signaling a commitment to long-term value over short-term expectations.

Policy Recommendations

- Consider Hybrid Models: Semi-annual reporting with qualitative interim updates can balance transparency with long-term focus.
- Tailor Regulation: Policy should reflect firm size, industry, and market maturity.
- Avoid One-Size-Fits-All Mandates: Evidence shows varied effects across jurisdictions and firm types.

Panel Insights: Practitioner Perspectives on Reporting Frequency

- Limited Impact of Semi-Annual Reporting: Panelists expressed skepticism that switching from quarterly to semi-annual reporting would meaningfully reduce short-term pressures.
- Investor Time Horizons Differ: When asked what constitutes "long-term," audience responses ranged from three to ten years, highlighting that both quarterly and semi-annual cycles remain short-term in practice.
- Transparency Still Matters: While less frequent reporting may reduce pressure, excessive delays (e.g., annual or triennial) would undermine investor confidence and market oversight.
- Insider Trading Concerns: Longer gaps between disclosures increase the window for insider trading, particularly in large-cap firms.
- Firm Size Matters: Smaller firms may benefit from reduced reporting burdens, but large firms, especially systemically important ones, should maintain quarterly reporting to ensure transparency and stability.
- Analyst Pressure Reinforces Short-Termism: Sell-side analysts influence company behavior through consensus estimates, media commentary, and market expectations, often driving earnings management and myopic decisions.

Conclusion

- Frequent reporting offers clear advantages in transparency and efficiency, but can unintentionally promote short-termism.
- Regulators must balance investor protection with the need to encourage long-term value creation and innovation.

I. Introduction

Financial reporting frequency plays a pivotal role in shaping corporate transparency, investor decision-making, and managerial behavior. As firms and regulators around the world continue to debate optimal disclosure practices, the frequency of reporting has emerged as a key lever for influencing market dynamics. Transparency, investor confidence, and corporate governance are closely tied to how often financial information is disclosed (Filip et al. (2024)). The question of whether quarterly versus semi-annual reporting is more effective has become especially relevant in light of growing concerns about managerial short-termism and regulatory burden.

Insights from a recent panel discussion led by Paul Clancy and Bob Pozen further highlight the complexity of this issue. The panel highlighted that while reducing reporting frequency may appear to reduce short-term pressures, the practical impact may be limited. Audience perspectives also revealed a disconnect between typical reporting intervals and investors' definitions of long-term value, suggesting that addressing short-termism may require broader structural changes beyond altering disclosure timelines.

This paper investigates the central research question: What are the benefits and drawbacks of frequent (i.e., quarterly) financial reporting, and how does regulation shape its overall impact? Through a review of theoretical perspectives, empirical research, global regulatory comparisons, and expert commentary, the paper explores how reporting frequency affects market transparency, investor behavior, and long-term corporate strategy.

II. Theoretical Perspectives on Financial Reporting Frequency

A fundamental trade-off between transparency and the risk of short-termism shapes the debate around financial reporting frequency. On one hand, more frequent reporting enhances the flow of information to the market, enabling investors to make better-informed decisions and improving corporate accountability. Gigler et al. (2014) argue that this increased transparency can reduce information asymmetry between managers and investors. For example, studies have shown that firms with higher reporting frequency benefit from lower costs of equity, as investors perceive them to be less risky due to improved access to timely financial data (Houston et al. (2010)). However, this greater transparency may come at a cost, specifically, encouraging managerial behaviors that focus on meeting near-term benchmarks rather than fostering sustainable long-term growth.

From a market discipline perspective, frequent financial disclosures play a crucial role in narrowing the gap between informed and less-informed investors. Fu et al. (2012) suggest that when companies report more often, it limits the information advantage of sophisticated investors as well and fosters a more level playing field. One study analyzing earnings announcement cycles found that higher reporting frequency diminishes the disparity in information access, thereby enhancing overall market discipline and efficiency (Kraft et al. (2018)). In this view, quarterly reporting acts as a governance tool that holds managers accountable and builds trust in capital markets.

Finally, the global regulatory landscape reflects differing priorities when it comes to setting reporting frequency standards. Some jurisdictions emphasize investor protection and transparency, mandating quarterly disclosures, while others seek to reduce corporate compliance burdens, especially for smaller firms. Filip et al. (2024) highlight how these varied approaches embody the ongoing balancing act between ensuring market efficiency and avoiding excessive regulatory pressure on companies. The diversity in global reporting regimes highlights the complexity of finding an optimal standard that fits all market contexts.

III. Benefits of Frequent Financial Reporting

The central debate surrounding financial reporting lies in its frequency. There has been ongoing discussion about whether firms should be mandated to report their financial data on a quarterly or semi-annual basis. Currently, publicly traded firms in the United States are required to report their financial results quarterly.

One of the primary benefits of frequent financial reporting is the reduction of information asymmetry, which can, in turn, lower a firm's cost of capital. According to a paper by Robert Stoumbos (2023), the information gap between sophisticated and average investors is narrower in firms that report their financial data more frequently. This narrowing of the information gap leads to a lower bid-ask spread (the difference between the prices buyers are willing to pay and sellers are willing to accept) and contributes to greater market efficiency. When companies report quarterly, average investors have more timely access to financial information, which helps level the playing field and reduce asymmetries in the market. Stoumbos provides empirical evidence showing that firms shifting from semi-annual to quarterly reporting experienced measurable reductions in bid-ask spreads, which is an indicator of improved transparency and efficiency. As a result, these firms are often able to access capital at a lower cost. Filip et al. (2012) further support this view, noting that frequent reporting can boost investor confidence and reduce the risk premium demanded by investors. When investors are equipped with more current data, they can make better-informed decisions and feel more secure in their investment choices, ultimately reducing the cost of capital required to attract them. Figure 1 presents a conceptual U-shaped relationship between financial reporting frequency and the cost of equity, based on Gigler et al. (2014). It suggests that quarterly reporting minimizes the cost of equity by striking a balance between transparency and the avoidance of excessive short-term pressure.

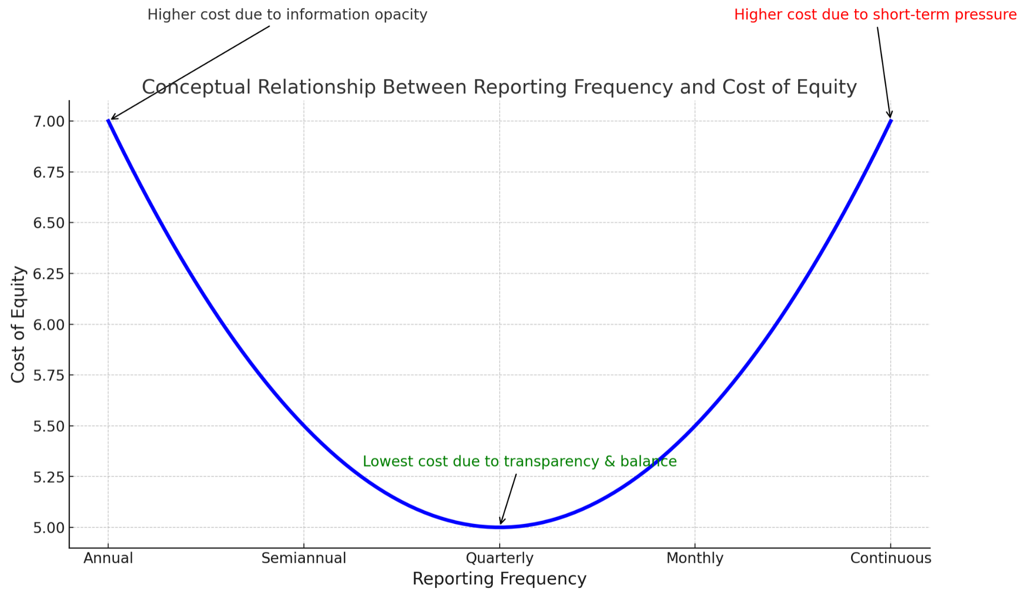

Figure 1: Conceptual Relationship Between Reporting Frequency and Cost of Equity (Gigler et al. (2014))

Another key benefit of quarterly financial reporting is its contribution to improved credit and risk management. A study by Balakrishnan and Ertan (2018) finds that more frequent reporting allows banks and financial institutions to better assess asset quality and credit risk. This leads to lower credit spreads and a reduction in excessive risk-taking. When firms disclose financial data on a quarterly basis, executives, investors, and stakeholders can detect emerging credit risks earlier, enabling them to adjust strategies proactively and mitigate potential losses. Credit agencies and financial institutions also benefit from more timely data, allowing them to make more accurate and informed assessments of a firm's financial health, which is something more difficult to achieve with only semi-annual disclosures.

Lastly, frequent financial reporting enhances the accuracy of financial analysts' forecasts. Filip et al. (2024) demonstrate that quarterly disclosures reduce forecast errors and improve the quality and profitability of stock recommendations, especially in environments where obtaining financial information is costly. With access to more up-to-date information, analysts can create more accurate projections and financial models, which in turn leads to better investment decisions. The study also notes that mandatory quarterly reporting significantly improves the reliability of analysts' recommendations, helping investors navigate markets with greater confidence.

IV. Drawbacks of Frequent Financial Reporting

While frequent financial reporting provides several benefits, it also comes with drawbacks. One of the primary drawbacks of frequent financial reporting is the tendency it creates toward managerial myopia and short-termism. Research indicates that more frequent disclosures lead managers to prioritize short-term earnings targets at the expense of long-term investments. For instance, Kraft et al. (2018) and Gigler et al. (2014) provide evidence that increased reporting frequency is associated with reduced capital expenditures and innovation output. One study highlights that higher reporting frequency leads to a significant decline in R&D intensity, as firms shift focus away from long-term value creation. In fact, analyzing historical U.S. data, researchers observed a substantial reduction in long-term investments following a transition to more frequent reporting intervals. Additionally, firms moving from semi-annual to quarterly reporting demonstrated a marked decrease in capital investment, with little to no positive externalities observed. As one study concludes, while there may be benefits to transparency, increased reporting frequency can induce managerial short-termism and undermine innovation (Stoumbos (2023), Kraft et al. (2018), Ernstberger et al. (2017)).

Another concern lies in the increased compliance costs that frequent reporting imposes, especially on smaller firms. Kajüter et al. (2019) show that smaller companies disproportionately bear the burden of quarterly reporting requirements. While reporting and proprietary costs may be less significant for firms listed on prime markets, smaller or mid-cap firms face a tradeoff. Some studies found that firms that reduced the frequency or content of quarterly reports experienced a decline in market liquidity, although the accuracy of analyst forecasts remained unaffected. Moreover, among EU firms subject to mandatory quarterly reporting, those with less informative interim reports showed higher levels of real earnings manipulation, suggesting that compliance pressure may degrade reporting quality rather than enhance it (Bornemann et al (2023), Ernstberger et al. (2017)).

Frequent financial reporting may also lead to increased market volatility due to potential investor overreaction. When firms release earnings reports more often, short-term trading activity intensifies, which can drive excessive fluctuations in stock prices. Butler et al. (2007) found that increased frequency in reporting can result in unnecessary short-term trading and volatility. For instance, a study on Singapore-listed firms revealed a five percent decline in firm value following the implementation of mandatory quarterly reporting (particularly among smaller firms), indicating that markets may perceive this requirement as a net burden. Additionally, frequent disclosures can encourage behaviors such as "window dressing," where low-skill fund managers make superficial portfolio adjustments to create misleading signals before reporting periods in the mutual fund industry (Kajüter et al. (2019), Filip et al. (2024), Butler et al. (2007)).

Lastly, the emphasis on mandatory frequent reporting may inadvertently reduce voluntary disclosures. When firms are required to issue regular formal updates, they may feel less incentivized to provide supplementary insights that are not mandated, leading to a less informative disclosure environment overall. Gigler and Hemmer (1998) argue that this crowding out of voluntary disclosures can limit the richness and context of financial information available to investors, thereby diminishing the overall transparency such rules aim to promote.

V. Empirical Evidence from Regulatory Changes

To understand how theory plays out in practice, this section draws on regulatory changes in the European Union (EU), Singapore, and the U.S. The EU's experience provides insightful evidence of how regulatory changes in reporting frequency have led to different market outcomes. When the EU transitioned from semi-annual to mandatory quarterly reporting in the early 2000s, empirical studies documented significant unintended consequences. Ernstberger et al. (2017) find that this shift led to increased real earnings management activities, as corporate managers engaged in more myopic behavior to meet short-term targets. Various operational decisions, such as cutting research and development expenditure or delaying maintenance spending, were conducted to boost immediate financial results.

Realizing these detrimental effects, the EU parliament reversed course in 2013 by rejecting a proposal to maintain the requirement for quarterly financial reporting and adopting a "Transparency Directive" (Stoubos, 2023). The new framework only requires interim disclosure instead of a full quarterly financial statement, representing a regulatory shift balancing investor transparency while addressing the market concern on pushing managerial short-termism.

A similar finding emerged from the Singapore regulatory environment. Kajüter et al. (2019) employ regression discontinuity analysis to examine the causal effects of Singapore's introduction of mandatory quarterly reporting. Their study reveals a five percent decline in firm value, specifically among small firms, following the implementation of quarterly reporting requirements. These persistent valuation efforts suggest that some investors believed the reporting mandate imposed unnecessary net costs, which outweighed the benefit of increased transparency for smaller companies, with compliance burdens outweighing any informational advantages.

Historical evidence from the United States further reinforces these concerns. Kraft et al. (2018) analyze the phased transition from annual to quarterly reporting between 1950-1970, finding that increased reporting frequency correlated with measurable reductions in long-term investments. This multi-decade study provides particularly robust evidence that quarterly reporting requirements may systematically reorient corporate priorities toward short-term performance at the expense of value-creating long-term projects. The consistency of these findings across different economic powerhouses and periods strengthens the case for carefully considering the consequences of frequency mandates.

VI. The Role of Earnings Guidance and Its Intersection with Reporting Frequency

So far, we have discussed the pros and cons of mandatory financial reporting frequency. However, firms can supplement these required disclosures with voluntary communications, most notably earnings guidance, which is management's forward-looking estimates of key financial metrics, such as earnings per share (EPS) or revenues, for upcoming periods. Unlike financial reporting, which is mandatory and retrospective, earnings guidance is optional and prospective, offering insights into a firm's expected future performance.

The primary argument for quarterly earnings guidance is that it enhances forecasting accuracy and improves market transparency. Indeed, Earnings guidance plays a critical role in shaping investor expectations and firm valuation. By providing regular updates on expected performance, firms help analysts and investors form more precise earnings estimates, reducing information asymmetry. When companies cease issuing quarterly guidance, analysts face greater difficulty in predicting earnings, leading to increased forecast dispersion and reduced accuracy (Xin et al., 2024). This suggests that guidance is a crucial anchor for market expectations, particularly in industries where earnings are volatile or difficult to model.

However, despite the challenges posed by the absence of quarterly guidance, research indicates that stopping guidance does not significantly affect stock return volatility or the number of analysts covering a firm (Xin et al., 2024). This implies that while the lack of guidance may introduce some uncertainty, markets can process alternatives of information, such as annual reports, management commentary, and industry trends, to maintain relatively stable valuations.

The frequency of guidance, particularly quarterly guidance rather than annual, can influence investor behavior, managerial decision-making, and ultimately, long-term firm performance. Studies show that such firms attract more long-term institutional investors while deterring short-term traders (Kim et al., 2017). This shift affects how earnings information is incorporated into firm valuation, where investors place greater weight on long-term performance rather than short-term earnings surprises (Butler et al., 2007).

<u>Managerial Responses to Guidance Stoppage</u>

The decision to stop providing quarterly guidance may influence managerial behavior in different ways. While some research suggests it allows firms to focus more on sustainable growth (Kim et al., 2017), others find no significant change in investment patterns (Houston et al., 2010; Chen et al., 2011). This variation likely depends on firm-specific factors, including persistent market pressures, industry dynamics, and whether companies implement complementary long-term strategies beyond just stopping guidance.

A related concern is that frequent financial reporting requirements may inadvertently encourage short-termism. Bornemann et al. (2023) find that higher reporting frequency can lead to real activities manipulation, particularly when investor price pressure is high or when interim disclosures lack informativeness. This suggests that frequent reporting, combined with earnings guidance, may amplify managerial focus on short-term performance at the expense of sustainable growth. Notably, firms that stop issuing quarterly guidance experience fewer CEO dismissals due to minor earnings misses (Kim et al., 2017), indicating that reduced short-term earnings pressure allows executives to focus on strategic, long-term objectives rather than meeting narrow quarterly targets. Figure 2, based on findings from FCLTGlobal and NIRI, illustrates a clear downward trend in the percentage of S&P 500 companies providing quarterly EPS guidance (declining from nearly 50% in 2004 to just 21% in 2024), highlighting a broader shift away from short-term forecasting practices over the past two decades.

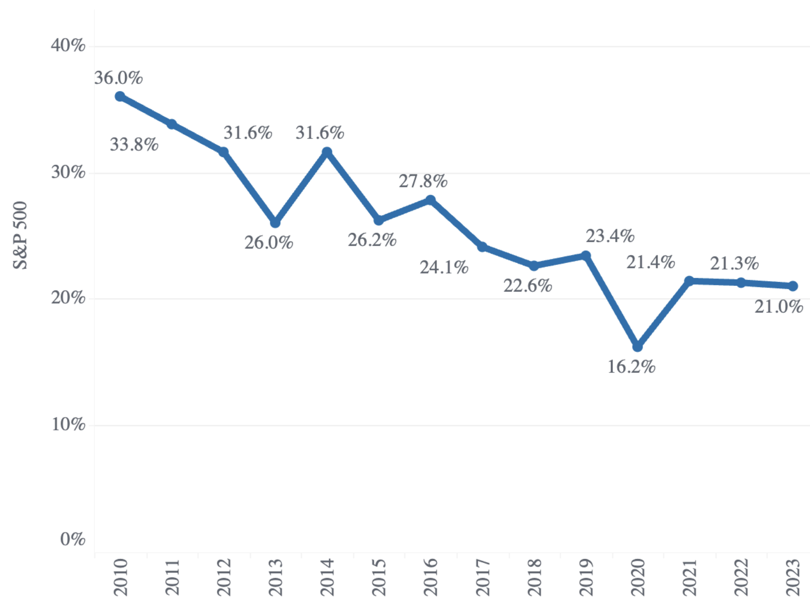

Figure 2: Percentage of S&P 500 Companies Offering Quarterly EPS Guidance (FCLTGlobal)

Panel Perspectives on the Strategic Pitfalls of Earnings Guidance:

Insights from a recent panel discussion highlighted significant practitioner skepticism regarding the practical value and potential downsides of corporate earnings guidance. A key point raised was the perception that the practice can be counterproductive, with some panelists bluntly deeming it "stupid," reflecting a frustration shared by some market observers. This critical view often stems from observations that firms frequently engage in strategic "underpromising" in their guidance. By setting conservative, easily achievable targets, companies aim primarily to mitigate the risk of negative stock price volatility should they fall short of expectations. However, this widespread practice of managing expectations downward diminishes the guidance's utility as a genuine, unbiased forecast of future performance, potentially rendering it less informative for investors seeking accurate projections.

Furthermore, the panel noted that issuing regular guidance, especially quarterly, can impose significant pressure on management teams. This pressure forces them to prioritize meeting or exceeding these short-term benchmarks, which can inadvertently divert focus and resources away from critical long-term strategic initiatives, innovation, and sustainable value creation. An additional layer of complexity discussed involved the nuanced relationships between corporate management and sell-side analysts. Panelists suggested that close ties could lead to analysts publishing intentionally lower consensus estimates. While potentially strengthening the relationship, it facilitates an "earnings beat" for favored companies, further complicating the interpretation of reported results versus expectations and potentially masking underlying performance trends, thereby "muddying the waters" of transparent performance interpretation for the broader market. This aligns with broader concerns about the "guidance game," where the focus shifts from accurate forecasting to managing perceptions.

Company Example: Google's Decision to Withhold Earnings Guidance

A notable example of a company rejecting quarterly earnings guidance is Google (now Alphabet Inc.). When the company went public in 2004, its executives made a deliberate decision not to provide earnings guidance, which was a move that broke from the standard practice of many public firms at the time. In its IPO letter to shareholders, Google emphasized its commitment to long-term value creation over short-term earnings targets, stating that frequent guidance could lead to an unhealthy focus on short-term performance at the expense of innovation and strategic growth. Despite initial skepticism from analysts and investors, Google's stance has been largely validated over time, as the company maintained strong capital market access, attracted long-term institutional investors, and sustained its reputation for innovation and financial performance.

VI. Policy Implications and Future Research Directions

Policymakers should rigorously evaluate the broader consequences of frequent financial reporting mandates. Frequent reporting requirements, while intended to improve transparency, may paradoxically foster conditions to promote short-termism in investment strategies and real earnings manipulations. This dynamic creates an environment where managers may prioritize meeting short-term earnings expectations at the expense of sustainable long-term value creation.

Empirical findings indicate that firms discontinuing quarterly earnings guidance experience a notable shift in their investor composition toward a higher proportion of long-term institutional investors, who typically place greater emphasis on sustainable, long-term financial performance metrics (Butler et al., 2007; Kim et al., 2017). This shift suggests potential benefits associated with reducing the frequency of earnings guidance, as firms might then be less incentivized to manage short-term earnings targets at the expense of strategic long-term investments. However, policymakers must also recognize the trade-offs inherent in guidance cessation. Firms discontinuing guidance commonly face challenges such as increased analyst forecast dispersion and reduced forecast accuracy, though notably without an accompanying rise in return volatility or diminished analyst coverage (Xin et al., 2024).

A potential policy avenue to explore involves transitioning to semi-annual financial reporting, complemented by mandatory qualitative updates during interim periods. Drawing insights from past regulatory shifts, such as the 2004 SEC mandate that increased reporting frequency for mutual fund holdings, it becomes evident that while enhanced transparency can yield certain advantages, it concurrently amplifies the risks of practices like window dressing and performance manipulation. Therefore, policymakers must carefully calibrate the desire for transparency against the potential for unintended negative consequences arising from increased reporting frequency when designing regulatory frameworks.

VII. Additional Insights from Panel Discussion

Rethinking Reporting Frequency: Does a Shift to Semi-Annual Reporting Address Short-Termism?

A major point of debate during the panel discussion led by Paul Clancy and Bob Pozen centered on whether switching from quarter to semi-annual reporting would meaningfully address the issue of short-termism. While the change may appear to relieve some pressure on companies, both speakers questioned whether a mere three-month difference in reporting frequency is enough to shift corporate behavior. When panelists asked the audience what time frame they considered to be “long-term,” the overwhelming consensus ranged from three to ten years, which is a stark contrast to the relatively short three- or six-month reporting cycles currently in place. This suggests that simply moving from quarterly to semi-annual reports may not materially reduce the intense pressure companies face to deliver short-term shareholder returns.

At the same time, the discussion acknowledged the importance of maintaining transparency. While lengthening the reporting period to three years might help mitigate short-term thinking, it would also come at a significant cost to information availability and investor confidence. Most shareholders expect a reasonable cadence of updates to assess a company’s performance and outlook, helping them decide whether to hold, sell, or buy more shares. Excessively infrequent reporting could obscure early warning signs and reduce market efficiency.

Another critical issue raised was the risk of insider trading. With fewer required disclosures, insiders would have longer periods during which they possess material nonpublic information, heightening the potential for abuse. This concern is especially relevant for large-cap companies, where the stakes and trading volumes are high. As a result, while there’s growing interest in rethinking reporting frequency to foster long-term value creation, the conversation highlighted that any proposed change must carefully balance transparency, investor trust, and market integrity.

The Influence of Sell-Side Analysts in Perpetuating Short-Termism:
The panel discussion also highlighted that structural market forces, not just reporting frequency, also contribute heavily to short-termism. One of the most powerful forces discussed was sell-side analyst pressure, which continues to shape how companies communicate and operate in public markets.

Sell-side analysts contribute to short-term market focus through earnings forecasts, stock recommendations, and regular investor communications. These analysts often publish quarterly earnings estimates, and companies are closely scrutinized based on their ability to meet or exceed these “consensus” targets. Even minor earnings misses can trigger negative market reactions, placing significant pressure on executives and incentivizing earnings management. Research by Xin et al. (2024) finds that firms with greater analyst coverage, particularly those that do not provide guidance, experience heightened sensitivity to analyst expectations.

Analyst influence extends beyond formal reports. Their insights are frequently shared through investor meetings, financial conferences, and media appearances, amplifying short-term narratives and shaping market sentiment. This broad dissemination of expectations reinforces the market’s emphasis on short-term financial results.

Notably, Kim et al. (2017) find that firms discontinuing quarterly earnings guidance tend to attract more long-term institutional investors. These firms also experience fewer CEO dismissals for small earnings misses, suggesting that a reduction in analyst-driven expectations may provide management greater flexibility to focus on long-term strategy. However, this relationship is complex. While earnings guidance supports forecast accuracy, it can also create a feedback loop in which analyst expectations begin to drive company behavior. When earnings "beats" and "misses" dominate financial headlines, often framed by analyst commentary, short-term performance becomes the prevailing metric of corporate success. This broader ecosystem of analyst coverage, public forums, and financial media continues to entrench short-termism within capital markets.

Firm Size and Reporting Frequency: Rethinking the One-Size-Fits-All Approach:
The panel discussion also addressed the role of firm size in shaping the debate over quarterly versus semi-annual reporting. Panelists acknowledged that while the current U.S. system promotes transparency and market confidence, the costs of complying with frequent reporting requirements can be disproportionately burdensome for smaller firms. Preparing quarterly financial reports and undergoing regular audits can impose significant administrative expenses, which are costs that are more easily absorbed by large-cap companies than by those with limited financial and operational capacity.

This issue has prompted calls for more flexible, size-based regulatory approaches. In a paper by Frank Gigler, Chandra Kanodia, and others, the authors explore how some countries have already implemented differentiated frameworks. For example, in Singapore, the Council on Corporate Disclosure and Governance recommended exempting companies with market capitalizations under $75 million from quarterly reporting mandates. This reflects a recognition that rigid one-size-fits-all policies may not serve all market participants equally.

Nonetheless, the panelists maintained that, on balance, the benefits of quarterly reporting outweigh the costs. They argued that the frequency of financial disclosures supports investor confidence and market discipline, and that concerns about short-termism are unlikely to be addressed solely by adjusting the reporting schedule. Still, they acknowledged that a targeted compromise, particularly for small and mid-sized firms, could reduce economic strain while preserving the core advantages of transparency and accountability.

The panel discussion emphasized that a shift from quarterly to semi-annual reporting would offer little to no benefit for large firms, particularly those with the resources to absorb compliance costs. Panelists argued that for these companies, administrative expenses associated with quarterly audits and disclosures are marginal relative to their overall revenues. As such, financial constraints, which are often cited as a justification for reducing reporting frequency, are largely irrelevant in the context of large-cap corporations.

While not directly addressed in the panel, it is worth noting that many of the firms at the center of this debate, such as JP Morgan, Goldman Sachs, and Amazon, are considered “too big to fail.” The collapse of any one of these firms would have far-reaching implications, not only for the U.S. economy but also for global financial systems. Given their systemic importance, these firms require a high level of transparency and oversight, which is best supported by frequent and timely financial disclosures.

In this context, the case for maintaining quarterly reporting becomes even stronger. For large firms, the benefits of transparency, market confidence, and investor trust significantly outweigh any marginal cost savings that might come from switching to a less frequent reporting model. As reflected in the panel's discussion, there is no compelling reason for these firms to move away from the current quarterly system.

VII. Conclusion

This paper has explored the multifaceted trade-offs between transparency and short-termism in the context of financial reporting frequency. While more frequent disclosures can reduce information asymmetry, improve forecast accuracy, and enhance investor confidence, they can also lead to managerial myopia, compliance burdens for smaller firms, and volatility driven by market overreaction.

Insights from global case studies and a practitioner panel suggest that the solution is not as simple as switching from quarterly to semi-annual reporting. Panelists questioned whether such a change would make a meaningful difference in long-term corporate behavior, particularly given the persistent influence of sell-side analysts and media on short-term performance expectations. Moreover, audience responses revealed that true long-term investing is often defined in terms of years, not quarters or semesters, raising further doubts about whether modest changes in reporting frequency can materially alter market incentives.

The discussion also highlighted the importance of firm size in shaping the regulatory burden, with smaller firms bearing disproportionate costs under current quarterly mandates. This supports the case for more flexible, size-based approaches. However, for large and systemically important firms, panelists emphasized that the benefits of quarterly reporting remain significant and necessary for market oversight.

Ultimately, any policy changes to financial reporting frequency must carefully balance the competing goals of transparency, investor protection, and long-term value creation. As this paper has shown, one-size-fits-all solutions are unlikely to be effective. Instead, a combination of regulatory nuance, voluntary guidance practices, and market education may be required to address the underlying drivers of short-termism in capital markets.

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Analyzing Stock Buybacks and Their Relationships to Research and Development Expenses and Equity Value among Top Life Science Companies

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SM460: Senior Capstone Project

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Introduction

The life science industry and its operation in a free-market economy presents a complex and potentially controversial dynamic. On one hand, businesses are driven by the pursuit of profit, seeking to maximize shareholder value through cost-efficiency, competitive strategy, stock performance, and revenue growth. On the other hand, the life science industry holds a unique responsibility to design, develop, and distribute life-saving products that improve patient and population health and well-being. Financial incentives for companies to satisfy immediate goals may overshadow their ethical responsibility to prioritize patient care and affordability in the short term and scientific progress in the long term. As a result, decisions driven by market pressures – such as worker layoffs, research and development (R&D) cuts for cost-saving purposes, and price increases on existing medicines–can conflict with other goals, like ensuring equitable access for patients and advancing innovation to meet future public health needs. This tension raises critical questions about the role of profit in the life science industry and how to balance the interests of shareholders with society as a whole.

Our research explores these tensions, specifically by examining the relationship between stock buybacks and investment in innovation within the life science industry. In a stock buyback, a company repurchases its own shares from the market to reduce the number of outstanding shares, often to boost its stock price or earnings per share. Specifically, we hypothesize that among top-performing life science companies operating in the pharmaceutical, medical device, and biotech sectors, stock buybacks are negatively correlated with investment in research and development (R&D that are internal to the company such as intellectual property holdings (IP) and the number of clinical trials, and those that are external to the company such as merger and acquisitions of drug assets or companies. Our work is empirical, however it is informed by a review of the published literature and our panel discussion with two industry experts: Paul Clancy–the Chief Financial Officer for Biogen from 2007-2017 and for Alexion Pharmaceuticals from 2017-2019, who has overseen stock buybacks in the companies he has served–and Bill Lazonick, an economics professor at the University of Massachusetts who has written extensively on stock buybacks in the life science industry. Our discussions with these industry experts supported our analytic approach and suggested additional avenues for investigation, which we describe in this paper. Notably, in our discussions with Paul Clancy, it became evident that many companies in the sector engage in innovation not only through internal R&D but also through strategic acquisitions.

What are Stock Buybacks?

To better understand the relationship between buybacks, innovation, and patient access, it is important to first examine what stock buybacks are, how they work, and why companies—particularly in science-based industries—choose to use them. Stock buybacks, or share repurchases, happen when a company purchases its own shares from the open market, effectively reducing the number of outstanding shares. As a result, buybacks can increase earnings per share (EPS = Net Income / Shares Outstanding), which often leads to a higher stock price and pleases investors. Some companies may complete a buyback because they believe their stock is undervalued or because they want control of more shares, both of which are positive signals to the market. The practice has been around for decades but became more prevalent after the 1982 SEC Rule 10b-18, which provided companies with reduced liability against market manipulation claims.[1] Since then, buybacks have grown into a tool used by many corporations for corporate financial management.

However, some critics argue that companies use buybacks to meet short-term financial targets, such as EPS growth, especially when executive compensation is tied to share-based metrics. Instead, these funds could be directed toward R&D, employee development, or environmental and social impact, all of which could increase future competitiveness and advance other prosocial goals. This debate has intensified as corporations prioritize buybacks even in industries where long-term, risky, and costly innovation is fundamental, such as in the life science industry.

Why is R&D so Important in the Life Science Industry?

R&D is the backbone of the life science industry, driving the discovery and commercialization of new products that improve and save lives. R&D enables companies to innovate, stay competitive, and provide evidence of safety and efficacy for bringing new treatments to market. To fix ideas about the importance of R&D to this industry, consider the market for biopharmaceuticals. This process follows a structured pipeline of discovery and development, preclinical research, clinical research, FDA review, and FDA Post-Market Safety Monitoring.[2] Each stage carries increasing costs and risks, with only a small percentage of compounds ultimately reaching the market. Over the past decade, the average timeline to bring a biopharmaceutical compound from candidate nomination to market launch has been

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[1] Clark, Ronald O. "Should Congress or the SEC Do Something About Stock Buybacks?" *Business Law Today*, American Bar Association, Apr. 2021, https://www.americanbar.org/groups/business_law/resources/business-law-today/2021-april/should-congress-or-the-sec-do-something/. Accessed 18 Feb. 2025.

[2] U.S. Food and Drug Administration. "The Drug Development Process." *FDA*, 4 Jan. 2018, www.fda.gov/patients/learn-about-drug-and-device-approvals/drug-development-process.

approximately 12 years.[3] The cost of developing a single compound on average costs about $2.284 billion.[4]

From an accounting standpoint, R&D expenses are generally expensed as incurred, and the costs, reported on the income statement, reduce short-term profitability. However, investors often view R&D spending in the life science industry as a strategic investment, especially when backed by a strong pipeline or recent drug approvals, signaling long-term growth potential.[5] While costly and time-consuming, sustained investment in R&D ensures not only a company's competitiveness and future revenue streams but also advances patient and population health and fulfills a broader societal responsibility.

How are Stock Buybacks Related to R&D?

Some people assume that firms must choose between spending on R&D or doing share buybacks as if there is one pot of money and only room for one option. In reality, companies can often finance both, especially if they have access to external funding through debt or equity. The real issue is how firms structure this financing. Buybacks are essentially a way of shifting from using equity financing to relying more on debt. According to financial theory—like the Modigliani-Miller theorem—in perfectly efficient markets, this would not change the value of the firm. However, real markets are not perfect; if the issuance of buybacks leads companies to

[3] Agrawal, Gaurav, et al. "Fast to First-in-Human: Getting New Medicines to Patients More Quickly." *McKinsey & Company*, 10 Feb. 2023, www.mckinsey.com/industries/life-sciences/our-insights/fast-to-first-in-human-getting-new-medicines-to-patients-more-quickly.

[4] R&D Funding Could Increase for Life Sciences." *Deloitte Accounting & Finance Blog*, 2 Aug. 2024, https://www2.deloitte.com/us/en/blog/accounting-finance-blog/2024/r-and-d-funding-could-increase-for-life-sciences.html

[5] Ellis, Jeff, and Dennis Howell. "Will FASB's Proposal Encourage a Flood of R&D Funding in Life Sciences?" *Deloitte Risk & Compliance Journal*, 4 Feb. 2025, https://deloitte.wsj.com/riskandcompliance/will-fasbs-proposal-encourage-a-flood-of-r-d-funding-in-life-sciences-6760c2ae.

depend more on debt, it may make future investments harder or more costly to obtain.[6] It is in this sense that buybacks may offer short-term boosts to stock prices while reducing the value of a company over the long term by making innovation more difficult to sustain. High stock buybacks may be an indicator that management is more focused on enriching shareholders rather than R&D, which is essential for the lasting success of a life science firm. Our study looks at whether and how that trade-off actually shows up in empirical data on life science companies.

Project Inspiration

In this project, we aim to assess whether stock buybacks are associated with innovation, scientific progress, patient access, and stock market performance using empirical data. Our project is inspired by two studies. In July 2021, the U.S. House of Representatives Committee on Oversight and Reform released a report investigating stock buybacks, R&D, and executive compensation among a sample of 14 pharmaceutical companies. Earlier, in February 2019, former SEC Commissioner Robert J. Jackson Jr. examined the relationship between stock buybacks and corporate cashouts within the biopharmaceutical sector.

The House report revealed how, "overall, the 14 companies spent an average of 10% more on buybacks and dividends than on R&D from 2016 to 2020, but the eight U.S.-based companies spent on average over 24% more on buybacks and dividends than on R&D."[7] This evidence suggests that by reducing spending on buybacks and dividends, companies could maintain or exceed their current level of R&D investment.

[6] Freshfields Bruckhaus Deringer LLP. "The Dangers of Buybacks: Mitigating Common Pitfalls." *Harvard Law School Forum on Corporate Governance*, 23 Oct. 2020, https://corpgov.law.harvard.edu/2020/10/23/the-dangers-of-buybacks-mitigating-common-pitfalls/.

[7] U.S. House of Representatives Committee on Oversight and Reform, *Drug Pricing Investigation: Pharmaceutical Industry Business Practices—Buybacks, Dividends, and Executive Compensation Compared to Research and Development Spending,* staff report, July 2021, https://oversightdemocrats.house.gov/sites/evo-subsites/democrats-oversight.house.gov/files/COR%20Staff%20Report%20-%20Pharmaceutical%20Industry%20Buybacks%20Dividends%20Compared%20to%20Research.pdf.

In the second study, Jackson sought to identify potential explanations for large corporate buybacks and to investigate whether senior company executives were profiting from these decisions. He found that there was a measurable increase in stock performance post-buyback announcement compared to the performance of similar companies and that company insiders were selling their stocks at materially higher levels during these periods.[8] Therefore, executives benefitted from the buyback announcement that they authorized, and he postulated that buyouts are used to cash out executive stock.

Our research intends to expand upon these two studies by further investigating the impacts of stock buybacks on the life sciences industry. Similarly to the House Report, we focused on R&D spending in relation to stock buybacks. The project aims to provide a more holistic view of this relationship on an industry level through our larger sample size and broader focus on life science companies, including the pharmaceutical, biotechnology, and medical device sectors. The House report's sample was limited to pharmaceutical companies and did not include firms that had not pursued buybacks as a point of comparison–two changes we made in our research design. In contrast to Jackson's work, our analysis does not include dividends, focuses on a much larger set of companies, and does not investigate executive trading information. Instead, the project expands upon his look into changes in equity value, examining the long-term effects of stock buybacks on stock prices.

Methodology

Initially, our group wanted to capture companies that undertake large share repurchase programs in our sample. We decided to select 100 companies from target industries so that our data analysis could be conducted on a broad selection of companies. To achieve this, companies

[8] Robert J. Jackson Jr., "Stock Buybacks and Corporate Cashouts," U.S. Securities and Exchange Commission, February 4, 2019, https://www.sec.gov/news/speech/speech-jackson-020419.

were chosen on the basis of revenue, using 2016 as the base year. If a company fell into the top 100 when sorted by revenue, it was selected for our sample. Since companies that pursued significant stock buyback programs also had high revenues, this method of selection selected companies of interest into our sample.

The sample included companies from the following GIC Sub-Industry codes: 35201010, 35202010, 35203010, and select companies from 35101010 and 35102015. The first two codes refer to the pharmaceutical and biotechnology industries, respectively, while the latter three codes refer to different subcategories within the medical device industry. The pharmaceutical GIC sub-industry refers to companies that traditionally developed and manufactured chemical or small-molecule drugs, such as aspirin, statins, or penicillin. Meanwhile, biotechnology companies developed medicines and therapies by harnessing biological processes, such as genetic engineering or cell-based technologies, rather than traditional chemical synthesis. All of the data utilized was pulled from CompStat's Capital IQ North America Fundamentals Quarterly data bank, while ChatGPT, Perplexity.ai, and supplemental reading sources (See Appendix D) were used miscellaneously.

Sample companies were split into one of two groups: treated and controlled. The treated group consisted of companies that pursued stock buybacks in a given fiscal year. The project measured the value of stock buybacks at an annual level. The control group included firms that did not meet this criterion. The designation of "treated" or "control" only applied to a company for a specific fiscal year and was able to change over time. Therefore, a company might have been "control" for 2016 if they did not pursue buybacks in that year, and "treated" for 2017 if they did repurchase shares. The project assumed that R&D was necessary for the long-term success of companies in these industries. The project measured average R&D as a percentage of revenue for the entire sample on an annual basis. Companies were also segmented by industry for further analysis. These results were used to establish evidence for a relationship between group designation and spending on R&D and to establish differences across industries.

Acquisition spending was also analyzed on the basis of average spending per firm under the assumption that it was a driver for innovation. On CompStat Capital IQ, acquisitions were calculated by cash paid for a business less the acquired business' cash on hand. This data was segmented by group and treated versus control. It was done on the basis of nominal spending and average spending per company. Trends over the duration of the sample were also generally evaluated to determine if there were significant trends relevant to our research.

Finally, stock prices and S&P 500 quotes at market close were collected and compared. The analysis was performed across all groups and the full sample, with treated and controlled groups further segmented to identify impacts of buybacks on equity performance. Stock data was sourced from CompStat and Yahoo Finance for the sample and S&P 500 performance, respectively. The S&P 500 was used as a measure of the market. Performance was examined on a quarterly basis to reduce daily variation in value which can swing widely. Winsorization is a statistical technique used to limit the effect of extreme outliers by replacing the smallest and largest values in a dataset with values at a specific percentile. To curb the impact of outliers on our sample, we subjected our stock data to a 1% winsorization.

Results

First, we observed stock buybacks, R&D expenses, and revenue for the full sample. In 2016, our sample included 100 companies. However, this amount declined slightly over time due to missing data: in 2020, 88 companies were included. On average, 71% of companies conducted buybacks in a given year, with the greatest proportion of buybacks (76%) occurring in 2019. For comparison, about 56% of S&P Composite 1500 companies pursued buybacks in 2018, indicating that our data may be skewed toward treated firms.[9] Overall, our data suggest that larger companies are more likely to engage in stock buybacks. Table 1 reveals that in 2016 and 2017, the average total revenue for treated firms was more than twice that of control firms. In every year except for 2020, treated firm buyback purchases exceeded R&D expenditures. There was also a spike in buybacks in 2018, possibly related to the corporate tax cut from 31% to 25%.[10]

*Figure 1: Companies that engage in buybacks are significantly larger in revenue**

	Average Buybacks		**Average R&D Expense**		**Average Total Revenue**		**Count of Group**	
Fiscal Year	**Control**	**Treated**	**Control**	**Treated**	**Control**	**Treated**	**Control**	**Treated**
2016	-	$2,764	$646	$1,842	$4,058	$11,174	37	63
2017	-	$1,977	$822	$1,880	$5,055	$11,126	31	69
2018	-	$3,565	$982	$2,052	$6,546	$11,258	27	67
2019	-	$2,639	$1,309	$1,913	$8,542	$11,001	22	70
2020	-	$1,703	$1,913	$2,235	$10,577	$11,120	21	67
Grand Total	**-**	**$2,524**	**$1,054**	**$1,984**	**$6,492**	**$11,134**	**138**	**336**

*All amounts in millions

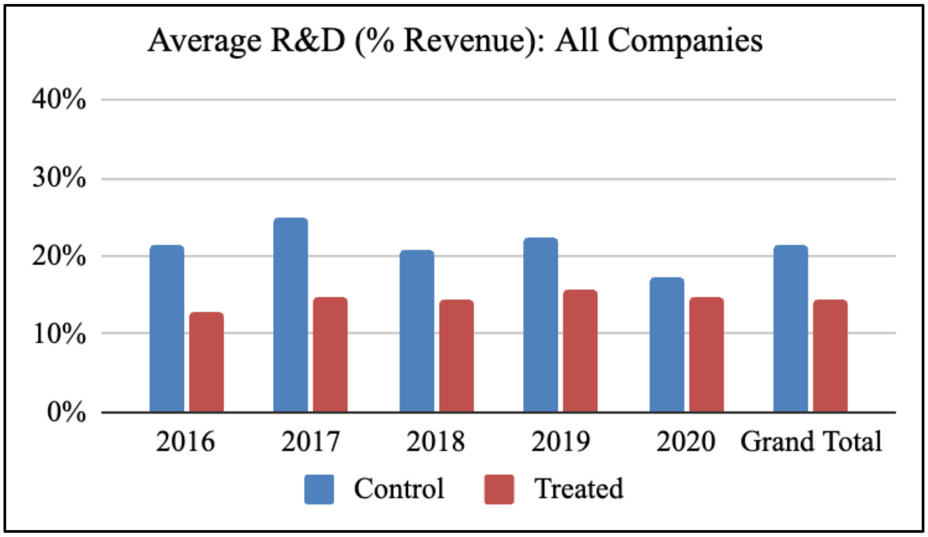
While treated firms spent more on R&D than control firms in absolute terms, Figure 1 displays that, relative to revenue, treated firms consistently dedicated a smaller share of revenue to R&D each year. On average, firms pursuing buybacks had R&D expenditures equal to 14.59%

[9] Liyu Zeng and Priscilla Luk, *Examining Share Repurchases and the S&P Buyback Indices* (New York: S&P Dow Jones Indices, March 2020), https://www.spglobal.com/spdji/en/documents/research/research-examining-share-repurchases-and-the-sp-buyback-indices.pdf.

[10] Emily Stewart, "Tax Cuts and Stock Buybacks, Explained," *Vox*, August 2, 2018, https://www.vox.com/2018/8/2/17639762/stock-buybacks-tax-cuts-trump-republicans.

of revenue, compared to 21.67% for control firms. This gap shrank to just 2.39 percentage points in 2020, potentially reflecting a shift in investment priorities due to the COVID-19 pandemic.

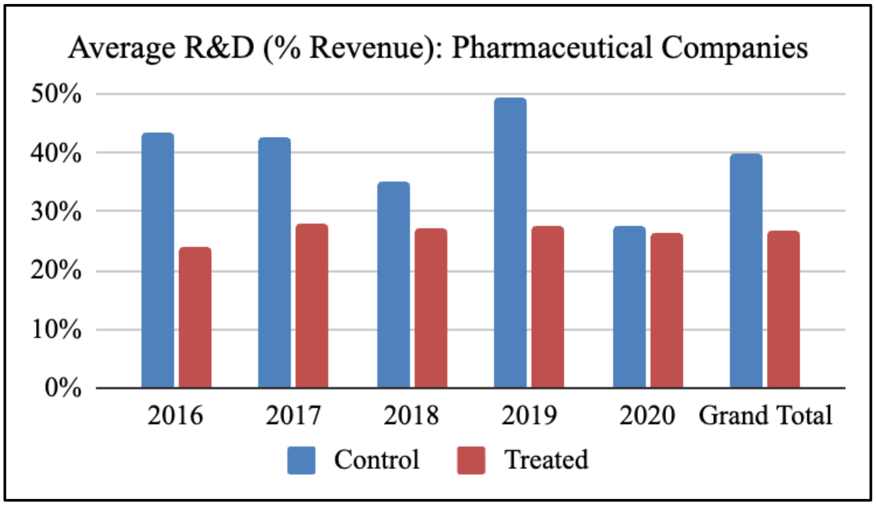
Figure 2: Firms with buybacks invested less in R&D relative to revenue



Next, we conducted the same analysis for each of our three sectors: pharmaceutical, biotechnology, and medical devices. Our goal was to determine whether the sector-level trends in R&D investment aligned with those observed in the full sample, and this segmentation revealed several interesting insights.

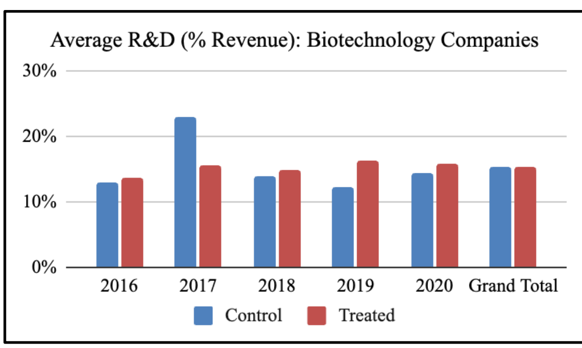
Among pharmaceutical companies–where overall R&D investment as a percentage of revenue is higher than in biotechnology and medical device firms–the disparity between treated and controlled firms is more pronounced (Figure 2). Treated companies in this sector allocated an amount equal to 26.77% of revenue to R&D, while control firms allocated 39.98% of revenue to R&D – a difference nearly double that observed in our sample as a whole.

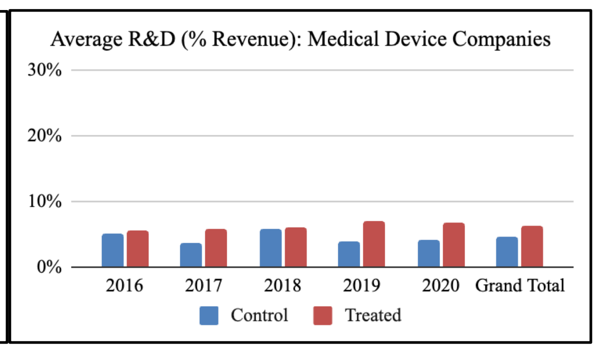
Figure 3: Pharmaceutical industry exhibits wider R&D gap between treated and control firms



This finding sharply contrasts with results from the other two industries in our sample. Among biotechnology companies (Figure 3), treated firms reported higher R&D expenses relative to revenue than control firms in every year except 2017. In the medical devices industry (Figure 4), treated firms spent a greater portion of revenue on R&D in all five years. These patterns indicate that the correlation between stock buybacks and R&D investment is industry-specific, with the pharmaceutical industry driving much of the effect observed in our full sample.

Figures 4 and 5: Treated firm R&D spending matches or surpasses control firms in the biotechnology and medical device sectors





On average, treated firms spent less on acquisitions than control firms. Although nominal spending is greater for the treated group, this is driven by a larger sample size. When adjusted for individual company averages, the treated group spends about half the amount on average as the control (Figure 8). In addition, there are large swings in nominal and average spending from year to year, with no clear trend emerging (Figure 8 & 9). Acquisition spending appears to be concentrated across a few firms. For example, the average pharmaceutical acquisition spend was $1.6 billion in 2016, while AbbVie's alone was $38.2 billion. AbbVie's acquisition spending during this period greatly exceeded the average, significantly influencing the figure.

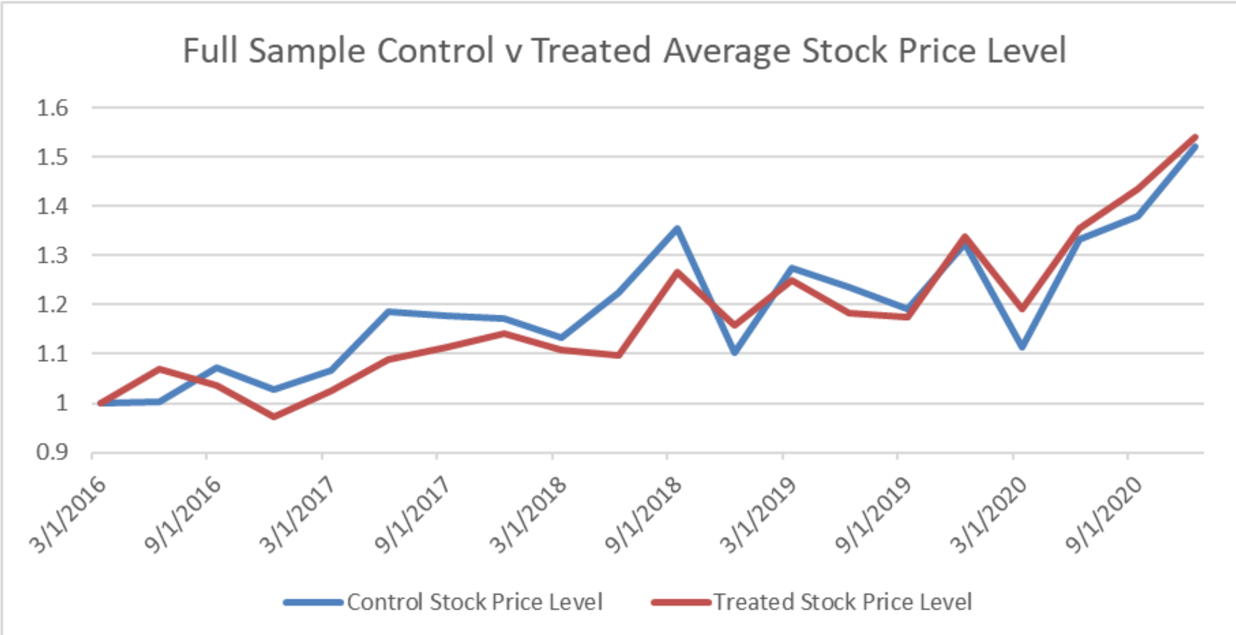
*Figure 8 & 9: Treated firms on average spend less than control firms on acquisitions, while annual acquisition spending varies from year to year**

	Nominal Spending		**Sample Size**		**Average Spending**		
Fiscal Year	**Control**	**Treated**	**Control**	**Treated**	**Control**	**Treated**	**Difference (ABS)**
2016	$ 70,818	$ 45,566	37	63	$ 1,914	$ 723	$ 1,191
2017	$ 8,425	$ 84,206	31	69	$ 272	$ 1,220	$ 949
2018	$ 89,433	$ 21,225	27	67	$ 3,312	$ 317	$ 2,996
2019	$ 13,777	$ 53,237	22	70	$ 626	$ 761	$ 134
2020	$ 36,752	$ 90,840	21	67	$ 1,750	$ 1,356	$ 394
Average	$ 43,841	$ 59,015			$ 1,575	$ 875	$ 700

*Dollar amounts in millions

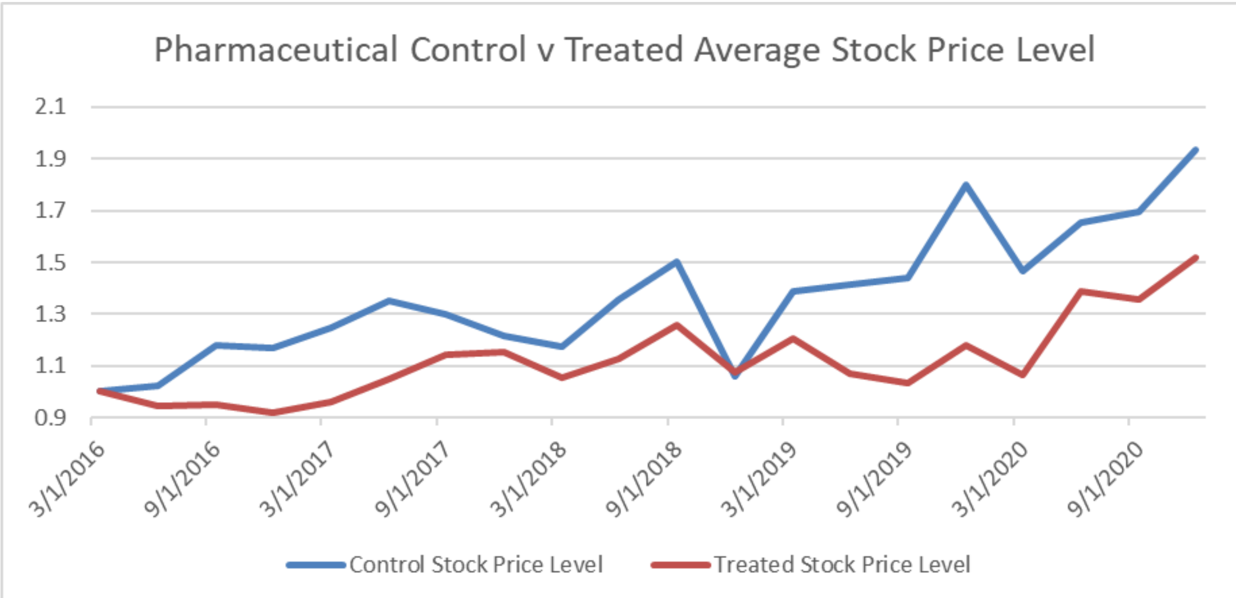
Finally, we examined quarterly stock returns for the companies in our sample (Figure 10). There were marginal benefits for treated firms, which experienced average stock price growth of 2.6% per quarter compared to 2.4% for control firms. When comparing the average price level change of both the treated and control group, we found that they performed similarly over the evaluated period.

Figure 10: Quarterly stock returns show a minimal advantage for buyback firm



When we segmented our stock analysis by sub industry and using R^2 as a metric, we found that companies within the pharmaceutical industry had the highest deviation between the controlled and treated groups across all sub industries. The control and treated groups have a correlation coefficient of R^2=0.492, which is relatively high for a large sample. We can conclude that among pharmaceuticals both the treated and control groups move similarly to the market and to each other across all industries we studied. Additional quarterly equity performance segmented by industry can be found in Appendix E, and correlation tables can be found in Appendix F.

Figure 11: Quarterly stock returns deviate most within the pharmaceutical industry, still have a relatively high correlation



Taken together, our findings challenge the narrative that buybacks inherently detract from R&D investments. There was a significant gap in R&D spending between treated and control firms in the pharmaceutical industry, supporting findings from the earlier House report and our hypothesis that pharmaceutical companies pursuing stock buybacks invest proportionally less in R&D. However, industry-specific trends appear to be a key factor, since biotechnology and medical device companies did not display this pattern. Existing research from Jackson and the House Report suggests that buybacks increase share prices in the short term. Our research was unable to conclude that there was a positive or negative correlation between stock buybacks and long-term equity performance.

Our study has several limitations: it relies on correlational data, and given our sampling of the top 100 companies by 2016 revenue, it is unclear whether our findings would generalize to the broader industries. Further research could be done to investigate the impacts of stock buybacks on other innovation-related factors, such as intellectual property holdings (IP), the number of clinical trials, and drug pricing trends. Nevertheless, these results provide additional details for the debate over whether stricter regulations on stock buybacks are necessary to protect continued innovation and scientific progress.

Policy Implications

Several proposals have been put forward to enhance oversight in buyback practices. The Reward Work Act (proposed by Sen. Tammy Baldwin) would ban open-market buybacks; instead, companies would have to conduct buybacks through tender offers, which require more disclosure.[11]A tender offer is a more transparent method where firms publicly offer to buy a set number of shares at a specified price within a limited time. Shareholders can then choose whether or not to sell their shares back to the company under these terms. This process ensures equal treatment of shareholders and reduces the potential for insider advantage. Companies forced to justify repurchase plans might dedicate more funds toward innovation, wage compensation, and business expansion. However, this could result in stock stagnation, and companies would lose a key tool for managing their capital.[12] Limiting buybacks might reduce firms' flexibility in managing their capital structure, especially when they have excess cash and lack better immediate investment opportunities.[13] Buybacks are considered a way to efficiently allocate capital when they have excess cash. Warren Buffet, for example, has defended buybacks, arguing they benefit shareholders when done responsibly (ensuring retained earnings are not used purely for buybacks).[14] Ultimately, while regulating buybacks may promote greater

[11] Baldwin, T. (2018, March 22). *S.915 - Reward Work Act of 2018*. Congress.gov. https://www.congress.gov/bill/116th-congress/senate-bill/915
[12] CFI, *Dividend vs Share Buyback/Repurchase Enhance yield or boost EPS?*
[13] Almeida, Heitor, Vyacheslav Fos, and Mathias Kronlund. 2016. *The Real Effects of Share Repurchases.* NBER Working Paper No. 19406. National Bureau of Economic Research. https://www.nber.org/papers/w19406
[14] Buffet, *Letter to Berkshire Hathaway Shareholders for 2020*, Feb. 27, 2021.

transparency and fairness, it also requires careful consideration of the trade-offs in terms of corporate flexibility and long-term shareholder value.

The Worker Dividend Act (proposed by Sen. Cory Booker) would mandate that companies that conduct buybacks give employees a proportional financial benefit, such as cash bonuses or stock grants.[15] This law would apply to large corporations and significant stock repurchase programs. The goal is to ensure that workers, like shareholders, share in the financial gains from buybacks, potentially helping to reduce income inequality. As a result, this policy could make buybacks less attractive, as firms would face higher associated costs when pursuing them. Critics of this approach argue that firms might compensate by cutting other employee benefits or slowing hiring.[16] Both of these bills were introduced in 2018, but they did not advance past the initial stage of Congress.

Additional policy tools could align corporate behavior with innovation-focused growth. One option is mandatory R&D minimums for firms conducting buybacks: to ensure that stock buybacks do not come at the expense of innovation, regulations could prohibit buybacks if companies' R&D spending falls below a set percentage of revenue. Our findings indicated that R&D intensity was highest among firms that did not engage in buybacks. On the positive side, it might lead the firm to increase R&D investments to meet the threshold, potentially boosting innovation. However, it may lead to superficial or inefficient spending if firms treat the requirement as a check box rather than a strategic priority. The policy's effectiveness would depend on design. Moreover, setting a single R&D benchmark could be difficult, as life science

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[15] Booker, C. (2018, March 6). *S.2514 - Worker Dividend Act of 2018*. Congress.gov. https://www.congress.gov/bill/116th-congress/senate-bill/2514
[16] Visram, Tax Cut Fuels Record $200 Billion Stock Buyback Bonanza, CNN.com (June 5, 2018).

companies vary widely in their business models — for example, biotechnology, pharmaceutical, and medical device firms have different R&D needs and cost structures.

Another approach is a progressive tax penalty for excessive buybacks. The 2018 corporate tax cuts led to a surge in buybacks, raising concerns that tax savings were being directed to shareholders instead of reinvested in innovation.[17] A progressive tax could be applied to buybacks exceeding a certain threshold, encouraging companies to prioritize long-term R&D over short-term stock price boosts. Defining an appropriate threshold, though, remains a challenge.

Beyond U.S. legislative efforts, other countries impose more restrictive buyback regulations. Switzerland, Japan, the UK, and the Netherlands enforce stricter controls on repurchases, offering potential models for balancing corporate financial strategies with sustained investment in research and development. In Switzerland, the Swiss Takeover Board oversees share repurchases, and any buyback activity exceeding a certain threshold must be approved by shareholders. Moreover, companies are restricted from repurchasing shares during certain periods, such as around earnings announcements, to prevent market manipulation and ensure that share repurchases do not impair other investments, including R&D.[18] The UK's Financial Conduct Authority (FCA) imposes similarly strict rules on buybacks: share repurchases in the UK must be approved by shareholders and cannot exceed certain amounts without justification. Companies must disclose the purpose of their buybacks in annual reports, explaining whether the funds used for repurchases could have been better spent on strategic activities, such as R&D or employee compensation.[19]

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[17] Visram, *Tax Cut Fuels Record $200 Billion Stock Buyback Bonanza*, CNN.com (June 5, 2018).
[18] Swiss Takeover Board. (2020). *Stock buybacks and regulations*. https://www.takeover.ch
[19] Financial Conduct Authority. (2020). *Share repurchase regulations in the UK.* Retrieved from https://www.fca.org.uk

While many policy proposals surrounding stock buybacks focus on their societal consequences—such as rising inequality or declining investment in innovation—an equally important dimension is the possibility that firms may be acting against their own long-term interests.[20] Currently, there is a structural incentive to prioritize immediate stock performance over sustained investment in R&D, talent, and growth capabilities.[21] Therefore, policies should also aim to correct internal incentive misalignments that lead to suboptimal corporate behavior. For example, companies' compensation structures could be linked to long-term goals—such as innovation outcomes, return on invested capital (ROIC) over five years, or new product development.[22]

Panel Insights

On Friday, April 11th, our team presented our research at the Mehrotra Institute's inaugural summit on Short-Termism in Business. Following the presentation, we had a panel discussion with two individuals on relatively opposite sides of the debate surrounding stock buybacks. Paul Clancy served as the CFO for Biogen and Alexion Pharmaceuticals during his career, two companies that historically have pursued buybacks and were part of our sample. On the other hand, William (Bill) Lazonick is an economics professor at the University of Massachusetts. In 2014, his *Harvard Business Review* article–"Profits Without Prosperity: Stock Buybacks Manipulate the Market and Leave Most Americans Worse Off"–won an HBR McKinsey Award. Panel discussion covered the larger impacts of stock buybacks, opinions on proposed regulations, and the overall system surrounding life science companies in the U.S.

[20] Asker, J., Farre-Mensa, J., & Ljungqvist, A. (2015). Corporate investment and stock market listing: A puzzle? *Review of Financial Studies, 28*(2), 342–390. https://doi.org/10.1093/rfs/hhu077
[21] Bebchuk, L. A., & Fried, J. M. (2004). *Pay without performance: The unfulfilled promise of executive compensation*. Harvard University Press.
[22] OECD. (2019). *The role of institutional investors in promoting good corporate governance*. OECD Publishing. https://doi.org/10.1787/33986073-en

Paul opened by explaining the case for stock buybacks: returning excess cash to shareholders may be a more productive alternative to investing in negative net present value (NPV) projects. In a recent accounting department seminar we attended, we heard this view supported by HBS professor Charles C.Y. Wang. He explained how buybacks facilitate the transfer of capital from low-growth, cash-rich companies to high-growth, cash-poor companies, giving them greater ability to fund innovation.[23] Therefore, buybacks could be beneficial for the economy as a whole. Bill countered this point by presenting it through a public health lens, asking: “What if the less profitable drugs are the ones that the world really needs?”

Throughout the panel, a common theme was that while life science companies owe a fiduciary duty to their shareholders, there is the extra responsibility of bringing life-saving treatments to market and making them accessible to patients. One place this tension surfaced was during a conversation about high prescription drug prices in the U.S. Paul admitted that the current system “isn’t perfect” and there are companies “pricing up higher than they should be”; however, companies have to account for the cost of R&D failures. He added that although prices can be higher during the patent window, after exclusivity expires, the market becomes generic, and prices drop due to increased competition. In contrast, Bill argued that life science companies do not need high drug prices to reinvest in R&D–they need them to continue pursuing stock buybacks. He characterized the situation as a fundamental conflict of “innovation vs. financialization,” citing pharmaceutical companies going public without having brought any products to market as an example. Paul pushed back, stating that “it’s not either innovation or financialization,” and that the best companies can accomplish both. In our own research, we

[23] Charles C.Y. Wang, *“Does Share Repurchase Legalization Really Harm Corporate Investments?”* (seminar, Questrom School of Business, Boston University, March 19, 2025).

observed that companies in the biotech and medical device sectors seemed to manage this tradeoff more effectively than pharmaceutical companies.

Lastly, the panelists discussed the role of regulation related to stock buybacks. According to Paul, oversight would be most effective coming from each company's board of directors. Boards have the power to determine compensation structures and the extent to which executive pay is linked to stock performance; therefore, they could also help incentivize long-term decision-making, like investment in R&D. Bill expressed skepticism about companies' ability to self-regulate, suggesting that significant adjustments need to be made to current laws and policies. He mentioned how when creating the 1982 Rule 10b-18, the SEC "never said that buybacks weren't manipulation–just that you wouldn't be charged with it." In several articles, he has explicitly called for the rule to be rescinded in order to mitigate worsening economic inequalities in the U.S.[24] He also made a point to emphasize that this is a systemic issue: while buybacks did increase after the Trump Administration's 2018 tax cuts, they increased even further under President Biden.

Hearing from Paul and Bill provided a meaningful contrast between perspectives inside and outside the life science industry. One of our biggest takeaways was how deeply the controversy over buybacks in the life science industry is tied to a broader public skepticism that companies in this sector are earning higher profits than necessary and at the expense of patients. The panel also prompted us to expand our initial R&D metric, which only captured companies' internal expenditures. Paul noted that, in reality, many life science companies innovate through strategic acquisitions in addition to in-house research. Based on this suggestion, we added mergers and acquisitions (M&A) to our analysis above.

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[24] William Lazonick, "Opinion | Ban Stock Buybacks," *The New York Times*, August 23, 2018, https://www.nytimes.com/2018/08/23/opinion/ban-stock-buybacks.html.

Conclusion

Stock buybacks are strategic financial tools with the potential to bring temporary benefits to organizations. However, controversy remains over whether such benefits come at the expense of long-term growth and, in the case of science-based companies, at the cost of capital investments that could lead to transformative treatments and innovations. While prior research emphasizes the fact that big pharmaceutical companies have spent more on buybacks than on R&D in recent years, our results reveal significant industry-level differences. Among biotechnology and medical device companies, buyback firms often invest at similar or higher levels (relative to revenue) than non-buyback firms. Stock price analysis also demonstrates that buybacks generally result in temporary gains rather than lasting returns. These findings provide helpful insights for the discussion surrounding buyback regulation.

The use of stock buybacks has greatly increased over time, especially following the 2018 corporate tax cuts under the Trump Administration. Yet, SEC rules governing the tactic have not been changed since 2003, sparking debate over whether increased disclosures or outright restrictions are necessary to discourage short-term decision-making.[25] Should further proposed tax reductions take effect, they could expand firms' capacity to pursue buybacks, making these questions more important than ever.

[25] Emily Stewart, "Tax Cuts and Stock Buybacks, Explained," *Vox*.

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Appendix A

Sample List

Below is a table that encompasses the list of companies that we utilized in our sample, accompanied by their revenue in 2016.

Global Company Key	Ticker Symbol	Company Name	Revenue - Total
6266	JNJ	JOHNSON & JOHNSON	71890
8530	PFE	PFIZER INC	52824
25648	RHHBY	ROCHE HOLDING AG	51807.09
100080	BAYRY	BAYER AG	49350.65
101310	NVS	NOVARTIS AG	48518
7257	MRK	MERCK & CO	39807
101204	SNY	SANOFI	36623.88
5180	GSK	GSK PLC	34897.67
24856	GILD	GILEAD SCIENCES INC	30390
7228	MDT	MEDTRONIC PLC	28833
16101	ABBV	ABBVIE INC	25638
28272	AZN	ASTRAZENECA PLC	23408
1602	AMGN	AMGEN INC	22991
14538	TEVA	TEVA PHARMACEUTICALS	21903
6730	LLY	LILLY (ELI) & CO	21222.1
1078	ABT	ABBOTT LABORATORIES	20853
2403	BMY	BRISTOL-MYERS SQUIBB CO	19427
10530	TMO	THERMO FISHER SCIENTIFIC INC	18274.1
212782	FMS	FRESENIUS MEDICAL CARE AG	17910.79
3735	DHR	DANAHER CORP	16882.4
8020	NVO	NOVO NORDISK A/S	15863.87
27845	AGN	ALLERGAN PLC	14570.6
24468	BIIB	BIOGEN INC	11448.8
212340	SHPG	SHIRE PLC	11396.6
10115	SYK	STRYKER CORP	11325

13599	CELG	CELGENE CORP	11229.2
7637	VTRS	VIATRIS INC	11076.9
29955	BHC	BAUSCH HEALTH COMPANIES INC	9674
144559	ZBH	ZIMMER BIOMET HOLDINGS INC	7683.9
17928	IQV	IQVIA HOLDINGS INC	6878
24782	PRGO	PERRIGO CO PLC	5280.6
13721	ZTS	ZOETIS INC	4918
100418	ESAIY	EISAI CO LTD	4873.884
23812	REGN	REGENERON PHARMACEUTICALS	4860.427
21801	VWR	VWR CORP	4514.2
277812	GRFS	GRIFOLS S A	4273.381
126554	A	AGILENT TECHNOLOGIES INC	4202
63645	ENDPQ	ENDO INTERNATIONAL PLC	4010.274
18086	MNKTQ	MALLINCKRODT PLC	3380.8
11115	VAR	VARIAN MEDICAL SYSTEMS INC	3217.8
62263	ALXN	ALEXION PHARMACEUTICALS INC	3084
33955	ELAN	ELANCO ANIMAL HLTH INC	2913.5
136725	ISRG	INTUITIVE SURGICAL INC	2704.4
65772	MTD	METTLER-TOLEDO INTL INC	2508.257
61600	PRXL	PAREXEL INTERNATIONAL CORP	2426.3
138205	ILMN	ILLUMINA INC	2398.373
223098	RDY	DR REDDY'S LABORATORIES LTD	2322.506
61574	WAT	WATERS CORP	2167.423
4145	RVTY	REVVITY INC	2115.517
2220	BIO	BIO-RAD LABORATORIES INC	2068.172
19985	PTHN	PATHEON NV	1866.7
20228	CTLT	CATALENT INC	1848.1
21739	PRAH	PRA HEALTH SCIENCES INC	1811.711
24344	VRTX	VERTEX PHARMACEUTICALS INC	1702.177
137131	CRL	CHARLES RIVER LABS INTL INC	1681.432

110620	ICLR	ICON PUBLIC LIMITED COMPANY	1666.487
138483	BRKR	BRUKER CORP	1611.3
22039	SYNH	SYNEOS HEALTH INC	1610.596
121440	UTHR	UNITED THERAPEUTICS CORP	1598.8
11376	WST	WEST PHARMACEUTICAL SVSC INC	1509.1
177287	JAZZ	JAZZ PHARMACEUTICALS PLC	1487.973
63186	QGEN	QIAGEN NV	1337.991
27810	LIVN	LIVANOVA PLC	1213.925
122257	BMRN	BIOMARIN PHARMACEUTICAL INC	1116.854
14304	AKRXQ	AKORN OPERATING COMPANY LLC	1116.843
29127	INCY	INCYTE CORP	1105.719
185355	HZNP	HORIZON THERAPEUTICS PUB LTD	1046.12
30554	TARO	TARO PHARMACEUTICL INDS LTD	950.751
29819	BIVV	BIOVERATIV INC	887.4
61745	IPXL	IMPAX LABORATORIES INC	824.429
19417	CXRXF	ADVANZ PHARMA CORP LTD	816.159
162335	PBH	PRESTIGE CONSUMER HEALTHCARE	806.247
61399	MYGN	MYRIAD GENETICS INC	753.8
20115	PAHC	PHIBRO ANIMAL HEALTH CORP	751.526
24302	ALKS	ALKERMES PLC	745.694
118081	AMRI	ALBANY MOLECULAR RESH INC	570.45
22632	LCINQ	LANNETT CO INC	566.091
31477	AZTA	AZENTA INC	560.323
62169	LFCR	LIFECORE BIOMEDL INC	541.099
12250	AMAG	AMAG PHARMACEUTICALS INC	532.091
156617	ACORQ	ACORDA THERAPEUTICS INC	519.601
15414	TECH	BIO-TECHNE CORP	499.023
13839	CBM	CAMBREX CORP	490.338
176022	EBS	EMERGENT BIOSOLUTIONS INC	488.782
65944	ASRT	ASSERTIO HOLDINGS INC	455.897

19998	MEDP	MEDPACE HOLDINGS INC	421.582
141460	SGEN	SEAGEN INC	418.147
24040	IONS	IONIS PHARMACEUTICALS INC	346.62
175079	CBPO	CHINA BIOLOGIC PRODUCTS HLDG	341.169
164609	GHDX	GENOMIC HEALTH INC	327.868
185836	PCRX	PACIRA BIOSCIENCES INC	276.371
184256	IRWD	IRONWOOD PHARMACEUTICALS INC	273.957
133504	LMNX	LUMINEX CORP	270.639
20659	AMPH	AMPHASTAR PHARMACEUTICLS INC	255.165
178157	MDXG	MIMEDX GROUP INC	245.015
179731	INSYQ	INSYS THERAPEUTICS INC	242.275
175308	SCMP	SUCAMPO PHARMACEUTICALS INC	230.056
24176	NTRA	NATERA INC	217.074
278153	HCM	HUTCHMED (CHINA) LTD	216.08
186159	SUPN	SUPERNUS PHARMACEUTICALS INC	215.003

Appendix B

Below is the color code key that our team utilized throughout our project along with the associated GIC sub-industry codes and associated industries. Please note that the following codes 35203010, 35101010, and 35102015, all refer to companies within the medical devices industry.

	GIC Sub-Industry Code: 35201010
	Company Count in Sample: 27
	Pharmaceuticals
	GIC Sub-Industry Code: 35202010
	Company Count in Sample: 39
	Biotechnology
	GIC Sub-Industry Code: 35203010
	Company Count in Sample: 27
	Medical Devices
	GIC Sub-Industry Code: 35101010 & 35102015
	Company Count in Sample: 7
	Misc - Medical Devices

Appendix C

Analysis of average company stock change compared to the S&P 500.

Average of Company Returns by Quarter					
Row Labels	Control	Treated	S&P 500	Control - Excess of MKT	Treated - Excess of MKT
3/31/2016	-3.6%		0.8%	-4.3%	
6/30/2016	0.4%	6.9%	1.9%	-1.5%	5.0%
9/30/2016	6.8%	-3.0%	3.3%	3.5%	-6.4%
12/31/2016	-4.2%	-6.1%	3.2%	-7.4%	-9.4%
3/31/2017	3.8%	5.4%	5.6%	-1.8%	-0.1%
6/30/2017	11.3%	6.2%	2.6%	8.7%	3.7%
9/30/2017	-0.7%	2.2%	4.0%	-4.7%	-1.8%
12/31/2017	-0.4%	2.7%	6.1%	-6.6%	-3.4%
3/31/2018	-3.4%	-3.1%	-1.2%	-2.2%	-1.9%
6/30/2018	8.1%	-0.8%	2.9%	5.1%	-3.8%
9/30/2018	10.8%	15.4%	7.2%	3.6%	8.2%
12/31/2018	-18.8%	-8.7%	-14.0%	-4.8%	5.3%
3/31/2019	15.8%	8.0%	13.1%	2.8%	-5.1%
6/30/2019	-3.2%	-5.4%	3.8%	-7.0%	-9.1%
9/30/2019	-3.6%	-0.6%	1.2%	-4.8%	-1.8%
12/31/2019	11.1%	13.7%	8.5%	2.6%	5.2%
3/31/2020	-15.9%	-11.0%	-20.0%	4.1%	9.0%
6/30/2020	19.9%	13.7%	20.0%	-0.1%	-6.2%
9/30/2020	3.4%	6.0%	8.5%	-5.1%	-2.5%
12/31/2020	10.3%	7.3%	11.7%	-1.4%	-4.3%
Average	2.4%	2.6%	3.5%	-1.1%	-1.0%

Appendix D

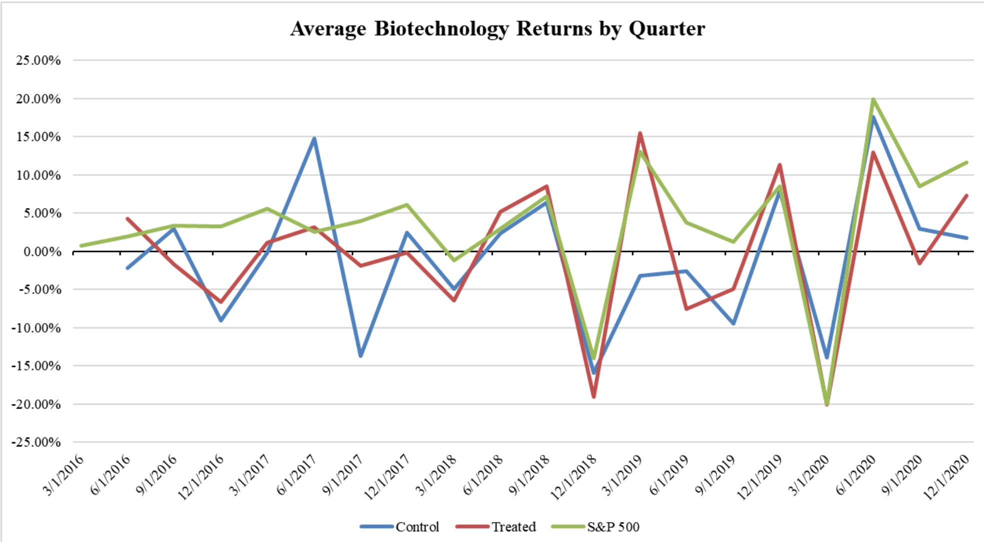
Supplemental Reading List

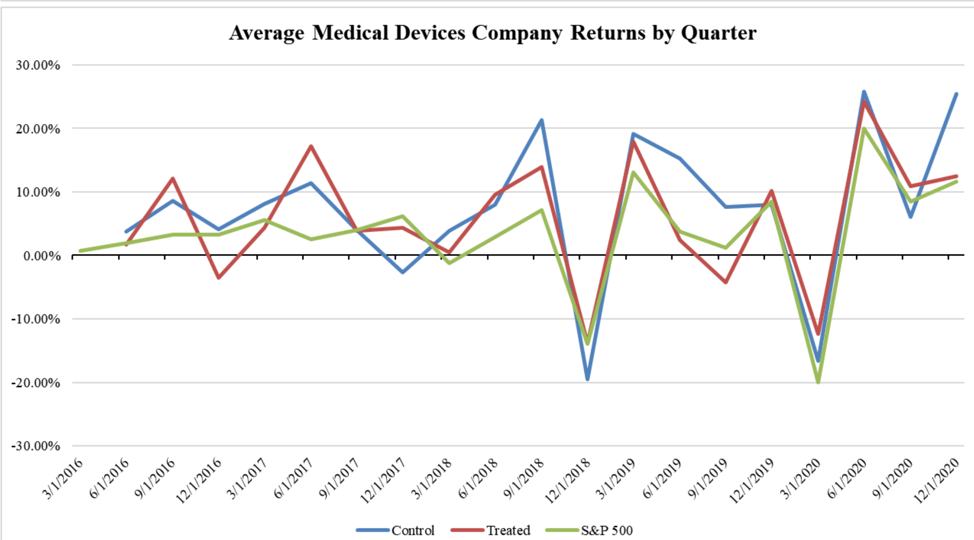
The following articles have been reviewed and will be used in the final paper. They may be recommended for review by panelists to enrich the summit discussion.

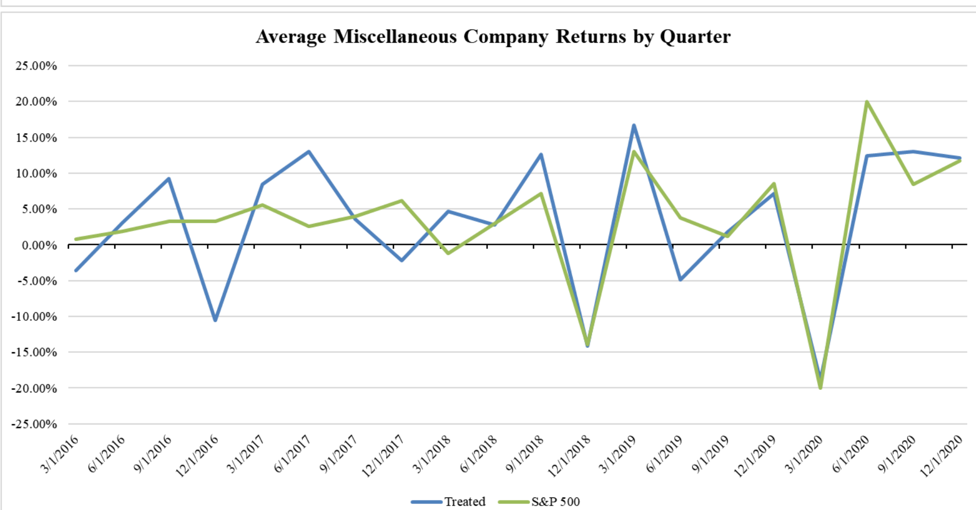
- Stewart, Stock buybacks, explained, Vox, Aug. 5, 2018.
- Very entertaining video on Henry Singleton, the Teledyne corporation and the use of buybacks as part of his capital allocation strategy. https://moiglobal.com/henry-singleton-lessons/
- Visram, *Tax Cut Fuels Record $200 Billion Stock Buyback Bonanza*, CNN.com (June 5, 2018).
- Senator Elizabeth Warren's statements on stock buybacks: https://www.youtube.com/watch?v=zsOZeJYDgPo
- Buffet, *Letter to Berkshire Hathaway Shareholders for 2020*, Feb. 27, 2021.
- CFI, *Dividend vs Share Buyback/Repurchase Enhance yield or boost EPS?*
- Lazonick, Sakinç, and Hopkins, W*hy Stock Buybacks are Dangerous for the Economy*, Harvard Business Review, Jan. 7, 2020.
- SEC Commissioner Jackson analysis of stock buybacks released in 2019, see here: SEC.gov | Stock Buybacks and Corporate Cashouts and its follow-up on insider trading: Letter from SEC Commissioner Robert J. Jackson, Jr. to U.S. Senator Van Hollen
- National Academy of Science. *Making Medicines Affordable*, Chapter 1. https://nap.nationalacademies.org/catalog/24946/making-medicines-affordable-a-national-imperative
- *S*ertkaya A, Beleche T, Jessup A, Sommers BD. *Costs of Drug Development and Research and Development Intensity in the US, 2000-2018.* JAMA Netw Open. 2024;7(6):e2415445. https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2820562
- Protect our care. In 2023, Big Drug Companies Raked in $684 Billion and Spent $106 Billion Rewarding Shareholders. https://www.protectourcare.org/wp-content/uploads/2024/02/greedwatch2023.pdf
- US House of Representatives. *Drug Pricing Investigation Industry Spending on Buybacks, Dividends, and Executive Compensation.* https://oversightdemocrats.house.gov/sites/evo-subsites/democrats-oversight.house.gov/files/COR%20Staff%20Report%20-%20Pharmaceutical%20Industry%20Buybacks%20Dividends%20Compared%20to%20Research.pdf

Appendix E

Average Biotechnology, Medical Devices, and Miscellaneous Quarterly Stock Performance Graphs:







Appendix F

Array of Correlation Coefficient Tables:

All Companies		
Array	R	R^2
Control and S&P	0.880257	0.774852
Treated and S&P	0.778827	0.606572
Control and Treated	0.833162	0.69416
Pharmaceutical		
Arrays	R	R^2
Control and S&P	0.773524669	0.59834
Treated and S&P	0.771976015	0.595947
Control and Treated	0.701182512	0.491657
Biotechnology		
Arrays	R	R^2
Control and S&P	0.685672391	0.4701
Treated and S&P	0.879096106	0.7728
Control and Treated	0.722272776	0.5217
Medical Devices		
Arrays	R	R^2
Control and S&P	0.873841534	0.763599
Treated and S&P	0.857209318	0.734808
Control and Treated	0.838253797	0.702669
Misc - Medical Devices		
Arrays	R	R^2
Treated and S&P	0.801196	0.641915

Appendix G

Below is a table that includes the items pulled from Compustat for all sample companies.

Item	Code
Company Name	Conm
Ticker Symbol	Tic
Stock Exchange Code	exchg
GIC Sub-Industries	gsubind
Common Shares Issued	cshiq
Total Shares Repurchased	cshopq
Common Shares Outstanding	cshoq
LTD due in one year	dd1q
LTD total	dlttq
EPS Excluding Extraodinary	epsfxq
Net Income	niq
Operating Income before dep	oibdpq
Repurchase price	prcraq
Revenue	revtq
Stock Compensation Expense	stkcoq
R&D	xrdq
Cash Div on common stock	cdvcy
Cash dividend	dvy
Cash Div on preferred	pdvcy
Purchase of common stock	prstkccy
Purchase of common and preferred Stock	prstkcy
Purchase of preferred	prstkpcy
Price close	prccq

Discovering An ESG Premium on Equities - An Insight into Long-Term Risk Mitigation's Impact on Valuation

By: Aaron Ahmed, Marwan Buheiry, Devin Hirsch, and Eric Ye

Introduction

Environmental, Social, and Governance (ESG) considerations have increasingly become a central focus in modern corporate and financial decision-making. ESG represents a framework used to evaluate a company's commitment to sustainable practices, ethical governance, and social responsibility. As global challenges such as climate change, social inequality, and corporate misconduct gain prominence, investors and stakeholders demand greater accountability and transparency from corporations. This shift has accelerated the growth of ESG investments and fundamentally altered how companies are assessed and valued.

The primary objective of this paper is to explore the concept of the ESG premium — the potential valuation premium companies may receive for strong ESG performance. By investigating the extent to which ESG practices correlate with financial performance, we aim to provide insights into whether ESG initiatives create shareholder value. The paper also examines the challenges posed by short-termism in corporate governance, which often conflicts with the long-term nature of ESG investments. Additionally, we analyze a landmark study by Flammer & Bansal to understand how long-term executive incentives may influence ESG outcomes.

The empirical portion of this paper outlines our methodology for estimating the ESG premium. We provide a detailed overview of the data sources used, the construction of ESG performance measures, and the econometric models applied. Ultimately, we seek to contribute to the ongoing discourse on sustainable investing by offering quantitative evidence on the financial impact of ESG integration.

Environmental, Social, Governance - Trends and The Emerging Ecosystem

Firstly, let's discuss Environmental, Social Governance. Environmental, Social, and Governance (ESG) considerations have become central to how companies are evaluated and how investors allocate capital. The growth of ESG as a focus area reflects a broader understanding that companies failing to address these issues may expose themselves to reputational damage, regulatory sanctions, operational inefficiencies, and ultimately diminished shareholder value. On the other hand, companies that excel in ESG are increasingly viewed as more resilient, forward-thinking, and better positioned to generate sustainable long-term returns.

The growth of sustainable fund flows highlights the increasing investor appetite for ESG-aligned investments. According to Morningstar's Global Sustainable Fund Flows Report, global sustainable funds attracted approximately $68 billion in net inflows during 2023, despite broader market volatility and macroeconomic uncertainty. While this figure represents a decline from the record peak of $160 billion in 2021, it underscores the resilience and steady demand for ESG-focused strategies. Moreover, as of the end of 2023, total global sustainable assets under management reached an impressive $2.75 trillion, reinforcing the importance of ESG considerations in modern portfolio construction and long-term capital allocation decisions. Therefore, investors can no longer rely solely on traditional financial statements, which do not capture a company's environmental footprint, social impact, or governance quality. In response, several rating agencies and international organizations have developed ESG standards and scoring systems, each with unique methodologies and areas of emphasis.

As investor demand for ESG-aligned investments has grown, the need for standardized, robust ESG data and metrics has become paramount. ESG is usually conceptualized as having three pillars. The environmental pillar considers factors such as carbon emissions, pollution control, water usage, energy efficiency, and climate change adaptation. The social pillar examines a company's relationships with its employees, customers, suppliers, and the communities within which it operates, covering areas such as labor standards, employee diversity and inclusion, customer data protection, and community engagement. Finally, governance refers to the structures and processes that determine how a company is directed and controlled, including board independence, executive compensation alignment with long-term performance, shareholder rights, and audit quality.

One of the most widely used frameworks is the **MSCI ESG Ratings**, produced by MSCI Inc., a global provider of investment decision tools. MSCI evaluates companies on a scale from 'CCC' (laggard) to 'AAA' (leader), assessing how well a company manages ESG risks and opportunities relative to industry peers. The MSCI methodology breaks down ESG evaluation into ten overarching themes — including carbon emissions, product safety, human capital development, and corporate governance — which are further assessed using over 1,000 data points sourced from company disclosures, media reports, and third-party databases. Each company receives pillar-level scores (E, S, and G), which are aggregated into a final rating. Crucially, MSCI's analysis is industry-relative, meaning companies are judged against sector-specific risk profiles, acknowledging that what matters in the oil & gas industry differs significantly from what matters in financial services. Investors rely on MSCI ratings to identify companies that may be better positioned for long-term resilience or to avoid firms that face unaddressed ESG risks.

Another foundational standard is the **KLD Research & Analytics Ratings**, now part of MSCI, which was among the first ESG rating systems in the United States, dating back to 1990. The KLD framework focuses heavily on identifying both positive strengths and controversies within seven categories: community relations, diversity, employee relations, environment, human rights, product quality/safety, and corporate governance. Each category includes both "strength" indicators (e.g., strong environmental policies, charitable giving, workplace safety initiatives) and "concerns" (e.g., pollution incidents, product recalls, labor controversies). Companies are scored based on whether they demonstrate robust practices in these areas or whether they have been involved in controversies that undermine stakeholder trust. Importantly, the KLD model also considers corporate lobbying, political involvement, and efforts to influence policy in ways that may either support or hinder sustainable progress — areas that investors are increasingly scrutinizing.

Beyond these core systems, additional frameworks are shaping how ESG data is standardized and reported. The **Sustainability Accounting Standards Board (SASB)**, for example, focuses on identifying financially material sustainability issues across 77 different industries. SASB standards specify which ESG factors are likely to affect financial performance, helping companies report on metrics that investors consider directly relevant to valuation and long-term growth.

Taken together, these ESG frameworks and metrics are reshaping how companies communicate with stakeholders and how investors allocate capital. By converting broad sustainability goals into measurable, comparable indicators, they enable the financial market to distinguish between companies merely using ESG as marketing language and those genuinely building long-term value. As ESG data collection and standardization efforts continue to evolve, companies will face increasing pressure to demonstrate transparency and accountability. For investors, these metrics represent not just a snapshot of corporate behavior but a window into how well companies are preparing for future challenges and opportunities in an increasingly sustainability-focused economy.

Short-Termism in the World of ESG

Now that we have established what ESG is, let us discuss the recent discussions revolving around an idea known as “short-termism.” Short-termism is defined by the CFA Institute as the excessive focus on short-term results at the expense of long-term interests. This mindset is particularly prevalent in corporate decision-making, where companies prioritize immediate financial performance, often driven by quarterly earnings reports, market pressures, or executive compensation structures. While short-term goals can provide quick financial gains and satisfy investors at the moment, they can also lead to detrimental long-term consequences in corporate value creation. These include underinvestment in research and development, neglect of sustainable practices, and diminished innovation. Understanding the causes and impacts of short-termism is essential for companies, investors, and policymakers striving to balance short-term financial performance with long-term growth and stability.

In the context of ESG, this can present severe challenges. The main focus of ESG is to promote long-term sustainability through mitigating various risks, however, this can come at odds with the phenomenon of short-termism. The conflict between short-termism and ESG considerations arises from their fundamentally opposing objectives. Short-termism drives companies to prioritize immediate gains and shareholder returns. In contrast, ESG initiatives require long-term investments in sustainability, ethical governance, and social responsibility, which is costly and may not yield immediate financial benefits. For instance, reducing carbon emissions, improving supply chain transparency, or enhancing employee welfare often involves upfront costs that can reduce short-term profitability. This tension is further exacerbated by market pressures, as investors and executives facing performance expectations may deprioritize ESG commitments in favor of short-term financial targets. Balancing the demands of short-term financial performance with the long-term benefits of ESG integration remains a critical challenge for businesses seeking sustainable growth.

A Landmark Study - Flammer & Bansal's Research: "Does a Long-Term Orientation Create Value?"

In *"Does a Long-Term Orientation Create Value? Evidence from a Regression Discontinuity,"* Caroline Flammer and Pratima Bansal set out to examine whether adopting a long-term orientation enhances firm value. Their primary goal was to address the long-standing debate on whether long-term executive incentives contribute to sustainable growth or if they hinder short-term performance. Specifically, they sought to provide causal evidence on the impact of long-term executive compensation plans on firm performance, focusing on shareholder value, operational outcomes, and strategic investments. Given the pressures of short-termism in corporate decision-making, the study aimed to determine if aligning executive incentives with long-term goals could mitigate these challenges and lead to greater long-term value creation.

To establish a causal relationship, the authors used a regression discontinuity design (RDD). This methodology exploited the somewhat random nature of shareholder votes on long-term executive compensation proposals, which are typically contested and can narrowly pass or fail (pass with 50.1% or fail with 49.9% of the vote). By comparing firms where proposals barely passed to those where they barely failed, the authors were able to simulate a randomized control trial. This approach reduced endogeneity concerns and provided a cleaner estimate of the causal effect of adopting a long-term orientation. The key metrics used to evaluate firm performance included abnormal stock returns on the day of the vote, return on assets (ROA), and Tobin's Q (a measure of market valuation relative to asset value). Additionally, the study assessed changes in R&D spending and stakeholder-related investments to gauge shifts in strategic priorities.

The results demonstrated that firms adopting long-term compensation plans experienced a significant positive abnormal stock return upon proposal approval, reflecting increased investor confidence in the firm's long-term prospects (relative to S&P). Over subsequent years, these firms showed notable improvements in operational performance, as evidenced by increases in ROA and Tobin's Q. Although the authors observed a temporary decline in short-term financial results, this was offset by stronger long-term gains, suggesting that initial investments in R&D and stakeholder relationships paid off over time. Notably, the study also found that firms with greater financial flexibility benefited more from the adoption of long-term incentives, indicating that access to capital is a key factor in executing long-term strategies.

A significant contribution of the study was its examination of how a long-term orientation influenced corporate strategy. Firms that adopted long-term executive incentives increased their R&D investments and engaged in more sustainable business practices, further validating the argument that aligning executive pay with long-term goals fosters innovation and stakeholder engagement. The findings also provided evidence that the market values such long-term commitments, as reflected in the initial positive stock price reaction. These insights reinforced the importance of structuring executive compensation to counterbalance the pressures of short-termism.

Ultimately, Flammer and Bansal's study offered empirical evidence supporting the value of a long-term orientation in corporate governance. By aligning executive incentives with sustainable growth objectives, firms can enhance both financial performance and stakeholder value. The research further emphasized the role of shareholders in driving long-term behavior through governance mechanisms. For policymakers, investors, and corporate boards, the study underscored the importance of promoting executive pay structures that prioritize long-term value creation, ultimately contributing to more resilient and sustainable businesses.

The ESG Premium - A Market Overview

With the rise of ESG (Environmental, Social, and Governance) or sustainable investing, the question arises as to whether this increased demand results in a higher price for securities. This increased price, often referred to as an "ESG premium," has been extensively discussed in academic literature, with the majority of studies finding a correlation between financial performance and ESG efforts. A 2015-2020 study by NYU's Metadata team found that 58% of corporate studies focusing on operational metrics such as ROE, ROA, or stock price showed a positive relationship between ESG efforts and financial performance. In contrast, 13% indicated a neutral impact, while 21% presented mixed results.

Although many studies suggest a positive relationship between sustainability efforts and stock price, some diverge from this view. These papers argue that while prices for ESG-conscious firms may be higher, the returns on these investments may be lower compared to conventional investments. For example, a 2023 study by Harrison Hong and Edward Shore from Columbia University suggests that "socially responsible firms have a lower required rate of return since shareholders are willing to pay higher prices for such firms because they mitigate externalities." This argument makes sense: investors are willing to pay more for less risky investments, and ESG investing inherently seeks to minimize long-term risks by focusing on sustainability. However, while investors may pay more for lower risk, their return is diminished, as volatility and returns are generally correlated in financial markets.

In addition to the significant discourse surrounding ESG's role in providing a lower-risk profile and higher price for investors (which may lead to lower returns), it is important to remember that ESG investing is simply another methodology. It is neither better nor worse than other intangible assets that contribute to long-term value creation and generate positive externalities for society. Investors seeking alpha (returns beyond what is justified by their risk profile) should not prioritize ESG over other characteristics that create alpha. That being said, the increasing demand for sustainable securities, driven by investors who seek to mitigate risk and capitalize on the asymmetric benefits of ESG investing, continues to drive up prices.

Furthermore, analyzing an ESG premium for equity markets is challenging. The metrics used to determine how sustainable a company is can vary widely, and there is a significant amount of qualitative analysis involved. While many studies show a positive relationship between financial performance and ESG efforts, the lack of standardization in ESG data complicates these results. Different studies use different ESG scores from various data providers, which can lead to inconsistent findings. Additionally, researchers often fail to distinguish between material and immaterial ESG issuers, as well as between ESG leaders and improvers. To address these challenges, our analysis aims to create a more standardized rubric by following the SASB's materiality standards and leveraging both MSCI and KLD data.

How We Plan to Determine an ESG Premium

In determining the ESG premium, we have employed a comprehensive range of metrics to assess the extent to which companies benefit from proactive ESG initiatives. Our methodology integrates multiple data sources and frameworks to ensure a well-rounded and accurate analysis.

For our analysis, we leverage established scoring frameworks, including MSCI ESG Ratings, which assess corporate performance across ESG factors. We also incorporate risk scores from respected industry standards, such as reports from the Sustainability Accounting Standards Board

(SASB). These frameworks provide a nuanced perspective on a company's capability to manage ESG-related risks and opportunities, such as climate risk management and governance, while also indicating how deeply sustainability principles are embedded in corporate strategy.

We made a rubric that evaluates the materiality of the data. For MSCI and KLD data, and SASB reports, we categorized them into three levels: present-based, which measures existing (occurring and documented) ESG practices of the company; future-based, which measures practices set up for future and long-term impacts; and redundant, which is information not differentiated between ESG-focused firms and other firms and is thus unrelated to this project. In our observation, present-based information usually contains past tense and quantifiable actions ("we have been investing 1.5% of our revenue into sustainability-based infrastructures"), future-based data often contains forward-looking language and focus on potential impacts ("we expect a reduction of emissions after implementing our sustainable initiatives"), and redundant data only repeats other information and has little to no long-term acknowledgment ("we made a donation in 1999"). By classifying them into these categories, we could greatly refine our dataset and use only relevant data for our analysis, making our analysis rigorous.

With the filtered data, we then plan to compare it with the stock return information of corresponding companies, so the new combined dataset would tell us what level of stock return a company with a given level of ESG performance generates. With the new combined dataset, we will use Stata to conduct regression analysis to determine if there exists a statistically significant relationship between stock return and ESG performance, our main variables, and we will run multiple regressions with different models to ensure the relationship does not have statistical deficiencies. If we do have a statistically significant relationship, the results could support us in determining whether there exists an ESG premium for ESG-aligned companies.

Based on previous studies (Flammer and Bansal), we hypothesize that the findings will present a statistically significant relationship between stock return and ESG performance. As we progress through all the data analysis work, we will utilize various models estimated in prior literature with more control variables other than the two main variables. We are likely to control for many factors to test if the proposed relationships exist in all circumstances and test numerous models involved in previous studies. The limits of our methods could involve neglecting other factors that could contribute to the performance of stock returns. There might also exist unbalanced panels in the data, meaning not every single variable has every single observation, so dealing with that is also necessary.

Empirical Results

We ran regression analyses using our coded variables. From the regression results, we can see that for between firms and within each firm, companies which focus on the present and have a strength are associated with a decrease in future returns, both 1 year later and 2 years later, and the relationships are strong as they are statistically significant at 1% level. Take the relationship between firms and measure future returns for the next year as an example. The regression result suggests that being a firm that has a strength and a present focus is associated with a decrease of 2% in the financial return for next year, and it suggests more than it seems. Consider two companies that want to achieve the same value of return. One has a high initial price, the other a lower one. With the same target future return, the company with the higher price would require a lower return rate to achieve that level. Therefore, this also tells us the possibility that companies with a strength in the present are entitled to a small valuation premium, meaning they could be valued higher than their peers who do not have this strength. This possibility also exists in other regression analyses shown in the table, showing investments in firms with current ESG strategies may lead to weaker returns, as the surge in demand has increased prices. On the other hand, companies who focus on long-term strengths ("future * strength") showed very little relationship between future returns and this focus, supporting the possibility that a valuation premium exists for companies committed to short-term ESG goals, and these results align with the findings from previous studies (Flammer and Bansal).

However, there are limitations to these results. While we made every effort to build a consistent rubric to analyze the information, we only focused on 1 major framework for ESG measurement. Future research could expand this method to more frameworks consistently, so each framework can be equally weighed, allowing for more rigorous and comprehensive analysis. There are also other interesting variables that could be connected to both future strength and future returns, such as R&D. Further research could also consider these variables to clarify the exact strength of the relationships studied. Even in this analysis, other than the classified strengths and weaknesses, other factors also contributed to the strong relationship. The percentage of intangible assets, the leverage ratio, and the logarithm of total assets are all strongly associated with the changes in future returns. Further research could also control for these variables to determine the sole relationship between ESG strengths and returns, making the results more significant.

Summit Presentation

At our recent ESG Investment Summit, we had the privilege of engaging with three thought leaders whose work has deeply influenced both our understanding and our approach to sustainable finance: Florian Berg, Estelle Yuan Sun, and Robert Fernandez. Each of them brought a distinct and invaluable perspective that helped frame the central themes of our research paper, *Discovering an ESG Premium on Equities*.

Florian Berg, a research scientist at MIT Sloan and co-leader of the Aggregate Confusion Project, has played a pivotal role in diagnosing the inefficiencies that arise from ESG data fragmentation. His seminal paper *Aggregate Confusion: The Divergence of ESG Ratings*, co-authored with Julian Kölbel and Roberto Rigobon, demonstrates that measurement inconsistencies among ESG ratings providers reduce investor confidence and distort pricing signals. Berg shows that over 50% of ESG rating divergence stems from differences in measurement methodology, undermining the ability of the market to reward firms for long-term ESG strategies. This creates a classic short-termism trap: firms are less incentivized to commit to genuine ESG transformation when investor signals are muddled by data noise.

This insight directly informs our paper's empirical strategy. The ESG premium we seek to quantify can only be meaningfully observed if the underlying ESG signals are credible and standardized. Berg's work validates the approach we take by employing a materiality-based rubric—leveraging SASB, MSCI, and KLD—to filter present- and future-based ESG disclosures and isolate those that are predictive of long-term performance. His findings suggest that unless ESG measurement systems are refined, capital markets will continue to underprice sustainability and reinforce short-term incentives.

Estelle Yuan Sun: Tracing ESG Ratings to Investor Behavior

Estelle Yuan Sun, an assistant professor at Boston University's Questrom School of Business, brings a complementary dimension to this conversation through her empirical work with Berg. In their 2023 paper *The Economic Impact of ESG Ratings*, the duo explores how mutual funds respond to changes in ESG ratings and how these shifts influence equity prices and firm-level ESG behavior. They find that downgrades in ESG scores lead to reductions in institutional ownership and weaker short-term stock performance, but interestingly, such downgrades do not lead to significant operational improvements by firms.

This behavioral inertia is central to the argument we make in our background paper: ESG investing, while conceptually oriented toward long-term value creation, often fails to produce real change unless paired with meaningful corporate incentives and better measurement. Sun and Berg's findings illustrate a dual failure in the market, both on the demand side (investors reacting mechanically to ratings without deep analysis) and the supply side (firms optimizing for optics rather than substance). Our methodology aims to address this failure by differentiating between firms that signal true long-term commitment versus those that only engage in performative ESG disclosures.

Robert Fernandez: Practitioner Insight from ESG Integration

Robert Fernandez, Director of ESG Research at Breckinridge Capital Advisors, is bridging the academic and practitioner spheres. His work brings a practical lens to the ESG discourse, particularly in how institutional investors navigate the evolving data landscape and integrate ESG metrics into long-duration investment strategies. In past conversations, Fernandez has emphasized the importance of materiality-driven ESG assessment frameworks that are both predictive and forward-looking—a philosophy that directly aligns with our use of SASB standards and our classification of disclosures into present-, future-, and redundant-based indicators.

What distinguishes Fernandez's contribution is his advocacy for integrating ESG factors into fixed-income portfolios as a way to mitigate long-term credit risk. This perspective is vital to combating short-termism because it broadens the ESG discussion beyond equities and toward the holistic assessment of financial health and resilience. As Fernandez has often argued, long-term thinking requires long-duration instruments, and the adoption of ESG principles in fixed-income analysis can shift firm behavior by lowering the cost of capital for sustainability leaders.

Connecting the Dots: From Theory to Action

The convergence of these three thinkers—Berg, Sun, and Fernandez—offers a multifaceted attack on short-termism. Berg reveals the information inefficiencies that prevent capital markets from recognizing long-term ESG value. Sun shows how these inefficiencies translate into investor behaviors that reinforce short-term pressures. And Fernandez, speaking from the frontlines of institutional investing, offers actionable pathways for integrating ESG in a way that enhances long-term performance and accountability.

By weaving together these insights, our study attempts to move from critique to construction. Using a refined ESG scoring rubric, rigorous data filtration, and regression analysis, we aim to determine whether there exists an ESG premium empirically—and under what conditions it manifests. As highlighted in the work of Flammer and Bansal, long-term orientation in executive compensation can drive meaningful operational improvements. But without credible ESG signals and investor discipline, even the best incentive structures may falter.

Conclusion: Toward a Long-Term Capital Market

In conclusion, defeating short-termism in capital markets requires both cultural and structural reform. Florian Berg and Estelle Yuan Sun show that measurement confusion and investor behavior are key obstacles to long-term ESG alignment. Robert Fernandez reminds us that these problems are not just academic—they shape real capital flows and risk management decisions. Together, their work supports the broader thesis of our paper: that sustainable value creation is not only possible but empirically measurable, provided that we equip investors with the right tools and incentives to reward it. In an age of climate risk, social volatility, and mounting inequality, these insights are not just relevant—they are imperative.

Conclusion

In conclusion, the growing prominence of Environmental, Social, and Governance (ESG) considerations in financial markets reflects a fundamental shift in how companies are evaluated and how investors allocate capital. As ESG factors become increasingly integrated into investment strategies, understanding their impact on corporate performance and market valuation is essential. This paper has explored the evolving ESG ecosystem, the challenges posed by short-termism, and the methodologies used to measure ESG performance. Furthermore, we examined the existing literature on long-term corporate strategy and its relevance to ESG investing, particularly through Flammer and Bansal's research on executive compensation and firm value.

Our empirical approach aims to assess whether an ESG premium exists by leveraging a structured dataset that filters material ESG factors and applies rigorous econometric modeling. While previous studies suggest that ESG-aligned firms may benefit from increased investor confidence and lower risk exposure, the relationship between ESG performance and stock returns remains a subject of debate due to inconsistencies in ESG measurement and data availability.

By refining ESG data classification and employing robust statistical techniques, our study seeks to provide clearer insights into the financial implications of ESG investing. If a significant ESG premium is identified, it could have profound implications for corporate strategy, investor behavior, and regulatory policies. Regardless of the findings, this research underscores the importance of long-term value creation and the role of ESG metrics in shaping a more sustainable financial landscape.

Appendix

Table 1: Regression Table Result

	Between Firms future return b/se	Within Firms future return b/se	Between Firms future return 2 years b/se	Within Firms future return 2 years b/se
present*strength	**-0.020*** **	**-0.031*** **	**-0.018*** **	**-0.025*** **
	(0.005)	**(0.006)**	**(0.005)**	**(0.006)**
present*concern	**-0.004**	**-0.034*** **	**0.002**	**-0.009**
	(0.005)	**(0.006)**	**(0.005)**	**(0.006)**
future*strength	**0.009**	**-0.007**	**0.017* **	**0.008**
	(0.008)	**(0.009)**	**(0.008)**	**(0.009)**
future*concern	**0.016**	**0.020* **	**0.008**	**0.004**
	(0.008)	**(0.009)**	**(0.008)**	**(0.009)**
roa	**-0.007**	**-0.161*** **	**0.002**	**-0.098** **
	(0.018)	**(0.047)**	**(0.027)**	**(0.036)**
perc_intangible	**0.037*** **	**0.092** **	**0.053*** **	**0.144*** **
	(0.010)	**(0.031)**	**(0.011)**	**(0.031)**
perc_cap	**-0.043**	**-0.451*** **	**-0.027**	**-0.105**
	(0.041)	**(0.091)**	**(0.044)**	**(0.094)**
leverage	**0.050*** **	**0.172*** **	**0.035*** **	**0.104*** **
	(0.010)	**(0.029)**	**(0.010)**	**(0.024)**
ln_asset	**-0.006*** **	**-0.171*** **	**-0.007*** **	**-0.112*** **
	(0.001)	**(0.008)**	**(0.001)**	**(0.007)**

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