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Introduction

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In the second annual Mehrotra Summit, student groups from our honors program presented research projects on corporate governance. This white paper compiles the students' final research papers, each exploring a timely question facing directors, investors, and regulators. As you will see, the students went beyond traditional textbook tropes, applying their research to contemporary case studies ranging from Elon Musk's compensation to OpenAI's transformation, to China's state involvement in electric vehicle companies.

Corporate governance is the system of rules and practices that dictate who inside a company has the power to direct the company, and how those with power are held accountable. Good corporate governance is essential not only to the internal functioning of individual companies, but also to the functioning of a market economy more broadly. It shapes companies' investment in product safety, their impact on the environment, and the level of trust in global markets. In that sense, corporate governance is like plumbing: it is hard to notice when it works well, but it becomes glaringly visible when it fails. The lessons of past economic crises show that good corporate governance can prevent more than internal company breakdowns: it can also reduce negative spillovers and help maintain trust in the economic system as a whole.

What do business school students about to take their first steps in the business world in 2026 need to know about corporate governance? The projects presented here highlight some of today's most practical questions, which fall into three broad categories: boardroom governance, technological disruptions, and corporate purpose.

Inside the Boardroom: Independence and Expertise

The board of directors sits at the epicenter of corporate governance. Directors set the company's strategy and oversee management. When a debacle occurs, investors, regulators and academics alike ask, "where was the board?" The key issue, therefore, is what determines board effectiveness. Three student projects highlighted different parts of the answer.

The first and most widely discussed determinant of board effectiveness is *independence*. Historically, corporate governance scholars and policymakers argued that boards were too beholden to the CEOs or controlling shareholders they were supposed to oversee. On paper, this debate now seems largely settled: virtually all boards of large publicly traded companies are composed primarily of independent

directors who have no financial ties, family connections, or employment with the company.

In practice, however, as one student team noted, there can be a significant gap between nominal independence and “behavioral independence.” Too often, ostensibly independent directors lack the psychological disposition or fortitude required to challenge a company’s charismatic leadership. The students explored these dynamics through the case of Tesla’s board and its approval of Elon Musk’s compensation package.

A second determinant of board effectiveness is expertise. Even truly independent directors with the right incentives and fortitude must also have the experience and knowledge needed to ask the right questions, process the answers, and anticipate future problems. As our second student team highlighted, the issue of which skillsets boards should possess is currently in flux. Traditionally, boards were composed of generalists: “sunset CEOs,” retired executives in their sixties and seventies with experience running large organizations.

Today, however, boards increasingly confront issues such as AI and cybersecurity, which require different forms of expertise. As a result, many companies are rushing to add “specialist directors” with narrow subject-matter expertise, such as a “climate director” or a “cyber director.” What can be bad about adding expertise to the board? The student project highlighted several counterintuitive downsides: from fragmentation of knowledge to “authority bias” (whereby the rest of the board defer excessively to the views of the specialist). Drawing on emerging practice, the students suggested that the most effective role for specialist directors may be that of *translators*, whose main role is to demystify complex issues (such as AI bias) for the rest of the board.

A third student team investigated the phenomenon of “interlocking directorates,” whereby competing companies share one or more board members. Through case studies such as the Apple-Google alleged “no-poaching” agreement, the team demonstrated how overlapping directors (along with “common ownership” on the investor side) can subtly dampen market rivalry and suppress investment in research and development.

Technological Disruptions and Emerging Challenges:

AI and State Involvement

However effective a given board (or other corporate governance institutions) may be, they now face one of the most disruptive technological forces of our time: artificial intelligence. One student group explored how the AI revolution interacts with corporate governance. The team first provided the necessary backdrop, contrasting the potential gains from AI (such as increased productivity) with the potential costs (ranging from

massive energy consumption and job displacement to the muddying of the information environment). It then highlighted a core governance asymmetry: while companies can internalize many of the gains from AI, many of the associated costs are externalized onto society.

The question then becomes whether and how governments should intervene to make companies internalize those costs. The students highlighted the relative pros and cons of two broad approaches: an EU-style model of regulating externalities *ex ante*, before harm occurs, and a US-style model of allowing companies to experiment under voluntary guidelines (while potentially imposing liability down the road, after harm materializes). Beyond external regulation, the students also examined OpenAI's evolving internal governance structure, using it to illustrate the tension between nonprofit mission (AI safety for all humanity) and the financial pressures associated with operating a for-profit enterprise.

Turning to the realm of green technologies, another student team analyzed the role of state ownership in China's electric vehicle industry. Their research highlighted an "inverted-U" relationship between state ownership and green innovation. The idea is that moderate state involvement can foster innovation by blending long-term strategic backing and access to resources with the efficiency and discipline of private markets. The nuanced lessons of this case are particularly interesting to consider in light of the recent resurgence of state involvement in corporate America.

Corporate Purpose: Global Perspectives

The final segment of student projects tackled perhaps the broadest question in corporate governance, namely, *for whom* companies are managed. As noted earlier, corporate governance concerns the relationships between those who take decisions and those who are affected by the decisions (the allocation of authority and accountability). Traditionally, in business schools and economics departments, the focus has been on ensuring that those who supply capital to the company receive a return on their investment. But the larger a company becomes, the more its decisions influence not only investors or employees, but also those outside the firm (such as communities, consumers, or the environment).

Accordingly, a key question in 2026 is how broadly to define the company's responsibilities. Should those with corporate power be accountable for their impact on issues such as climate change or algorithmic bias? And if the answer is yes, how should such accountability be achieved?

Students approached these questions by drawing on the accumulated experience of other countries. One group contrasted the supposed shareholder-centric model of the U.S. with more stakeholder-oriented models found in countries such as Sweden and

South Korea. In Sweden, single families exercise significant control over the corporate sector, holding majority stakes in many key companies. In South Korea, large segments of the economy are controlled by “Chaebols,” namely, large conglomerates with numerous affiliated firms, which are also under family control, historically sustained by close relationships with banks and the state. The students showcased the relative advantages and disadvantages of these models through specific case studies such as Saab and Samsung.

On the one hand, such structures can promote long-term stability: family control is locked in, insulating companies from short-term market pressures. On the other hand, insulation from market pressure can also hinder adaptation. Once-successful companies may stagnate if leadership passes to less capable heirs or if entrenched incumbents resist necessary change. Ultimately, the students concluded that no single governance model is categorically superior. Rather, the success of a corporate governance model depends on how well it aligns with the broader set of national institutions in which it operates.

That same theme also appeared in student projects examining the mechanisms through which companies can incorporate stakeholder interests. The classic example here is “codetermination,” the practice of giving workers formal representation on corporate boards. In Germany, for instance, companies operate with a two-tier board structure: a management board responsible for day-to-day operations and a supervisory board where worker representatives sit alongside shareholder representatives to discuss major strategic decisions.

The students examined why this model has struggled to take root in the U.S., illustrating their analysis with the failed experiment of 1995 United Airlines Employee Stock Ownership Plan. They concluded that the U.S. lacks the “hidden infrastructure” that supports codetermination: strong labor unions, supportive legal frameworks, and a cultural norm of collaboration between labor and management. At United, for example, pilot and mechanic unions fought each other, and both approached management as an adversary. The effectiveness of governance mechanisms such as codetermination therefore depends heavily on the broader institutional and cultural ecosystem.

Another student team looked more generally at the rise of Environmental, Social, And Governance (ESG) metrics in investment decisions. The team emphasized the hurdles that often prevent ESG metrics from translating into real changes in corporate behavior: from difficulties in measuring ESG performance, to misalignment with firms’ (and sometimes investors’) economic incentives.

Similarly, a final student team explored the distribution of stakeholder power inside and around the firm. They concluded that perceptions of what the corporate purpose is are shaped by the relative influence of different groups: investors, workers, consumers, and

communities. The students illustrated this point by comparing REI's consumer-cooperative structure with Columbia Sportswear's traditional for-profit structure and Patagonia's nonprofit trust structure.

One overarching theme that emerges from this collection of capstone projects is that corporate governance is neither static nor merely formal. One can mandate board independence, introduce codetermination, adopt dual-class share structures, or even install a nonprofit board charged with overseeing AI safety. Yet all these steps matter little if they are not aligned with the company's culture and the broader environment in which it operates. Effective governance therefore requires constant adaptation to the ecosystem surrounding the company, to new technologies, to geopolitical tensions, and to changing societal expectations. The students' projects collected here remind us that corporate governance is less a fixed blueprint than a living system, and one that must continuously evolve alongside the companies and societies it seeks to guide.

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Aljawhary, Saad, Shahdadpuri

The Relationship Between Board Independence and Executive Compensation

I. Introduction:

Following multiple corporate scandals in the early 2000s, regulatory reforms such as the Sarbanes-Oxley Act in 2002 emphasized board independence to protect against management malpractice. The Sarbanes-Oxley Act was one of the most significant corporate governance reforms in US history, establishing board objectivity as an integral key component of effective corporate oversight. It strengthened governance by tightening disclosure rules and auditor independence, ensuring that audit oversight was handled solely by independent directors. This was further reinforced by stricter listing standards implemented by stock exchanges like the NYSE and Nasdaq. These rules required boards to have a majority of independent directors and fully independent audit committees, specifying that directors with personal relationships with management would not be considered as “independent”.

Consequently, the US witnessed many companies undergo significant structural shifts in their governance systems. However, the extent to which the governance changes lead to better corporate oversight is unclear. Research findings have been mixed and scholars continue to debate whether such amendments have properly improved oversight and pay-performance alignment or merely created the appearance of strong governance without minimizing executive power.

The question of whether these reforms have strengthened oversight has become increasingly relevant as CEO compensation continues to accelerate faster than firm performance,

despite boards becoming more independent. This disconnect raises the core question of this paper: Does greater board independence genuinely improve the alignment between CEO pay and company performance, or does it serve more as a symbolic feature of corporate governance?

To explore this, the paper progresses through four parts. First, we lay out the theoretical foundations of board independence and its role in overseeing executive pay. Second, we provide an evaluation of empirical studies on pay-performance alignment, as well as the role of institutional investors and market forces on independent boards. Third, using the case study of Tesla, we demonstrate how it plays out in practice and the challenges it faces. Finally, the paper concludes by assessing the policy implications and whether current independence standards offer enough oversight of CEO compensation.

II. Background

Board independence is the extent to which directors can make objective decisions, free from the influence of company management. The concept was first introduced in the 1970s alongside the emergence of the Agency Theory. The Agency theory forms the central foundation of modern corporate governance and forms the basis for the case for board independence. In 1976, Jensen and Meckling highlighted that the separation of ownership and control creates inherent tensions between shareholders (principals) and managers (agents). Since shareholders delegate decision-making to executives they cannot completely monitor, managers may pursue goals that benefit themselves rather than shareholders. Such behaviours may involve risk-averse decision-making to maintain job security, growing the organization to expand influence, or negotiating excessively generous pay packages. Therefore, independent directors' structural distance from management is meant to reduce information asymmetry towards outsiders, challenge managerial power, and ensure that decisions reflect shareholder interests. In this sense,

board independence is not merely a governance preference but a direct theoretical solution to the agency conflict embedded in corporate structures.

Following major corporate scandals like WorldCom and Enron, the Sarbanes-Oxley Act explicitly defined an independent director as one “whom the board of directors affirmatively determines has no material relationship with the listed company, either directly or as a partner, shareholder, or officer of an organization that has a relationship with the company”. Independent directors are generally non-executive members who don’t occupy managerial positions, have no major financial ties to the firm, and are therefore expected to provide unbiased oversight. The main idea is that the distinct separation from management improves a board’s ability to observe executive actions, protect shareholder interests, and ensure transparency and accountability.

In 2003, further reforms, such as those established by the NYSE and NASDAQ, set stringent independence requirements for listed companies. These rules required a majority-independent board and mandated that key committees like Audit, Nomination, and Compensation consist exclusively of independent directors. This development was especially critical for overseeing executive pay. Independent compensation committees were established to limit managers’ influence over their own remuneration and prevent rent extraction. Therefore, by transferring pay decisions onto directors with no managerial ties, regulators sought to design compensation systems that are transparent, performance-driven, and aligned with long-term shareholder value.

As board independence became key to modern governance, regulators began relying on structural, measurable metrics to provide comparable ways to evaluate whether a board meets established governance standards. These measures included the proportion of independent

directors on the board, with many governance codes calling for a majority of independent members. They also emphasized separating the roles of CEO and Chair to avoid concentrating too much authority in one individual. In addition, regulators set expectations for committee structures, requiring key committees such as audit, nomination, and compensation to be made up entirely of independent directors.

The shift toward formal independence can be seen clearly in the quantitative trends of board structures across major capital markets. In the US, before the corporate governance reforms of the early 2000s, independent directors made up roughly 35-40% of the average board. This quickly changed following the Sarbanes-Oxley Act and the NYSE/NASDAQ listing rules, which required that a majority of board members be independent and that audit committees consist exclusively of independent directors. By 2023, it reached approximately 85-90%, meaning nearly all large public companies had now exceeded the minimal independence threshold.

Data on board structures also show how independence requirements have tightened over time. Before SOX, only a few of the largest US firms had fully independent compensation committees, and audit committees included former executives, advisors, and generally individuals with meaningful business ties. Post-2002 reforms reversed this landscape, where as of today, as required by law, all of the S&P 500 companies have fully independent audit committees. Meanwhile, both independent compensation committees and governance committees have followed the same trajectory, with many now composed entirely of independent directors.

The extent of these shifts truly emphasizes how the concept of board independence moved from a conventional ideal to an assessable regulatory expectation. Quantifiable benchmarks, including the percentage of independent directors, the presence of an independent chair, and fully independent key committees, have become the dominant criterion through which investors, proxy advisors, and regulators assess governance quality.

Nevertheless, the increasing reliance on formal metrics simultaneously amplifies the concern that structural independence does not always equal behavioural independence, a distinction that becomes central when evaluating the effectiveness of board oversight, particularly in areas such as executive compensation. For instance, a director may meet all regulatory criteria yet still lack the practical willingness or ability to challenge management. This may take place due to social ties, long tenure, or informational dependence on executives. As a result, the rise of formal independence measures strengthened the appearance of oversight, but real independence, where true behavioural independence and the capacity to exercise objective judgment can be seen, remains more difficult to guarantee and measure.

Survey evidence also shows why formal independence does not always translate into meaningful behavioural independence. Governance reports indicate that more than a third of independent directors in the S&P 500 have served for over nine years, a tenure level that proxy advisors such as ISS view as potentially weakening independence, as long-serving directors may become too closely aligned with management. Concerns about “overboarding” also add to this. Around 30% of independent directors sit on three or more boards, raising doubts about whether they have the capacity to provide robust oversight. Regulators and investors similarly note that a director may satisfy all structural criteria yet still rely heavily on management for information, resulting in a form of independence that is largely procedural rather than substantive. These

patterns highlight the limits of formal independence and reinforce the distinction between structural and behavioural oversight. The implications of this distinction are examined in greater depth in the empirical section of this paper.

III. Conceptual Framework

But to assess this question properly, it is first necessary to define what “independence” actually means in corporate governance terms. In practice, independence may be interpreted in two ways: its formal, structural definition and the deeper behavioural aspect that impacts how directors truly act. This section sheds light on the rule-based definition of independence used in regulatory standards.

While earlier sections outlined the historical and regulatory development of independence, this subsection outlines how the concept is defined in practice through observable factors such as a director’s employment history, financial ties, or prior associations with the firm, which regulators can verify. Such measures form the foundations for how governance codes classify directors and determine whether boards meet formal independence requirements.

Large-sample governance studies help clarify how structural independence is defined in practice. Linck, Netter, and Yang (2008), in their analysis of over 6,000 U.S. firms from 1990-2004, differentiate between “inside” directors, “grey” directors with some limited ties to the firm, and fully independent external executives. This categorization indicates the regulatory perspective that independence can be spotted through visible characteristics, whether through employment history, financial relationships, or family ties. Their evidence also shows an explicit rise in the proportion of outside directors over time, even prior to major governance reforms. This implies that structural independence was organic and a result of firm's endogenous decisions rather than imposed by regulators.

. Furthermore, the same study reports a pattern toward greater reliance on independent committees, which firms began adopting well before SOX. This reinforces the idea that, theoretically, structural independence is built on measurable attributes, including board composition, outsider ratios, and the presence of fully independent oversight committees.

While structural independence captures formal criteria, substantive independence concerns how directors behave once they enter the boardroom. This includes their willingness to scrutinize information, challenge management, and devote sufficient effort to oversight responsibilities. Research in behavioural corporate governance shows that practical independence can be weakened by factors that do not appear in regulatory definitions. CEO dominance, social and professional ties, information asymmetry, and long director tenure can all influence how freely directors exercise judgment. Unlike structural measures, these dynamics cannot be quantified through listing-rule criteria, yet they often determine whether oversight is genuinely effective.

The distinction between structural and substantive independence matters because formal compliance can give the appearance of robust oversight even when directors are not genuinely independent in practice. For instance, Linck, Netter, and Yang (2008) note that many firms increased outsider representation primarily in response to regulatory pressure, suggesting that independence can function as a compliance exercise rather than a reflection of internal governance preferences. This opens the possibility that independence becomes symbolic—helping boards signal accountability to shareholders and regulators—without necessarily restraining CEO influence or constraining executive pay. In this sense, independence may legitimise high compensation decisions rather than restrict them, especially when behavioural independence is weak.

IV. Theoretical Perspectives

Scholars in corporate governance do not agree on whether board independence is an effective mechanism for protecting shareholder interests. While independence is widely embedded in governance reforms, especially in the post-Sarbanes–Oxley (SOX) era, theoretical perspectives differ on whether independent directors meaningfully constrain managerial discretion or just create the appearance of accountability.

Some scholars view independence as a tool enhancing monitoring functions and aligning CEO pay with performance. Others contend that independence lacks substance, functioning primarily as a symbolic compliance measure. A third view positions independence as part of a broader governance ecosystem, whose effectiveness depends on the presence of complementary institutional and market forces. Together, these perspectives illustrate why empirical findings on independence are mixed and why assessing board independence requires evaluating not only board structure, but also incentives, power relations, and external pressures.

The Monitoring Hypothesis represents the traditional and most optimistic view of board independence. It argues that directors who lack financial or social ties to the CEO are better positioned to discipline managerial behavior and protect shareholder interests. Independent directors are assumed to be less inclined to favoritism or reputational concerns that often characterize insider-dominated boards. As a result, they should be able to evaluate executive performance more objectively and enforce compensation systems that reward genuine value creation rather than managerial entrenchment.

From this perspective, independence strengthens the board's oversight capacity by increasing the likelihood that directors will challenge managerial proposals, demand transparent

reporting, and resist excessive pay. The Monitoring Hypothesis thus predicts two observable governance outcomes: first, lower excess CEO compensation and second, stronger pay-performance sensitivity, meaning executive pay varies with firm performance. If firm performance improves, compensation should rise; if performance deteriorates, pay should decline. Independence, in this framework, constrains opportunistic behavior and links managerial welfare to shareholder wealth, which helps align incentives and reduce agency costs. This is often presented as the benchmark of “good governance,” against which regulatory reforms and board structures are evaluated.

In contrast, Symbolic Governance Theory challenges the assumption that structural independence equates to better oversight. According to Kumar and Sivaramakrishnan (2008), independence can be superficial, producing boards that comply with regulatory definitions of independence yet fail to challenge executives. These directors may free-ride on the reputational benefits of serving on prestigious boards without investing the time, expertise, or effort required to scrutinize managerial decisions. Symbolic independence allows firms to signal strong governance to external audiences, such as regulators, investors, and proxy advisors, without actually altering the balance of power between the board and the CEO.

In this case, instead of mitigating excess pay, independent boards may endorse compensation structures that mirror managerial preferences or are shaped by compensation consultants hired by management. Pay-performance sensitivity may stagnate, and CEO compensation may remain high or even increase, especially if independent directors lack financial literacy, industry expertise, or incentives to oppose dominant CEOs. In this sense, independence becomes a mechanism of legitimacy rather than accountability.

The third theoretical approach reframes the debate by arguing that independence is neither inherently effective nor inherently symbolic but its impact depends on the presence of complementary governance structures. Scholars such as Fahlenbrach (2008) contend that independence only produces real oversight when boards are supported by shareholders who are capable and willing to enforce accountability. These include activist institutions, concentrated owners, and governance-oriented funds that monitor director behavior, contest managerial decisions, and apply pressure when boards fail to discipline executives. Without such external pressures, independent directors may lack the information, authority, or incentives necessary to challenge CEOs. The Complementary View predicts two outcomes: independence combined with activism enhances alignment between CEO pay and shareholder value, while independence in isolation produces little to no effect.

In addition to shareholder activism, institutions and market mechanisms play a critical role in shaping whether board independence translates into effective governance. Institutional investors, particularly large pension funds and asset managers, exert significant influence through voting power, engagement practices, and expectations around compensation design. Independent compensation consultants similarly affect the information available to boards and can either mitigate or exacerbate managerial influence depending on their objectivity. Regulatory bodies and courts can establish the legal boundaries within which boards operate, influencing directors' incentives to enforce, justify, or defer compensation decisions. Finally, market forces, especially the market for corporate control, can impose discipline on boards by increasing the costs of poor oversight; underperforming or poorly governed firms face heightened risks of takeover, activist intervention, shareholder litigation, reputational damage in the director labor market, and loss of investor confidence. Together, these institutions form the ecosystem within

which board independence functions, reinforcing the idea that independence alone is insufficient without complementary sources of accountability.

V. Empirical Research

Across six key studies, researchers evaluate how independence interacts with accountability, monitoring effort, and external governance mechanisms. Collectively, these papers suggest that independence can drive better outcomes when it is substantive and supported by complementary checks, but when independence exists only on paper, it risks becoming symbolic and ineffective.

Across the research, three themes emerge: first, independence is not binary and directors may satisfy formal independence requirements but still lack objectivity or effort. Second, context matters - the effectiveness of independence depends on external monitoring, shareholder rights, and access to unbiased information. Finally, independence has costs as boards that actively monitor management often need to compensate CEOs for higher turnover risk, which can weaken overall pay-performance sensitivity.

A strong stream of research supports the argument that board independence improves the efficiency and discipline of CEO compensation. Chhaochharia & Grinstein (2009) provide direct empirical evidence that independence reforms improve pay practices. After the Sarbanes–Oxley Act and NYSE/Nasdaq regulations required boards and compensation committees to be independent, CEO pay declined by roughly 17 percent, largely due to reductions in bonuses and stock awards. These results suggest that independence helps limit rent extraction, particularly when CEOs hold substantial power. However, the authors also note that independence reduced

excessive pay without significantly strengthening pay-performance sensitivity—a sign that independence promotes restraint but not necessarily better incentives.

Fahlenbrach (2008) adds that independence is most effective when paired with strong shareholder rights and active institutional monitoring. He finds that independent boards alone are insufficient; real impact occurs only when independence operates alongside broader governance mechanisms. This finding reinforces the idea that independence is a complementary condition; it works best in systems that already demand transparency and accountability.

Finally, Bakke & Mahmudi (2021) offer a modern perspective by analyzing the role of independent compensation consultants. They find that boards using independent advisors set pay with greater sensitivity to performance and less reliance on fixed salary. Independent advice enhances decision-making by reducing information asymmetry between directors and executives. This suggests that independence refers not just to board composition, but also to the objectivity of the information guiding board decisions. Together, these studies show that when independence is substantive and supported by external monitoring or unbiased expertise, it can lead to more disciplined, performance-based compensation outcomes.

Other scholars argue that independence does not always deliver its intended benefits. Kumar & Sivaramakrishnan (2008) developed a theoretical model illustrating that independence can be largely symbolic. They state that independent directors may appear objective but ‘free-ride’ on other monitors, putting in minimal effort that goes uncaught when accountability mechanisms are weak. In these cases, independence satisfies formal rules but fails to improve monitoring quality, ultimately worsening oversight.

While Laux (2008) finds that independent boards are more likely to dismiss CEOs, reflecting a stronger governance structure, the study also highlights that such governance entails higher costs. To compensate executives for the higher probability of termination, firms often provide larger stock option grants or costly severance packages. As a result, while independence strengthens accountability, it may reduce pay-performance efficiency by increasing overall compensation costs.

Guthrie, Sokolowsky & Wan (2012) re-examine Chhaochharia & Grinstein's earlier results and find that the relationship between independence and lower CEO pay is not extreme. Once outliers such as Apple and Fossil are removed, independence shows little consistent effect on pay and, in some cases, correlates with higher CEO compensation. Their study highlights that independence can legitimize, rather than limit, large pay packages by giving the appearance of strong governance even when real oversight is limited.

Taken together, these findings show that independence without accountability or contextual support can become superficial, satisfying governance requirements while doing little to improve actual pay-performance alignment.

Based on the reviewed research, we hypothesize that independent boards lead to more efficient executive compensation plans and stronger pay-for-performance sensitivity because they introduce objective oversight, reduce managerial influence, and leverage unbiased information in pay design. However, this relationship depends on the board's ability to exercise genuine independence—through active monitoring, accountability, and access to independent advice—rather than merely meeting formal independence requirements.

Overall, the literature portrays a complex picture of what measures are needed to support efficient executive compensation structures. Independence can curb excess compensation and improve monitoring, but its effectiveness relies on substance over structure. Studies such as Chhaochharia & Grinstein (2009), Fahlenbrach (2008), and Bakke & Mahmudi (2021) demonstrate the benefits of independence when boards are empowered and well-informed. In contrast, Kumar & Sivaramakrishnan (2008), Laux (2008), and Guthrie (2012) reveal its limitations when independence lacks accountability or introduces costly inefficiencies. Overall, the evidence suggests that independence is most effective when paired with credible governance mechanisms that encourage directors to act on their autonomy.

VI. Case Study

Tesla's 2018 CEO compensation plan, although an outlier compared to typical executive compensation packages, provides a unique and highly publicized test case for examining whether board independence translates into substantive oversight. The plan awarded Elon Musk an unprecedented \$56 billion stock-option package, structured to be entirely performance-based but tied exclusively to increases in Tesla's market valuation rather than profitability. Under this design, Musk would unlock compensation tiers only if Tesla's market value increased from \$100 billion to as high as \$650 billion. This goal emphasized Tesla's long-term growth ambitions; supporters framed the structure as being tightly aligned with shareholder value, as Musk's personal wealth was tied to Tesla's, creating maximum potential for value creation. However, critics pointed to significant governance concerns, especially the composition of Tesla's so-called "independent" board. The board included Musk's brother, as well as close friends and long-time business partners, raising questions about whether it exercised meaningful oversight or simply validated Musk's preferences. Concerns also emerged that the plan prioritized aggressive

expansion over long-term stability and failed to account for downside risks. Together, these features make Tesla's compensation plan a compelling example of the gap between formal independence and effective governance.

Tesla's compensation plan reflects several theoretical perspectives from the executive compensation literature. First, the plan reflects symbolic independence as described by Kumar and Sivaramakrishnan: although Tesla met formal independence requirements, directors with strong social and familial ties to Musk dominated the board. This resulted in weakened monitoring despite apparent structural compliance. Second, the case highlights context-dependence, consistent with Fahlenbrach's argument that the effectiveness of independent boards relies on strong external governance. Tesla's largely retail investor base, rather than activist or institutional investors, offered limited shareholder influence and reduced external pressure that might otherwise have constrained such an aggressive compensation package. The plan also illustrates reduced pay discipline, echoing Laux's finding that independence can backfire when compensation structures lack downside risk. Musk's package offered enormous upside if Tesla met its market-value milestones but no meaningful downside for unmet performance targets; the incentive structure resembled a high-variance bet rather than a balanced contract.

Finally, the plan fits within the temporary reform effects noted by Chhaochharia and Grinstein. Although independence-oriented reforms may reduce typical excess pay, they do not necessarily prevent extreme outliers, especially in firms led by dominant founder-CEOs. Thus, the Tesla case shows how formal independence does not guarantee substantive, high-quality oversight when directors lack distance, accountability, or counterbalancing institutional forces.

VII. Conclusion

The literature and real-world evidence examined in this paper demonstrate that board independence alone is insufficient to guarantee effective oversight or meaningful pay-performance alignment. While reforms have increased the proportion of independent directors and strengthened formal governance standards, independence does not automatically translate into impartiality. True accountability requires directors who not only meet formal criteria but also possess the expertise, incentives, and willingness to challenge managerial power; this is what ultimately bridges the difference between structural and behavioral independence. Moreover, the effectiveness of board oversight is heavily shaped by context, such as shareholder activism, information flows, and the broader institutional environment. The Tesla case, though extreme, illustrates how formal independence can coexist with weak monitoring when boards lack genuine distance from management or operate without countervailing pressures. Compensation decisions should serve shareholders, reflect long-term value creation, and uphold the integrity of corporate oversight. Ultimately, the question facing modern governance is not whether boards should be independent, but how to make independence substantive rather than symbolic.

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How Specialized Directors Shape Board Effectiveness Across ESG, Technology, and DEI Challenges

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Corporate governance in today's business world is being impacted by numerous factors that are creating new complexities never before experienced. A generation ago, boards of directors had limited responsibility to monitor executive performance, provide financial oversight, and set overall company direction. Today, however, directors have a significantly expanded array of responsibilities as they deal with an exponentially larger number of demands. Today's corporations are facing increased ESG scrutiny resulting from climate risk, additional regulatory reporting requirements, and societal expectations for sustainable practices. Additionally, the rapid emergence of technology (including artificial intelligence, data governance, and cybersecurity) has dramatically accelerated the need for effective risk oversight and strategic digital planning. Simultaneously, demographic, cultural, and workforce changes are driving the need and expectations for diversity, equity, and inclusion (DEI) in all aspects of the corporation and require boards to consider their human capital issues with much greater nuance and consideration. All of these demands are occurring simultaneously and raise questions about whether traditional board compositions comprised of generalist business leaders are adequate to meet the complexity of today's needs.

Many of today's board members gained their professional experience before climate risk, cyber risk, and workplace equity became prominent in corporate governance discussions. This is reflected in demographic studies showing that the average S&P 500 director is in their early 60s and has decades of experience formed before these topics became mainstream concerns.¹ With the emergence of these types of risks and the rapidly evolving regulatory landscape, the breadth of technical knowledge required to support director oversight is far beyond anything that was previously expected of directors. The need for specialized directors with backgrounds in ESG,

¹ Spencer Stuart, *2024 S&P 500 New Director and Diversity Snapshot* (Spencer Stuart, 2024), 9, <https://www.spencerstuart.com/-/media/2024/08/ssbi-director-diversity-snapshot/2024-sp-500-new-director-and-diversity-snapshot.pdf>.

sustainability, climate science, cybersecurity, artificial intelligence, human resource leadership, regulatory affairs, and other emerging fields has impacted the way directors are recruited.

Increasingly, companies are recruiting directors with specialized backgrounds to address complex challenges and improve oversight quality and decision-making. Boards have always been expected to balance oversight with strategic advising, but today's ESG, technology, and DEI challenges add new layers of technical complexity to these established responsibilities.

Therefore, the appointment of specialized directors has become one of the most defining characteristics of modern governance. It reflects not a shift in the board's fundamental role, but an increased emphasis on bringing the expertise needed to carry out its longstanding responsibilities of oversight and strategic guidance in more uncertain, stakeholder-sensitive environments. However, boards do not simply need to gain more knowledge; they must also manage it effectively. Modern governance requires that specialized insights be integrated into strategic decisions holistically, rather than permitting a specialist to work in isolation. Trends that promote specialization, complexity, uncertainty, and regulatory pressure also create risks associated with the coordination of boards, including group dynamics, information asymmetry, and board fragmentation.

This has led to the current debate over the "future of the board" and whether companies should focus on appointing more specialist directors, rely on generalist directors, or develop hybrid models that incorporate elements of both. The purpose of this report is to explore the situations in which specialized expertise enhances board effectiveness and those in which it provides no added value or may actually undermine governance. An understanding of how specialization can be used effectively is critical for companies and regulators, as well as for

future managers and leaders entering an era in which expectations for governance are fundamentally different from those of the past.

The evidence presented in this report will demonstrate a fundamental challenge: the effectiveness of specialists is dependent not just on who boards hire, but on how boards utilize the knowledge and expertise they hire. Thus, the issue is not whether companies should hire more specialist directors, but rather under what circumstances specialization leads to better governance and when it fails to do so. This dilemma highlights the need for a systematic approach to understanding how specialist and generalist knowledge interact at the board level. The central question guiding the report is:

To what extent does the increasing presence of specialized directors on corporate boards adequately address the complexity of contemporary business challenges, particularly in ESG, technological disruption, and DEI? And what governance structures enable specialization to be effective?

Understanding whether specialized directors contribute to stronger board effectiveness requires grounding the analysis within a number of established governance frameworks. Historically, corporate boards have fulfilled two primary responsibilities: monitoring management and advising executives. Both of these functions remain foundational to modern governance. Agency theory focuses on the monitoring function of boards and argues that boards are responsible for overseeing management behavior and reducing agency costs.² Conversely, the advising function views directors as strategic partners to the firm, bringing knowledge, judgment, and external viewpoints to guide the firm.³ As companies grapple with increasingly

² Eugene F. Fama and Michael C. Jensen, “Separation of Ownership and Control,” *Journal of Law and Economics* 26, no. 2 (1983): 301–325.

³ Renée B. Adams and Daniel Ferreira, “A Theory of Friendly Boards,” *Journal of Finance* 62, no. 1 (2007): 217–250.

complex challenges encompassing ESG risks, technological disruptions, and human-capital concerns, boards are required to exercise both oversight and strategic guidance simultaneously. This dual mandate further reinforces the relevance of expertise and fuels the debate concerning whether specialist, generalist, or a deliberate combination of both enables boards to discharge their fiduciary duties effectively.

A second analytical framework through which to evaluate the rise of specialized directors is resource dependence theory. According to Pfeffer and Salancik, boards assist firms in managing external uncertainty through the provision of accessible resources such as expertise, legitimacy, and networks.⁴ As the regulatory environment becomes increasingly demanding, especially with respect to climate-related disclosures, cybersecurity, and workplace equity, the knowledge a director possesses becomes a strategic asset to the firm. By signaling credible oversight in increasingly high-risk and high-scrutiny domains, specialists can enhance a firm's legitimacy with investors, regulators, and other external stakeholders. Resource dependence theory also suggests that resources must be accessible and usable. Accordingly, the addition of value through specialized directors occurs only when boards effectively integrate the relevant expertise into discussions, committee structures, and decision processes.

Information processing theory extends this perspective by focusing on the board's capacity to absorb and interpret complex information. As many academics suggest, organizations must expand their information-processing capabilities when confronted with environments characterized by technical complexity and uncertainty.⁵ Modern governance challenges generate precisely this type of pressure. The appointment of specialized directors increases a board's ability to process such information accurately and efficiently. However, information processing

⁴ Jeffrey Pfeffer and Gerald R. Salancik, *The External Control of Organizations: A Resource Dependence Perspective* (New York: Harper & Row, 1978).

⁵ Jay R. Galbraith, *Designing Complex Organizations* (Reading, MA: Addison-Wesley, 1973).

theory also highlights the dangers of fragmentation. For the group's collective capacity to be enhanced, expertise must be shared across the board. Otherwise, knowledge becomes siloed and limits the group's collective capacity.

Together, these theoretical foundations frame the central concepts that shape this study's analysis. Notably, the distinction between specialist and generalist directors is critical to the study's analytical design. Specialists possess deep expertise in areas such as sustainability, cybersecurity, accounting, AI governance, or human-capital management. In contrast, generalists possess broad managerial experience, cross-industry familiarity, or strategic oversight skills. Research highlights the strengths and limitations of each. Specialists enhance technical oversight, particularly in R&D-intensive or highly regulated industries.⁶ While generalists foster innovation, cross-functional thinking, and strategic flexibility.⁷ Neither category of directors is fully sufficient. Rather, the board's effectiveness is dependent on how the relevant knowledge structures interact and whether the board can address both technical and strategic forms of complexity.

To understand the growing focus on hiring "specialized" corporate board members, it is essential to identify why the business environment has become exponentially more complex. This increase in complexity will alter not only what boards need to oversee, but how they think about information, how they process information and how they organize themselves. The collective ESG/sustainability challenges, technological disruption and DEI/human-capital

⁶ Olubunmi Faleye, Rezaul Hoitash, and Udi Hoitash, "Industry Expertise on Corporate Boards," *Financial Management* 41, no. 1 (2012): 241–272; Jing Chen and Qingquan Wu, "Do Board Committees Improve Firm Performance? Evidence from Corporate Governance Reform in China," *Journal of Business Ethics* 134, no. 1 (2016): 1–20.

⁷ Cláudia Custódio, Miguel A. Ferreira, and Pedro Matos, "Generalists versus Specialists: Lifetime Work Experience and Chief Executive Officer Pay," *Journal of Financial Economics* 108, no. 2 (2013): 471–492; Renée B. Adams, Benjamin E. Hermalin, and Michael S. Weisbach, "The Role of Boards of Directors in Corporate Governance: A Conceptual Framework and Survey," *Journal of Economic Literature* 48, no. 1 (2010): 58–107.

expectations have all altered the corporate governance landscape and have made specialized expertise a requirement for boards to meet their fiduciary and strategic responsibilities.

Climate risk and its impact on ESG have been one of the biggest sources of this complexity over the last decade. Climate risk was once considered a peripheral corporate issue, however, today it is a core governance issue. In addition to being a central issue, climate risk has resulted in detailed regulations and reporting requirements from government agencies (i.e., the U.S. Securities and Exchange Commission), international organizations (i.e., European Union via the Corporate Sustainability Reporting Directive) and global standard-setting organizations (i.e., International Sustainability Standards Board). These new regulations have changed the role of boards and the way they engage with their companies' climate-related risks and have forced them to deal with complicated scientific and technical information, including greenhouse gas accounting, transition risk modeling and scenario-based stress testing.

Another significant source of increasing complexity is technological disruption, specifically artificial intelligence, data governance and cybersecurity. Artificial intelligence systems create high levels of uncertainty and raise significant ethical issues, creating an obligation for boards to address issues associated with model accuracy, algorithmic bias, privacy compliance and intellectual property risk. Oversight of AI is increasingly viewed as part of boards' broader risk-management responsibilities, especially as emerging frameworks for responsible AI and the integration of machine learning into core business processes raise expectations for board-level awareness and supervision. As a result, the rapid pace of technological change has left many boards ill-equipped to assess AI-related risks, let alone develop relevant and meaningful questions to pose to management. The World Economic Forum has stated that AI oversight is now a board responsibility and boards are increasingly relying on

directors with backgrounds in data science, digital transformation and algorithmic governance to help mitigate these risks.⁸

Cybersecurity has significant technological complexity for boards because cyber threats evolve rapidly and require urgent attention. Furthermore, because cyber threats evolve at a rate much faster than the normal governance cycle, and cyber breaches can result in significant financial loss, potential legal liability and loss of stakeholder confidence. Cyber oversight requires a deep understanding of threat landscapes, defensive mechanisms, incident response plans and regulatory compliance, all of which are beyond the expertise of the vast majority of corporate directors. A board without sufficient cybersecurity knowledge may fail to determine whether a company's defenses are sufficient or whether management is adequately investing in digital resilience. The absence of cybersecurity knowledge among boards has led to the recruitment of directors with cybersecurity/IT risk experience, a recognition that general business acumen is insufficient to mitigate the technical and strategic risks inherent in digital systems.

Finally, another source of complexity has emerged due to the evolution of expectations regarding diversity, equity, inclusion and human capital. The demographic composition of the workforce is changing, with younger and more diverse employees placing a higher premium on inclusive workplaces, equitable practices and transparent leaders. These employee expectations are translated directly into governance responsibilities as boards are increasingly expected to oversee talent strategies, workplace culture, leader development and fair employment practices. Research indicates that inclusive workplaces contribute to innovation, performance and retention, each contributing positively to a firm's long-term value.⁹ Failure to manage human

⁸ World Economic Forum. AI Governance: A Board of Directors Toolkit. Geneva: World Economic Forum, 2023.

⁹ Lisa H. Nishii, "The Benefits of Climate for Inclusion for Gender-Diverse Groups," *Academy of Management Journal* 56, no. 6 (2013): 1754–1774.

capital effectively, i.e. harassment scandals, pay inequities, toxic workplace cultures, etc., can cause harm to a company's reputation just as significant as financial or operational mistakes.

DEI governance is further complicated by the intersection of changing laws and political pressures. Changes to labor law, anti-discrimination statutes and state level actions aimed at DEI initiatives have created a complex and sometimes contradictory regulatory landscape. Boards must navigate both the expectation of inclusive governance and the increasing scrutiny of DEI practices. To do so requires both strategic awareness and legal and cultural acumen.

Together, the ESG pressures, technological disruptions and human-capital complexities have created a governance landscape unlike anything seen previously. These issues are technically complex, interconnected, and rapidly evolving, often more quickly than the traditional governance structures can respond. The complexity of the issues facing boards today is not solely the result of an increase in the number of responsibilities facing boards, but rather the type of knowledge required to discharge those responsibilities, and the ability to apply that knowledge to increasingly complex issues, is no longer possessed by the generalist director. Therefore, the increase in the number of specialized directors is a natural organizational response to a world where failure can be expensive, regulatory expectations are increasingly stringent and stakeholder scrutiny is unrelenting. However, specialization alone is not enough; as suggested by the theoretical framework, specialized expertise must be integrated and aligned with broader strategic objectives.

Literature Review:

Current literature about specialists on boards of directors demonstrates mixed results of their implementation. In some instances, specialization proved to be beneficial for boards. Faleye et al (2012) found that boards with more industry experts approve more value-enhancing

investments, especially when it comes to projects requiring significant R&D.¹⁰ They also observed that boards that prioritize industry expertise tend to better manage cash reserves. It should be noted that industry experts differ from the expertise needed for the changing business landscape we are examining. However, we infer that experts in DEI, technology, and environmental challenges may be able to produce similar results. More recent research by Asad et al. (2025) found that boards with environmental expertise correlate with more substantive environmental action taken by those firms.¹¹ Chen, Yusuyin, Zhang, and Zhang (2025) also found similar results.¹² Furthermore, Chen and Wu (2016) find that specialization within board committees can lead to more benefits, such as increased profitability.¹³ Overall, Selivanovskikh and Bodolica (2025) acknowledge that there are several benefits to diversity in knowledge on a board, such as greater information exchange, creativity, and improved decision-making.¹⁴

However, they also caution that board specialization can result in conflict and communication breakdowns, emphasizing that boards must share and integrate their diverse knowledge. Similarly, Gabaldon et al (2018) demonstrate that diversity in areas of expertise of boards only provides improvements in strategic participation if the board draws on each member's expertise in discussions and decision-making.¹⁵ Additionally, Vandebeek et al (2024) found results that general board heterogeneity had no significant effect on firm performance.¹⁶

¹⁰ Faleye, Olubunmi and Hoitash, Rani and Hoitash, Udi, Industry Expertise on Corporate Boards (January 30, 2017). Review of Quantitative Finance and Accounting, Forthcoming, Available at SSRN: <https://ssrn.com/abstract=2117104> or <http://dx.doi.org/10.2139/ssrn.2117104>

¹¹ Asad, S., Hennig, J. C., Oehmichen, J., Wolff, M., & Haas, V. (2023). From attention to action: How board environmental expertise influences corporate environmental performance. *Strategic Organization*, 23(2), 259-284

¹² Liangyu Chen, Alkut Yusuyin, Renyi Zhang, and Yongmin Zhang, "Boards' Green Background and Corporate ESG," *International Review of Financial Analysis* 105 (2025): Article 104386, <https://doi.org/10.1016/j.irfa.2025.104386>

¹³ Chen, K. D., & Wu, A. (2015). The structure of board committees. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.2646016>

¹⁴ Selivanovskikh, L., Bodolica, V. Corporate board of directors' knowledge heterogeneity: a literature review and multi-domain research agenda. *Manag Rev Q* (2025). <https://doi.org/10.1007/s11301-025-00539-z>

¹⁵ Gabaldon, P., Kanadli, S. B., & Bankewitz, M. (2018). How does job-related diversity affect boards' strategic participation? An information-processing approach. *Long Range Planning*, 51(6), 937–952. <https://doi.org/10.1016/j.lrp.2018.02.005>

¹⁶ Vandebeek, A., Voordeckers, W., Huybrechts, J., & Lambrechts, F. (2024). Knowledge management in boards of directors: Effects of informational faultlines. *Journal of Knowledge Management*, 28(11), 132–154. <https://doi.org/10.1108/JKM-07-2023-0573>

Unless firms utilize specialization effectively, there is essentially no benefit. On the basis of these studies, Voordeckers et al (2025) found that when directors understand which member holds which expertise within the board, the board will better perform its service tasks.¹⁷

To understand when specialization reduces board effectiveness, Nili and Shapira (2024) provide five mechanisms that impede board performance: individual attributes and group dynamics, authority bias, board packing, board diversity, and board washing.¹⁸ Regarding individual attributes and group dynamics, attributes that are separate from a board member's specialization may be overlooked and could negatively influence the board's performance. Next, authority bias occurs when other board members are less confident in their understanding of a subject, overvaluing the input of the specialist. Board packing refers to adding specialized members to the point that board size exceeds its optimal level. For example, Giunta and Suvanto (2024) highlight that many boards face pressures to hire directors specializing in technology to adapt to the rise in AI, but demonstrate concerns about overspecialization.¹⁹ Board packing can also reduce demographic diversity by limiting space for racial and gender representation. Finally, firms may add specialists for appearances to “board wash,” such as adding ESG specialists to improve brand image. On the basis of these factors, Ahmed and Luong (2025) found that non-specialist boards more positively influenced their firms' environmental innovation score than boards containing specialists in financial, sectoral, or other specialized areas.²⁰

¹⁷ Voordeckers, W., Vandebeek, A., Lambrechts, F., Bammens, Y., & Vandewaerde, M. (2025). Director knowledge, shared leadership, and board service performance. *Journal of Business Research*, 189, 115208. <https://doi.org/10.1016/j.jbusres.2025.115208>

¹⁸ Nili, Y., & Shapira, R. (2024). Specialist directors. *Yale Journal on Regulation*, 41, 652. <https://heinonline.org/HOL/Page?handle=hein.journals/yjor41&id=652&div=&collection=>

¹⁹ Giunta, Tara K., and Lex Suvanto. “Board Oversight of AI.” *Harvard Law School Forum on Corporate Governance*, September 17, 2024. <https://corpgov.law.harvard.edu/2024/09/17/board-oversight-of-ai/>.

²⁰ Ahmed, A., & Luong, H. (2025). *Breaking the specialist bias a case for non-specialist boards in environmental innovation*. <https://doi.org/10.2139/ssrn.5402333>

In contrast to specialist-heavy boards, firms with more generalist directors have both strengths and weaknesses when dealing with emerging contemporary challenges. Generalist directors, who have broad managerial, educational, or cross-industry experience, often provide a wider strategic perspective and greater adaptability when overseeing diverse organizational issues. Custódio, Ferreira, and Matos (2013) find that generalist managers are more likely to pursue exploratory strategies and invest in innovation, which can be especially valuable in uncertain or rapidly changing markets.²¹ Though this particular study focused on managers, it gives insight into how generalists strategize and approach challenges. Similarly, Adams et al. (2013) highlight that directors with broad business backgrounds tend to encourage risk-taking and creative thinking, allowing firms to respond more effectively to new opportunities.²² Soomro and Hanafiah (2022) add that directors with generalist education and training, such as MBAs, have stronger cross-functional literacy, which improves collaboration across departments and enhances board communication.²³ This broader oversight capacity helps firms manage overlapping concerns such as ESG, technology, and DEI, where coordination across functions is increasingly important.

While there are advantages to generalist-heavy boards, they have their limitations. Generalists enhance flexibility and innovation; however, their broad experience can come at the cost of deep technical knowledge, which is becoming increasingly critical in areas such as sustainability and digital transformation. Murphy and Zabochnik (2007) and Custódio et al. (2013) find that although generalist executives often command higher compensation, this does not always translate into stronger firm performance, suggesting that breadth alone is not sufficient

²¹ Custódio, C., Ferreira, M. A., & Matos, P. (2013). *Generalists versus specialists: Lifetime work experience and chief executive officer pay*. *Journal of Financial Economics*, 108(2), 471–492. <https://doi.org/10.1016/j.jfineco.2013.01.001>

²² Adams, R. B., Almeida, H., & Ferreira, D. (2013). *Powerful CEOs and their impact on corporate performance*. *Review of Financial Studies*, 18(4), 1403–1432. <https://doi.org/10.1093/rfs/hhi030>

²³ Soomro, M. A., & Hanafiah, M. H. (2022). *CEO should be a generalist or specialist? Empirical foundations for leadership research*. *Global Advances in Business Studies*, 1(1), 1–11. <https://doi.org/10.55584/Gabs001.01.1>

for success.²⁴ Knyazevaa et al. (2009) caution that when directors' backgrounds are too varied, it can be harder to build consensus and maintain strategic focus.²⁵ In highly technical industries, a lack of specialized knowledge can also expose firms to emerging risks such as cybersecurity threats or weaknesses in ESG reporting. Genin, Ma, Bhagwat, and Bernile (2023) further note that while diverse experiences can promote innovation, boards only benefit when members' knowledge is actively integrated into discussions and decisions.²⁶ Otherwise, diversity may lead to coordination problems and unclear strategic direction.

Benefits and Drawbacks of Specialists:

Having specialists on a board is highly beneficial, especially when facing complex, uncertain, and stakeholder-sensitive decisions. Boards face challenges like ESG regulation, cybersecurity/AI issues, and DEI accountability. The information about these emerging and complex challenges is highly technical for generalist boards. Specialists are able to add value, so generalists don't face these issues alone. Some issues on the board also often come with high uncertainty, such as data risks or failed sustainability reporting.²⁷ Furthermore, they are highly stakeholder-sensitive, meaning the reactions of investors, regulators, employees, and the public can directly influence a firm's reputation and performance.²⁸ Finally, many boards face direct regulatory consequences, ranging from climate-related disclosure laws to cybersecurity compliance requirements.²⁹ Having expertise in this subject reduces legal risk and improves the

²⁴ Murphy, K. J., & Zábojník, J. (2007). *Managerial capital and the market for CEOs. Working Paper, University of Southern California*. Available at SSRN: <https://ssrn.com/abstract=984376> or <http://dx.doi.org/10.2139/ssrn.984376>; Custódio, C., Ferreira, M. A., & Matos, P. (2013). *Generalists versus specialists: Lifetime work experience and chief executive officer pay. Journal of Financial Economics*, 108(2), 471–492. <https://doi.org/10.1016/j.jfineco.2013.01.001>

²⁵ Knyazeva, A., Knyazeva, D., & Masulis, R. W. (2013). *The supply of corporate directors and board independence. Review of Financial Studies*, 26(6), 1561–1605 <https://doi.org/10.1093/rfs/hht020>

²⁶ Genin, E., Ma, D., Bhagwat, V., & Bernile, G. (2023). *Board experiential diversity and corporate radical innovation. Strategic Management Journal*, 44(11), 2641–2668. <https://doi.org/10.1002/smj.3499>

²⁷ Yaron Nili and Roy Shapira, "Specialist Directors," *Yale Journal on Regulation* 41 (2024): 652–703 <https://heinonline.org/HOL/Page?handle=hein.journals/yjor41&id=652&div=&collection=>

²⁸ Nili and Shapira, "Specialist Directors," 652–703.

²⁹ Tara K. Giunta and Lex Suvanto, "Board Oversight of AI," *Harvard Law School Forum on Corporate Governance*, September 17, 2024, <https://corpgov.law.harvard.edu/2024/09/17/board-oversight-of-ai/>

quality of board decisions. In these environments, specialists help boards interpret complex signals and make more credible, informed decisions.

While specialists add value, they can also become a limitation and carry some counterintuitive risks. These risks are prevalent when boards face problems that require integration, cross-functional thinking, or balanced judgment rather than simply deep technical knowledge. One potential risk is siloed oversight, in which specialists focus solely on their expertise and fail to consider how other domains could influence a decision. Research shows this can fragment decision-making, weaken board cohesion, and create tunnel vision.³⁰ Specialists may also struggle in environments with low uncertainty or routine decisions, where their expertise adds little board impact or additional value compared to general managerial experience. Additionally, overspecialization can lead to an expert reliance trap or authority bias. Boards may give the specialists full responsibility to make decisions as the “expert in the room.”³¹ Finally, specialists fall short when knowledge is not shared across the board; without integration, expertise stays isolated, and the board loses the big-picture thinking needed for long-term governance. This misalignment also creates trust and communication problems. Generalists may feel intimidated, unsure how to ask questions, or hesitant to challenge them, which reduces the open dialogue needed for high-quality conversations and decision-making.³²

A board’s effectiveness is not reliant on just specialists or generalists alone. Its impact comes from shared knowledge that is integrated into decision-making. A single expert cannot handle the complex challenges that boards face. These issues are inherently interdependent and rely on an integrated board to handle as a unit. Research shows that when knowledge diversity is

³⁰ A. Vandebek, W. Voordeckers, J. Huybrechts, and F. Lambrechts, “Knowledge Management in Boards of Directors: Effects of Informational Faultlines,” *Journal of Knowledge Management* 28, no. 11 (2024): 132–154.

³¹ Nili and Shapira, “Specialist Directors,” 652–703.

³² Liudmila Selivanovskikh and Vlado Bodolica, “Corporate Board of Directors’ Knowledge Heterogeneity: A Literature Review and Multi-Domain Research Agenda,” *Management Review Quarterly* (2025), <https://doi.org/10.1007/s11301-025-00539-z>.

combined with strong integration processes, boards make more creative, higher-quality decisions; but when expertise remains siloed, performance declines and group dynamics weaken.³³ Integration also prevents overreliance on any one individual by ensuring that the entire board develops baseline literacy in ESG, technology, or cultural issues. This shared understanding makes boards more adaptable and collaborative. Finally, integration creates space for generalists to link technical insights to the company's long-term strategy, which is something specialists cannot do on their own. In essence, effective corporate governance depends less on having experts and more on fostering the right conversation, where specialists add depth and generalists connect the dots.

Implications:

For firms, they should ensure they add the right specialists and use them effectively. Hiring quality specialists whose expertise is relevant to the company's complex challenges. Once these specialists are on the board, firms must ensure they are integrated into board discussions and not isolated within their fields. Specialists add the most value when their insights shape broad strategic debates rather than just technical subtopics. Effective governance requires a balanced board of expertise and strategy. Firms should also be cautious about overspecialization and board packing, where too many experts dilute cohesion, create authority imbalances, or slow decision-making.

Furthermore, for investors and regulators, they can have a significant impact on board structure. For example, they can push for clear disclosure and transparency about directors' backgrounds and their board responsibilities, so that each member understands their role and can effectively analyze a board and its risks. This transparency also helps to prevent board washing

³³ Paula Gabaldon, S. Banu Kanadli, and Markus Bankewitz, "How Does Job-Related Diversity Affect Boards' Strategic Participation? An Information-Processing Approach," *Long Range Planning* 51, no. 6 (2018): 937–952

and discourage symbolic appointments that have no real influence. Instead, investors and regulators can improve the board's evaluation processes to examine not just expertise but also the impact and quality of their addition to the board. These evaluations help determine whether specialists are being integrated effectively and whether the board is adapting to emerging governance challenges.

For future managers, a well-rounded skill set is needed that combines technical understanding with strategic thinking. Future managers need to understand diverse fields and collaborate with both specialists and generalists. Collaboration is more important than siloed expertise. Shared knowledge and innovation must be learned to develop collaborative solutions. Future managers must understand how different expertise flows through the organization, especially how decisions are made. These skills will make them more effective in navigating and contributing to increasingly complex governance environments.

Case Study:

ExxonMobil recently faced this governance dilemma as shareholder activists pressured the firm to add climate experts to their board. This case illustrates how board specialization can be driven by external pressure and how it can shape corporate priorities. In 2021, Hedge Fund Engine No. 1 campaigned for the addition of specialist directors to push ExxonMobil to better prepare for the changing environment.³⁴ As a result, they elected three of the suggested experts to the board: Gregory Goff, Kaisa Hietala, and Anders Runevad.³⁵ These directors brought specialized expertise in energy transitions management and renewable energy to the board. Additionally, their background gives them more of an incentive to push for ExxonMobil to make environmentally conscious changes to their business practices. As a gas and oil company, this is

³⁴ Just Capital. 2021. "Why Engine No. 1 Is Taking on ExxonMobil in Arguably the Biggest Proxy

³⁵ Hermes Investment Management. 2021. *ExxonMobil: Proxy Contest Case Study*. London: Federated Hermes.

not necessarily a priority for the firm. A generalist board focused on finance and strategy may overlook this without the guidance of experts, and without pressure from shareholders, Exxon might not have been motivated to make adjustments like this to their board.

After adding these specialists, ExxonMobil worked to improve its environmental impact. The company strengthened its scope one and two emission disclosures, improved its climate scenario analysis, and managed to establish credible emission reduction commitments.³⁶ Electing these experts allowed the firm to improve from a symbolic ESG to an actual operational strategy, lifting investor confidence. These outcomes demonstrate how Exxon implemented constructive specialization. Their use of both generalists and specialists allows them to utilize the breadth and depth of knowledge, but this requires coordination. As previously demonstrated in this paper, success relies on strategic deliberation among all members of the board, not just siloed committees.

Though there have been changes in the right direction, the pace of their transition to a cleaner business model remains moderate. Fossil fuel is their core revenue driver, and their renewable investment trails that of competitors.³⁷ Additionally, they have yet to specify targets for scope 3 emissions.³⁸ Specialists won't revolutionize the corporate strategy, but when properly incorporated into the board, improvements on technical issues like energy transition become more possible.

The ExxonMobil case demonstrates how targeted board specialization can address blind spots without undermining the strengths of generalists such as independence and monitoring. The integration of domain specialists enhanced climate-risk oversight, disclosure quality, and strategic challenge while preserving the stabilizing benefits of a predominantly generalist board

³⁶ Hermes Investment Management. 2021. *ExxonMobil: Proxy Contest Case Study*. London: Federated Hermes.

³⁷ Ibid

³⁸ Ibid

structure. Specialists proved most effective when coordinated with the traditional governance that generalist boards provide, rather than as a replacement for this governance structure. In this example, ExxonMobil managed to supplement broad oversight with necessary technical depth. This hybrid model balances strategic expertise with independence and coordination, offering a pragmatic blueprint for boards confronting complex emerging risk regimes, including climate transition, artificial intelligence governance, cybersecurity, and other domains requiring informed, technically credible oversight.

Recommendations:

Specialists have the potential to make valuable contributions to boards in this rapidly changing business environment. However, their ability to benefit firms depends on how well they are implemented. To begin, it is important to consider skills needed and the balance between generalists and specialists when electing board members. Effective specialist implementation is driven by problems targeting the firm needing expert insight, as opposed to symbolic hires. Boards benefit when specialist directors are selected to map onto specific regulatory, technological, or ESG risks rather than generalized prestige credentials. Additionally, specialist board members should be able to communicate their knowledge to directors who may be less familiar with the topic. It is less effective when directors have the expertise but not the ability to explain it effectively.

Furthermore, studies show that a hybrid board model is more effective than strictly specialist or generalist boards. Research on experiential diversity shows that boards with a mix of backgrounds are better positioned to support innovation and complex decision-making when

their knowledge is effectively shared.³⁹ A combination of generalists and specialists allows the firm to experience the most benefits. Generalists encourage innovation as their broader experience sparks ideas and collaboration. Specialists can bring in vital knowledge, but there is also the potential for overspecialization across the board. This causes inefficient group dynamics, weakening decision-making. A hybrid board composition can enhance innovation as it allows for the use of both deep expertise and experiential diversity. This, however, assumes that specialists are integrated effectively. To achieve this, several specialist integration strategies should be considered. Research suggests that the performance advantage of diverse boards depends on whether members integrate and draw upon their different types of expertise in collective discussions.⁴⁰ Cross-committee participation can prevent expert silos and ensure that experts are involved in both strategic and technical decision-making. Additionally, regular knowledge-sharing sessions can help ensure that all board members learn from the specialists rather than simply defaulting to experts to make decisions for the whole board. This will drive innovation, board cohesion, and collaboration. Similarly, pre-meeting briefings led by specialists can enhance board discussion, as all members have the opportunity to learn about the topic beforehand.

Other recommendations for a successful board structure include: smaller board size, meaningful diversity, and continuous learning for specialists and generalists. In terms of board size, smaller boards of 8-12 directors support participation and coordination. In addition, diversity based on demographics is necessary but not sufficient. Experiential diversity is needed to drive innovation. Last, it is very important that board members consistently refresh and share their skills. Overall, a hybrid model that prioritizes collaboration is key to board success.

³⁹ Genin, E., Ma, D., Bhagwat, V., & Bernile, G., “Board Experiential Diversity and Corporate Radical Innovation,” *Strategic Management Journal* 44, no. 11 (2023): 2641–2668.

⁴⁰ Voordeckers, W. et al., “Director Knowledge, Shared Leadership, and Board Service Performance,” *Journal of Business Research* 189 (2025): 115208.

Conclusion:

This research paper analyzed whether the addition of specialists to traditional generalist boards meaningfully improves the board's ability to respond to growing complex challenges. Research shows that specialization can improve board performance, but only in certain situations. It is most valuable when problems are extremely technical, unclear, or directly related to stakeholder and regulatory pressures. However, their influence is much more dependent on how their expertise is incorporated than on its sole existence. Boards that rely exclusively on specialists risk fragmentation, authority imbalances, and knowledge silos, while those that lean solely on generalists may lack the knowledge required to address emerging challenges. Boards that are able to strike a balance between sector-specific expertise and more holistic strategic thinking produce optimal governance results, allowing specialists to provide information while generalists interpret and integrate.

This paper's main finding is that having specialized directors is necessary not only to address difficult problems but also in response to external demands from shareholder activists, investors, and regulators. Because of this, the "make-or-buy" question is particularly crucial: companies don't always need specialists on the board to access expertise, but when they do choose to appoint them, the board needs to have procedures that promote transparent communication, shared leadership, and coordinated decision-making. In this way, the value of specialization is ultimately determined by board dynamics, not credentials.

In the future, building boards that can collaborate, adapt, and solve problems cross-functionally will be more critical for effective governance than classifying directors as specialists or generalists. As ESG, technology, and DEI issues continue to evolve, boards will

need to integrate creative thinking with technical literacy and draw on a variety of expertise, both inside and outside the boardroom. Diversity is key to the effectiveness of boards in the future, not just in terms of background and perspectives but also in terms of knowledge, experience, and the capacity to apply that knowledge to solid strategic decision-making. In this regard, effective, integrated governance is the aim rather than specialization.

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How is corporate purpose shaped by the distribution of stakeholder power?

Kush Bansal, Alex Chuang, Janelle De La Cruz, and Cydni Oshiro

Motivation

From an outsider's perspective, a firm is in business for itself, prioritizing profits over people. Many believe that the purpose of a firm is to make as much money as possible, no matter the human or environmental costs. This is reflected in November 2025's Consumer Confidence Index—reflecting consumer attitudes toward business conditions—falling to 88.7 points, nearly as low as COVID's 85.7 points.¹ Consumers' distrust in businesses is displayed in the Bentley-Gallup Business in Society 2025 Report, showing that only 65% of Americans believe businesses have a positive impact on society, an increase from years prior. Only 43% trust businesses to operate with society's best interests in mind.² These figures are stark; they illustrate the systematic belief Americans hold that businesses do not act in their best interest, prioritizing a believed corporate purpose of “the bottom line” above all else.

These figures are corroborated in news articles characterizing businesses by their negative impacts. Forbes' “Why Business is Evil” headline succinctly summarizes said popular belief. This article argues that businesses are evil, however it is not due to greed, rather to the loss and overlooking of human relationships within and surrounding the firm.³ The American Psychological Association corroborates this sentiment by addressing the costs of dysfunctional

¹ The Conference Board, “US Consumer Confidence Fell Sharply in November,” November 25, 2025 <https://www.conference-board.org/topics/consumer-confidence/>.

² Gallup-Bentley University, “Bentley-Gallup Business in Society 2025 Report,” 2025, <https://www.gallup.com/analytics/512066/bentley-business-in-society.aspx>.

³ Bruce Kasanoff, “Why Business is Evil,” *Forbes*, April 01, 2015, <https://www.forbes.com/sites/brucekasanoff/2015/04/01/why-business-is-evil/>.

and toxic workplaces and ways companies can address these issues. Its main solution is to empower the employee and actively engage with their voice.⁴

In addition to internal costs, society is increasingly criticizing business's impact on its surrounding communities, including the environment. The Guardian cites "Just 100 companies responsible for 71% of global emissions," emphasizing the exponential impact one firm may have.⁵ An article published by Wharton's Global Youth Program quotes "Business is destroying the world." It cites firms' business models as the problem, in the case of a fossil fuel company's "discover, produce and burn as much coal as possible" model.⁶ However, many businesses are recognizing and pledging to report their negative impact. This adoption indicates a recognition that financial performance is linked to environmental impact and shows the resulting shift in values (i.e. an apparent care for others impacted) to protect profits.

Despite these steady changes, reporting a problem does not solve it. Each article cited above argues for a change in business model and therefore a change in the firm's purpose. Thus, we ask, **how is corporate purpose shaped by the distribution of stakeholder power?**

We look at the positive and negative impacts that result to determine which business model increases welfare.

What should be a firm's corporate purpose?

⁴ Scott Sleek, "Toxic workplaces leave employees sick, scared, and looking for an exit. Here's how to combat unhealthy conditions," *American Psychological Association*, June 27, 2024, <https://www.apa.org/topics/healthy-workplaces/toxic-workplace>.

⁵ Tess Riley, "Just 100 companies responsible for 71% of global emissions, study says," *The Guardian*, July 10, 2017, <https://www.theguardian.com/sustainable-business/2017/jul/10/100-fossil-fuel-companies-investors-responsible-71-global-emissions-cdp-study-climate-change>.

⁶ Diana Drake, "The Role of Business in 'the Biggest Issue We Face as a Planet,'" *Wharton Global Youth Program*, December 12, 2019, <https://globalyouth.wharton.upenn.edu/articles/business/inside-biggest-issue-face-planet/>.

Corporate purpose is the fundamental reason a firm exists. It outlines what a company seeks to achieve, whom it will serve, and how it creates value. There are two main schools of thought regarding the purpose of a corporation: stakeholder theory and shareholder theory.

Shareholder Theory

The shareholder theory endorses shareholder primacy—the concept that corporations exist solely to serve shareholders. This theory was argued by Milton Friedman in a 1970 New York Times essay and championed in 1997 by The Business Roundtable, an organization which represents CEOs from leading U.S. companies.⁷⁸ Under this theory, companies are encouraged to make all business decisions with the shareholders best interest in mind.

The shareholder view, rooted in classical economic theory, asserts that a corporation's primary and sole purpose is to maximize shareholder value. Milton Friedman famously articulated this position in 1970, arguing that managers are agents of shareholders and are therefore obligated to use corporate resources in ways that increase profits, within legal and ethical boundaries. The logic behind this view rests on the assumption that shareholders are the residual claimants of the firm - those who bear the most financial risk and therefore should control corporate decision-making. This framework has informed decades of corporate governance norms, board structures, executive compensation contracts, and capital market expectations. Yet modern scholarship complicates this traditional understanding.

Hart and Zingales (2017) challenge the idea that “shareholder value” is synonymous with “market value,” arguing instead that firms should maximize shareholder welfare—a broader

⁷ Milton Friedman, “The Social Responsibility of Business Is to Increase Its Profits,” *New York Times*, September 13, 1970
<https://www.nytimes.com/1970/09/13/archives/a-friedman-doctrine-the-social-responsibility-of-business-is-to.html>.

⁸ The Business Roundtable, “Statement on Corporate Governance,” September 1997,
https://cdn.theconversation.com/static_files/files/693/Statement_on_Corporate_Governance_Business-Roundtable-1997%281%29.pdf?1566830902.

concept that includes ethical preferences, social considerations, and long-term impacts beyond price per share. Their research demonstrates that shareholders may actually *prefer* corporate actions that reduce profits if those actions increase consumer welfare or reflect moral commitments. This conclusion is reinforced by Ericson (2023), who finds that 93% of shareholders support sacrificing some profits to improve consumer welfare, directly contradicting the stereotype of shareholders as narrowly self-interested profit maximizers. Thus, while the shareholder view has traditionally been interpreted as a mandate for firms to prioritize profitability above all else, contemporary evidence suggests that shareholders themselves often value broader outcomes. However, despite these developments, the vast majority of corporations continue to operate within a shareholder-primacy framework—one that structures incentives, governance mechanisms, and managerial evaluations around financial performance rather than holistic welfare. The shareholder view therefore remains dominant, but increasingly contested.

Stakeholder Theory

The stakeholder view takes a fundamentally different stance on corporate purpose, arguing that firms exist not solely to serve shareholders but to create value for all stakeholders affected by their operations. These groups may include employees, consumers, suppliers, communities, creditors, and even the environment. This view further argues that care for all stakeholders results in greater profitability in the long run. The stakeholder perspective contends that because corporations rely on multiple groups for resources and legitimacy, managers have a responsibility to balance these interests rather than privileging investor returns above all else. A Harvard Business School report by Lynn S. Paine highlights that stakeholder theory is grounded in both ethical reasoning and economic logic: firms that ignore key stakeholders risk higher contracting costs, reputational damage, and long-term inefficiencies that ultimately harm the

firm's sustainable profitability and financial performance.⁹ From this perspective, corporate purpose expands beyond wealth creation to include worker well-being, environmental stewardship, fair dealing with consumers, and contributions to community welfare. However, these changes are all tied back into financial performance, providing strong incentives for firms to adopt this new theory.

While stakeholder theory is often characterized as an alternative or “softer” approach to corporate governance, it is also supported by practical evidence showing that firms heavily dependent on trust, relational contracting, or social legitimacy benefit from integrating stakeholder interests directly into governance structures. Initiatives such as the rise of benefit corporations, ESG reporting, and the Business Roundtable's 2019 declaration on corporate purpose reflect a cultural and institutional shift toward stakeholder expectations. However, critics argue that stakeholder theory lacks clear metrics and accountability mechanisms, allowing firms to claim stakeholder orientation without substantively changing behavior—a concern echoed in debates about greenwashing and symbolic compliance. Despite these challenges, the stakeholder view remains a powerful framework for reimagining corporate purpose in a way that aligns economic activity with broader societal well-being. It challenges the assumption that shareholder primacy is natural or optimal, instead asserting that long-term value is maximized when the needs and voices of all stakeholders are incorporated into strategic decision-making.

What Do Shareholders Want?

While these models are imperative to understanding how businesses should operate, it is not necessarily clear what the general public desires. A recent study by Professor Keith Ericson

⁹ Lynn S. Paine, “Corporate Leaders Say They Are For Stakeholder Capitalism—But Which Version Exactly?” *Harvard Business School*, September-October 2023, https://www.hbs.edu/ris/Publication%20Files/24-008_9eba1cca-18b9-483b-94b0-2d7a1331b68e.pdf.

on corporate objectives quantifies how individuals trade off consumer welfare against firm profits. Ericson found that only 7 percent of respondents support pure profit maximization, placing zero weight on consumer surplus.¹⁰ By contrast, the median participant is indifferent between approximately \$0.44 in additional corporate profit and \$1.00 in consumer welfare, indicating that individuals generally value consumer benefits more highly than marginal profit gains. Moreover, roughly 42 percent of respondents would be willing to sacrifice more than a dollar of profit for every dollar of consumer surplus gained. These findings collectively suggest that about 93 percent of individuals prefer some degree of consumer-welfare prioritization rather than strict shareholder-value maximization, raising a particular pressing question: if even shareholders prioritize prosocial initiatives and yet discourse between businesses and these desired outcomes still persist, how can businesses be incentivized to act in accordance with the desired corporate purpose?

Hansmann's Theory of Ownership

To address this issue, we examined Henry Hansmann's theory of ownership, which argues that ownership within a firm should be distributed to minimize distinct organizational costs. The first of these categories, the "costs of ownership," concerns the burdens that owners themselves impose on the firm as a result of their participation in governance and financial control. For example, when ownership is dispersed among individuals or groups with heterogeneous preferences, the decision-making process becomes slower, more conflict-ridden, and more vulnerable to political bargaining. This "decision-making cost" is not merely a theoretical inefficiency; in practice, it can delay investment decisions, hinder innovation, or

¹⁰ Keith Marzilli Ericson, *What Do Shareholders Want? Consumer Welfare and the Objective of the Firm*, NBER Working Paper No. 32064 (Cambridge, MA: National Bureau of Economic Research, 2024).

create unstable managerial mandates. Another example of the cost of ownership is the ability to gain capital. Owners who lack the ability to supply capital, or who face high personal costs when doing so, can inadvertently limit the firm's capacity to grow or respond to competitive pressure. These ownership-related burdens illustrate Hansmann's contention that ownership is not inherently desirable or beneficial; rather, it is granted to the group whose involvement minimizes the total costs imposed on the firm. Ownership, in this sense, is justified only insofar as the governance and financing benefits outweigh the collective decision-making frictions and capital constraints.

In contrast to the costs of ownership are the "costs of contracting," which represent the burdens created to the stakeholders who interact with the firm but do not hold formal ownership rights. In Hansmann's framework, if the firm is owned by a particular stakeholder class, every other stakeholder becomes a contractual counterparty whose interests must be protected through market transactions, written agreements, or regulatory oversight. These relationships, however, often entail significant transaction costs. One such cost arises from information asymmetries: non-owner stakeholders may lack access to internal decision-making processes or performance data, making it difficult to verify whether the firm is acting in good faith. Another major risk is opportunism. Owners may structure the firm's operations, pricing, or resource allocation in ways that benefit themselves at the expense of those outside the ownership group. Hansmann emphasizes market power as a specific and pervasive source of contracting costs, noting that firms whose owners lack incentives to maintain consumer welfare may engage in monopolistic pricing or reduce product quality when unrestrained by competition. For employees, contracting costs manifest in the form of wage bargaining difficulties, limited job security, and few mechanisms for voice unless they unionize or negotiate complex employment contracts. For

suppliers, these costs may take the form of hold-up problems, delayed payments, or unfavorable pricing structures. Because perfectly fair contracts are practically infeasible in real markets, stakeholders often remain exposed to risks of exploitation or unilateral changes in terms.

Thus, Hansmann argues that the optimal ownership group is the one whose control minimizes the degree of opportunism toward other stakeholders and reduces the need for costly contracting mechanisms. In this sense, ownership allocation is a solution to a governance problem: by granting ownership to the group with the highest exposure to contracting hazards, the firm internalizes those risks, eliminating the need to mediate them through imperfect contractual arrangements. This is the focal point of our paper: instead of examining a moral framework to impose onto businesses, we can align corporate purpose with governance through its ownership structure.

Common Business Structures under Hansmann's Theory

To explore this concept further, we examined three different business structures to compare the associated costs of each type of ownership. Traditional C-corporations represent the most prevalent ownership structure, where ownership is assigned to investors (typically shareholders) whose primary motivation is financial return rather than direct involvement in production, consumption, or employment. This allocation helps minimize the costs of ownership in several meaningful ways. The stock market inherently acts as a method of accruing capital, and centralized power in a board of directors and c-suite executives limit the costs of decision making for the firm. At the same time, C-corporations augment certain contracting costs by allowing investors (who are often the least vulnerable contractual stakeholders) to hold ownership. Consumers may face quality or pricing disadvantages, workers may encounter wage

bargaining challenges, and society at large may bear the cost of negative externalities. While C-corporations are effective in minimizing costs of ownership, there are many disadvantages created by the costs of contracting.

Benefit corporations represent a modification of the traditional C-corporate model by explicitly incorporating social and environmental objectives into the firm's governing mandate. Under Hansmann's theory, B-corporations offer a distinct mechanism for realigning the distribution of contracting costs. In a conventional C-corporation, stakeholders such as employees, communities, or the environment often suffer from opportunistic behavior because managers often prioritize shareholder wealth. B-corporations alter this relationship by legally expanding directors' fiduciary duties to include non-shareholder interests, thereby reducing the contracting hazards these stakeholders might otherwise face. From Hansmann's perspective, this structure internalizes some of the contracting costs traditionally borne by external groups, especially those with weak bargaining power or high vulnerability to externalities. Theoretically, B-corporations can situationally achieve a more optimal balance of ownership and contracting costs than traditional C-corporations, particularly in industries where consumer trust, brand integrity, and social legitimacy are critical assets. However, B-corporations are harder to enforce and in a practical sense, corporations have either been greenwashing or not providing actionable change. For B-corporations to truly be effective, internal governance must be strong for proper oversight to be established through the organization, which essentially produces the same difficulties that result from the C-corporation model.

Finally, co-operatives (co-ops), are a distinct ownership model in which the firm is owned by the stakeholders who use its services most directly, with the most common being consumers or producers. Applying Hansmann's framework, co-ops aim to minimize contracting

costs by directly granting ownership to the stakeholder class that would otherwise face the greatest exposure to opportunism. For example, consumer co-ops eliminate the classic consumer-corporation contracting problem by allowing consumers to govern pricing, quality, and service standards. Worker co-ops reduce employment-related contracting costs by giving employees control over wages, job security, and workplace conditions. This internalization of key contractual relationships can dramatically reduce the need for complex contracts, regulatory protections, or adversarial bargaining mechanisms. However, co-ops often experience significantly higher ownership costs relative to C-corporations or even B-corporations. Because co-op owners have diverse motivations—ranging from stable employment to low prices or community benefit—the decision-making process can become slow and conflict-prone. Additionally, co-ops typically struggle to raise capital because members have limited financial resources and cooperative shares are generally non-tradable, reducing liquidity and investment incentives. In Hansmann’s framework, co-ops therefore represent an efficient solution only when the reduction in contracting costs outweighs the increase in ownership costs. Compared to C-corporations and B-corporations, co-ops offer the most direct protection against opportunism but also the highest governance and financing challenges. Co-ops reflect the difficult trade-off in the essence of Hansmann’s theory: while powerful in solving certain contracting problems, Co-ops achieve optimality only under specific economic and organizational conditions where stakeholder homogeneity mitigates their inherent ownership costs.

Cases

Looking at our cases, we examined power in the outdoor industry. For our c-corps, we looked at Columbia Sportswear, who are “stakeholder-focused” in that they have recently

adopted initiatives to make supply chains greener and have in-place pro-employee initiatives. Examples include Columbia Sportswear established a climate target to reduce emissions for Tier 1 and Tier 2 vendors by 2030, and partnered with Aii through the Clean by Design (CbD) program, which promotes the adoption of the Natural Resources Defense Council's (NRDC) ten best practices to lower their environmental impact.¹¹ Additionally, in 2020, Columbia became a founding member of the Outdoor Industry Association's (OIA) Climate Action Corps, committing to measure, plan and reduce emissions and share progress annually with industry peers.¹² Columbia Sportswear pushes incentives for employee wellbeing and highlights employee involvement. This includes wellbeing programs, employee learning opportunities (e.g. Club 1938 which is an outdoor program for employees based in China to increase knowledge about the outdoors), employee resource networks, and volunteering initiatives (e.g. Volunteer Time-off Policy) that employees take on to sustain the outdoors.¹³ That said, some of these programs do have a sense of expendability in that they can be easily removed from the business without harming day-to-day operations, potentially signaling that for-profit organizations hesitate to fully adopt community-driven programs. Columbia's future stakeholder-friendly goals are rooted in their ability to generate a profit and their share price, meaning that ultimately it is their shareholders that control Columbia's involvement in these initiatives. Thus, when power is distributed to solely shareholders, a corporation's purpose is guided by profits, and stakeholder theory is followed loosely as a means to greater financial rewards.

For power in public benefit corporations, we looked at Patagonia, which is a B Corp. In 2022, the Chouinard family, the owners of Patagonia, transferred their ownership to two new

¹¹ "Columbia Sportswear Case Study: Supplier Engagement For Climate Action." Apparel Impact Institute, September 1, 2020. <https://apparelimpact.org/resources/columbia-sportswear-case-study-supplier-engagement-for-climate-action/>.

¹² "Columbia Sportswear Case Study: Supplier Engagement For Climate Action." Apparel Impact Institute, September 1, 2020. <https://apparelimpact.org/resources/columbia-sportswear-case-study-supplier-engagement-for-climate-action/>.

¹³ "Financial Results." Columbia Sportswear Company. Accessed December 10, 2025. <https://investor.columbia.com/financial-results>.

entities: Patagonia Purpose Trust (voting stock) and the Holdfast Collective (nonvoting stock). Most significantly, every dollar that is not reinvested back into Patagonia will be distributed as dividends to protect the planet¹⁴. While for-profit, Patagonia operates through a Public Benefit Trust system that ensures any profits from Patagonia are reinvested into helping the environment and that no external shareholders can interfere with these decisions. This decision was made at the Founder's level to make sure that Patagonia continues to follow their core values and future-proof this commitment to help stakeholders. At the time of this conversion into a B Corp, the leadership of the company did not change. Ryan Gellert would remain as CEO, the Chouinard family would continue to sit on Patagonia's board, along with Kris Tompkins, Dan Emmett, Dr. Ayana Elizabeth Johnson, Charles Conn (chair of the board), and Ryan Gellert. The Chouinard family was also in charge of guiding the controlling shareholder, the Patagonia Purpose Trust, electing and overseeing Patagonia's board of directors¹⁵. They also would guide the philanthropic work performed by the Holdfast Collective. The Holdfast Collective was formed at the same time as when this transition was announced, and its purpose is to make grants and advocate for left-of-center climate-related policy changes, land conservation, and environmental activism. Greg Curtis was announced to be the executive director of Holdfast Collective after having previously worked as the deputy general counsel of Patagonia¹⁶. This transition doesn't necessarily give the buyers any additional power, but that's not Patagonia's purpose to become a public benefit corporation. The structure of Patagonia going forward would be focused on transferring excess funds to invest into the benefit of the environment as intended by the Chouinard family¹⁷. This method is intended to avoid greenwashing and ensure that profit

¹⁴ Patagonia. "Patagonia's Next Chapter: Earth Is Now Our Only Shareholder." Patagonia Works, September 7, 2023. <https://www.patagoniaworks.com/press/2022/9/14/patagonias-next-chapter-earth-is-now-our-only-shareholder>.

¹⁵ Patagonia. "Patagonia's Next Chapter: Earth Is Now Our Only Shareholder." Patagonia Works, September 7, 2023. <https://www.patagoniaworks.com/press/2022/9/14/patagonias-next-chapter-earth-is-now-our-only-shareholder>.

¹⁶ "Holdfast Collective." Influence Watch, June 13, 2024. <https://www.influencewatch.org/non-profit/holdfast-collective/>.

¹⁷ "Holdfast Collective." Influence Watch, June 13, 2024. <https://www.influencewatch.org/non-profit/holdfast-collective/>.

maximization doesn't hinder Patagonia's goal of making Earth its sole stakeholder. The power to achieve this mission lies only with the Chouinard family, thus their decision to operate as a trust is crucial to fulfilling their goals both personally and as a company. This strategy is very rare especially in the outdoor industry because this structure keeps ONLY environmental stakeholders in focus and is irreversible. This decision has not hindered Patagonia's financial performance, as their revenue has been consistently growing throughout the years. The company has an estimated value of about \$3 billion dollars and brings in \$100 million in revenue annually¹⁸. On top of this healthy revenue growth, Patagonia has managed to maintain its focus on ethical sourcing and employee well-being. This can be seen through its donation of 100% of its Black Friday sales to environmental causes in 2016 and their offering of many employee benefits¹⁹. It's no surprise that Patagonia earned a 151.4 on the B Corp Impact Assessment, while the median score for all B Corp companies is 50.9²⁰. This goes hand-in-hand with their commitment to contributing 1% of their annual sales to nonprofit charitable organizations that promote environmental conservation and sustainability, crafting their products with no negative side effects, sharing proprietary information and best practices with other businesses, including direct competitors, when the board of directors determines that doing so may produce a material positive impact on the environment, and being transparent by providing information through their website²¹.

Lastly, for cooperatives, we looked at REI. REI has a board of directors that, like a typical public company, gets elected by members (instead of shareholders). Every year, REI

¹⁸ Land, Gabby. "Op-Ed: Patagonia Proves the Success of Sustainable Corporations – Michigan Journal of Economics." Michigan Journal of Economics, November 22, 2023.

<https://sites.lsa.umich.edu/mje/2023/11/22/op-ed-patagonia-proves-the-success-of-sustainable-corporations/>.

¹⁹ Land, Gabby. "Op-Ed: Patagonia Proves the Success of Sustainable Corporations – Michigan Journal of Economics." Michigan Journal of Economics, November 22, 2023.

<https://sites.lsa.umich.edu/mje/2023/11/22/op-ed-patagonia-proves-the-success-of-sustainable-corporations/>.

²⁰ Land, Gabby. "Op-Ed: Patagonia Proves the Success of Sustainable Corporations – Michigan Journal of Economics." Michigan Journal of Economics, November 22, 2023.

<https://sites.lsa.umich.edu/mje/2023/11/22/op-ed-patagonia-proves-the-success-of-sustainable-corporations/>.

²¹ Patagonia. Annual Benefit Corporation Report Fiscal Years 2023 and 2024. Accessed December 10, 2025.

https://www.patagonia.com/on/demandware.static/-/Library-Sites-PatagoniaShared/default/dwb2e1d605/PDF-US/PAT_2024_BC_orp_Report-V2-100125.pdf.

members have the opportunity to elect members to the board, each of whom is elected to a three-year term. On top of this, co-op members are also allowed to nominate themselves to be on the board. The values expected from a board member is that they are drawn to serving the co-op because they care deeply about REI's mission and purpose.²² Board directors must have experience through proven business acumen, with candidates being evaluated based on relevant experience operating businesses of similar size to REI, along with "a history of innovation and disruption in the consumer experience industry and proven effectiveness as a board member." The board is a crucial component to REI's operations because they are legally responsible for the overall direction and performance of REI through policy-making and oversight over REI management. The board has the responsibility of selecting the CEO, evaluating the firm and the CEO's performance, approving short-term and long-term business plans, approving budgets, and determining the distribution of profits including to the members of REI.²³ REI's board process is unique in that it's not institutional investors making up the board, but other members who have paid the same fees as each other. As a result, governance from the board can be viewed as more "fair" in that being members of REI, their decisions are made for the benefit of their fellow members. Looking at their 2024 financial performance, their revenue was 3.5B but they still incurred a loss of over 150M²⁴. This is partly because of the benefits they offer as a co-op by investing money in incentives for employees and member rewards. In 2024 for example, they invested \$84.8 million in incentives and profit sharing for employees, a 48.5% increase from 2023. REI added over a million new members and distributed \$189 million to members through Co-op Member Rewards. Even with employing more than 11,000 employees in the U.S. they

²² "Board of Directors: REI Co-Op." REI. Accessed December 10, 2025. <https://www.rei.com/about-rei/board-of-directors>.

²³ "Board of Directors: REI Co-Op." REI. Accessed December 10, 2025. <https://www.rei.com/about-rei/board-of-directors>.

²⁴ "REI Co-Op Releases 2024 Impact Report and Financials, Becoming First National Retailer to Achieve Zero Waste." REI, May 8, 2025. <https://www.rei.com/newsroom/article/rei-co-op-releases-2024-impact-report-and-financials-becoming-first-national-retailer-to-achieve-zero-waste>.

have earned a spot on Fortune magazine's "100 Best Companies to Work for" every year since 1998²⁵. One reason why employees remain loyal to REI is its extensive benefits package. For instance, employees receive a 50 to 75 percent discount on REI brand products, along with free rentals of certain equipment and a yearly gift of gear. This unique perk makes employees feel valued and familiarizes them with REI products.²⁶ REI has also achieved their commitment to reach zero waste across all U.S. operations, becoming the first national retailer to do so.²⁷ That said, being a consumer-cooperative, their treatment of employees has been less than optimal after the pandemic, with the cutting of employee development programs being driven by a need to generate profits for members, a possible side effect from consumer members controlling the board. Despite this treatment toward employees, REI is still struggling performance-wise. Many stores are being shut down such as one in Boston due to financial downfalls stemming from the pandemic. While REI embodies a stakeholder approach, they still struggle by having a board that may have trouble balancing maximizing profits at the expense of employee well-being, or also trying to please all stakeholders but leading to issues like fewer stores existing and arguably less public good.

Conclusion

Stakeholder power plays a critical role in shaping a corporation's purpose: when those with decision-making power are meaningful considered, the stakeholders they represent tend to

²⁵ Acosta, Debbie, Michael Trujillo, and Jennifer Sawayda. "Recreational Equipment Incorporated (REI): A Responsible Retail Cooperative." Center for Ethical Organizational Cultures . Accessed December 10, 2025.
<https://harbert.auburn.edu/binaries/documents/center-for-ethical-organizational-cultures/cases/rei.pdf>.

²⁶ Acosta, Debbie, Michael Trujillo, and Jennifer Sawayda. "Recreational Equipment Incorporated (REI): A Responsible Retail Cooperative." Center for Ethical Organizational Cultures . Accessed December 10, 2025.
<https://harbert.auburn.edu/binaries/documents/center-for-ethical-organizational-cultures/cases/rei.pdf>.

²⁷ "REI Co-Op Releases 2024 Impact Report and Financials, Becoming First National Retailer to Achieve Zero Waste." REI, May 8, 2025.
<https://www.rei.com/newsroom/article/rei-co-op-releases-2024-impact-report-and-financials-becoming-first-national-retailer-to-achieve-zero-waste>.

benefit. However, business models that lean too heavily toward a single participant, whether entirely profit-driven or entirely consumer-owned, failed to produce optimal outcomes. Simply expanding stakeholder involvement does not guarantee increased welfare for all parties. As Hansmann's theory demonstrates, achieving true efficiency requires both inclusive stakeholder input and governance structures capable of meeting those interests effectively. Ultimately, the most successful firms are those that balance these forces, minimizing both ownership and contracting costs while aligning purpose with broader societal welfare.

Literature Review

A major discussion point regarding the topic of corporate governance is how differing stakeholder powers in formal business structures affect their purpose? This is vital to observe as for the past few decades we have seen various business structures emerge in response to best serving the needs of *stakeholders* versus just serving the needs for *shareholders*. These changes in how businesses operate has spawned debate and extensive research from various empirical examples, and which will be used as support for our paper.

First, we will examine the stakeholder versus shareholder approach. More specifically, we seek to define the various perspectives on this debate and In a paper titled "[Value Maximization and the Corporate Objective Function](#)," Jensen critiques stakeholder theory for its lack of clear guidance in decision-making for managers. He argues that while stakeholders are essential to the firm's survival and success, stakeholder theory fails to provide a single, measurable objective that managers can follow when stakeholder interests conflict. Instead, Jensen proposes "enlightened value maximization," which retains long-term firm value (or shareholder value) as the unifying objective function but recognizes that managing stakeholder

relationships is necessary to achieve that value. Thus, stakeholder interests matter instrumentally, because neglecting them undermines long-term value, but they do not define the firm's purpose. In Jensen's framework, the distribution of stakeholder power within formal business structures should not redefine the firm's purpose, but rather support it. He contends that when stakeholders gain disproportionate influence without a guiding objective, the organization loses coherence. Managers face competing demands without a clear metric for trade-offs making purposeful decision-making impossible. Thus, Jensen argues that stakeholder power must be constrained and coordinated under a single objective function: long-term value creation. This means governance systems (boards, executive incentives) should give stakeholders a voice but not veto power. This enhances the firm's capacity to generate sustainable economic value. Jensen sees stakeholder power as instrumental rather than foundational. It affects how the purpose is pursued (via better stakeholder relationships), not what the purpose is (long-term value maximization). This paper is important to our research because it gives a more nuanced understanding of how one approach isn't inherently better than the other, and that more rigorous testing and implementation is required for whose voices should be implemented at each stage of corporate governance.

In another paper titled "[Companies Should Maximize Shareholder Welfare Not Market Value](#)," Hart and Zingales seek to define the objective function of a firm, including what managers *should* do. They review Friedman's shareholder value position, which posits that managers have a responsibility to shareholders to "make as much money as possible." Thus, companies should maximize profit or market value. Hart and Zingales disagree, citing the ethical and social concerns of shareholders. Shareholders who are willing to internalize externalities in theory also want their public companies to do the same. In practice, Hart and Zingales find that

“shareholders put weight on doing the right or socially efficient thing, *but only if they feel responsible for the action in question.*” Additionally, they review the argument of fiduciary duty, used to justify controversial actions in the name of increasing profits for shareholders. Hart and Zingales conclude that shareholder *welfare*, not value (and thus profit) should be the objective of the firm. We will use this article to support our argument that the purpose of a corporation should be to maximize welfare over profits. Hart and Zingales’ findings—that shareholders want socially and ethically right actions if they feel responsible for such actions—will motivate our research regarding how different corporate structures affect the purpose by changing who is and feels responsible for the corporation’s actions.

A paper with a view that takes into account market shifts’ impact on these approaches is also used in our argument. In the paper “[Toward a Dynamic View of Corporate Purpose](#)” by Dorothy Lund, Lund challenges the idea that corporate purpose is fixed and argues it should be dynamic (responsive to economic and institutional conditions). She observes that departures from the shareholder-primacy model historically occur during times of economic crisis / weak regulation. Here, stakeholder governance can often compensate for market / policy failures. Lund’s key claim is that optimal corporate purpose changes with context: when regulation and competition are strong, shareholder primacy can maximize welfare; when they are weak, stakeholder empowerment may yield better social outcomes. Lund frames stakeholder governance not as a permanent alternative but as a contingent response to external inefficiencies. Lund directly links the extent of stakeholder power to the external conditions shaping what corporate purpose should be. She argues that the optimal purpose is context-dependent and evolves with economic and regulatory environments. In times of strong market competition and regulation, shareholder primacy can efficiently align private incentives with social welfare.

However, when regulation is weak or markets fail, formal empowerment of stakeholders (through governance representation, broader fiduciary duties or policy influence) can be welfare-enhancing. Here, stakeholder power actively redefines corporate purpose, shifting it from maximizing shareholder returns to safeguarding broader social and economic stability. Therefore, the firm's purpose becomes adaptive. It reflects the relative strength or weakness of other societal institutions. When external governance mechanisms break down, internal stakeholder governance becomes a substitute tool for maintaining welfare and legitimacy. In formal business structures, this could manifest as codified stakeholder rights, multi-stakeholder boards, or corporate missions that explicitly integrate social objectives. Therefore, Lund views stakeholder power as contextually corrective. Its expansion / contraction should depend on whether external institutions adequately ensure social welfare. This paper is important as like Jensen's paper it views stakeholder power as instrumental rather than foundational. It is yet another perspective that highlights that a pure shareholder or stakeholder approach isn't necessarily the answer to solving corporate governance issues but rather there should be modifications to ensure that welfare is maximized.

Professor Ericson's paper on Consumer Welfare titled "[What Do Shareholders Want? Consumer Welfare and the Objective of the Firm](#)" examines the Stakeholder-Shareholder debate through an empirical study on the values of individuals. The study tested for the tradeoff between consumer welfare and profit, defining λ , the indifference point of a tradeoff of λ profit for \$1 of consumer welfare (ie. a λ of \$0.50 means that individual wouldn't care if the corporation chose an extra \$0.50 of profit if it meant sacrificing \$1 of consumer surplus). 42% of participants indicated a $\lambda > 1$, meaning they would rather companies sacrifice profits if it meant a marginal increase in consumer welfare. Moreover, only 7.3% wanted pure profit maximization ($\lambda = 0$). This

paper demonstrates the general preference of consumer welfare over profit maximization, but does propose a question we seek to explore: in what ways can we prioritize this emphasis on consumer welfare?

The Ownership of Enterprise by Henry Hansmann explores a theorem to answer this question. Hansmann believes that there is an incongruence between ownership and their personal motivations; thus, he proposes that the most optimal owners of a firm are the ones that will minimize the sum of the cost of ownership and cost of contracting. Costs of Ownership are the detriments to the company due to its management. For example, there is the cost of decision making, where too many owners each with differing opinions will have a difficult time coming to a decision, thus delaying the functions of the company. Another is the ability to gain capital; owners without the ability to accrue capital or invest personal capital may be detrimental to the firm as well. On the other hand, Costs of Contracting are the detriments to the stakeholders due to a particular ownership. Market Power is a substantial problem, where a firm that does not have the incentive to maintain consumer welfare can abuse its power, dominating a market (i.e. cases of monopolies or monopolistic competition). Thus, the best ownership structure results from the minimization of these costs. The most difficult aspect of this theory is the application: while there are different legal ownership models to demonstrate this principle, there is no legal doctrine that can truly enforce a corporation's objective.

This leads into our next source which will help us define how to measure a corporation's objective. In the article, titled "[Caring or Pretending to Care? Social Impact, Firms' Objectives, and Welfare](#)," author Michael Fioretti explores the dissonance between the declared purpose of a corporation and its actual conduct. He identifies the trend of non-profits behaving as for-profits, while for-profits increasingly position themselves as welfare-maximizing firms. He focuses on

Charitystars, a for-profit company that auctions celebrity items. Fioretti identifies Charitystars' original purpose as aiding charitable fundraising, but identifies a strategy shift to revenue after a venture capital fund purchases shares. We will use the method Fioretti used to identify the "true" purpose of our case study firms. Fioretti also introduces the public benefit corporation, which "defend[s] for-profit firms' prosocial motives from mission-changing takeovers," and argues that this legal status supports the argument that the purpose of a firm does not need to be limited to profit maximization. This corroborates Hart and Zingales' argument and supports the argument we will make. Finally, an analysis of Charitystars' welfare shows a 42% greater surplus than that of a selfish corporation, which could only be matched by a subsidy. This affirms the idea that prosocial firms do not sacrifice profitability, furthering our argument for the stakeholder approach to a company's objective.

After analyzing the various perspectives on defining corporate purpose, we will segue to looking at three different business types: for-profit, public-benefit, and cooperatives, and how each business type differs in stakeholder power.

For Columbia Sportswear, which is our choice for the for-profit business type, we will be using the [case study from Apparel Impact](#), which discusses how Columbia Sportswear established a climate target to reduce emissions for Tier 1 and Tier 2 vendors by 2030, and partnered with Aii through the Clean by Design (CbD) program, which promotes the adoption of the Natural Resources Defense Council's (NRDC) ten best practices to lower their environmental impact. This partnership is important for our question as it establishes why Columbia committed to this partnership, which was due to industry practices shifting. We observe this later on as in 2020, Columbia became a founding member of the Outdoor Industry Association's (OIA) Climate Action Corps, committing to measure, plan and reduce emissions and share progress

annually with industry peers. These initiatives are important for Columbia Sportswear as “Columbia doesn’t operate in a vacuum — we’re a key stakeholder in the outdoor industry, and more broadly the apparel and footwear industry,” (Abel Navarrete, VP of Corporate Responsibility at Columbia Sportswear). In conjunction with this case study, [Columbia Sportswear’s annual corporate responsibility report](#) shows us that Columbia Sportswear pushes incentives for employee wellbeing and highlights employee involvement. This includes wellbeing programs, employee learning opportunities (e.g. Club 1938 which is an outdoor program for our employees based in China to increase knowledge about the outdoors), employee resource networks, and volunteering initiatives (e.g. Volunteer Time-off Policy) that employees take on to sustain the outdoors, which ties back with their initiatives on the supplier-side as we saw in the case study from Apparel Impact. This information is important to develop the perspective that in the outdoor industry, the business type, even if for-profit, allows for stakeholders, like employees, to have a say in certain business operations and offerings. With the supplier-side changes being in line industry changes, it showed that the industry as a whole has adopted these integral operating practices. Other governance programs in regard to employee well-being signals that for-profit organizations in this industry have a greater responsibility in purposeful corporate decision-making. That said, some of these programs do have a sense of expendability in that they can be easily removed from the business without harming day-to-day operations, potentially signaling that for-profit organizations hesitate to fully adopt community-driven programs.

For Patagonia, which is our choice for the public-benefit business type, we will be using a [case study from UMich](#), which claims that Patagonia’s performance over its time being a certified B Corp demonstrates that sustainable business models can be successful. The case study

looks at how Patagonia's revenue has been consistently growing throughout the years. The company has an estimated value of about \$3 billion dollars and brings in \$100 million in revenue annually (Pereira, 2023). Further, its sales have quadrupled in the past decade to around \$1 billion annually (Semuels, 2019). On top of this healthy revenue growth, Patagonia has managed to maintain its focus on ethical sourcing and employee well-being. This can be seen through its donation of 100% of its Black Friday sales to environmental causes in 2016, to providing many employee benefits (Semuels, 2019). It's no surprise that Patagonia earned a 151.4 on the B Corp Impact Assessment, while the median score for all B Corp companies is 50.9 (B Corporation, n.d.). This goes hand-in-hand with their [corporate responsibility annual report](#), where they further cement their commitment to contributing 1% of their annual sales to nonprofit charitable organizations that promote environmental conservation and sustainability, crafting their products with no negative side effects, sharing proprietary information and best practices with other businesses, including direct competitors, when the board of directors determines that doing so may produce a material positive impact on the environment, and being transparent by providing information through their website. This case is important to show that taking on a stakeholder-first approach is not detrimental to profits, and that firms in this category like Patagonia actually create even more welfare than if they were just for-profit.

For REI, which is our choice for the consumer cooperative business type, we will be using a [case study from the Center for Ethical Organizational Cultures at Auburn University](#). This case study highlights how REI, which is owned by consumer members, employs those who are passionate about the outdoors and who are willing to learn about the products to provide the best experience for customers. Even with employing more than 11,000 employees in the U.S. they have earned a spot on Fortune magazine's "100 Best Companies to Work for" every year

since 1998. One reason why employees remain loyal to REI is its extensive benefits package. In addition to traditional benefits, REI offers perks that are unique to the company. For instance, employees receive a 50 to 75 percent discount on REI brand products, along with free rentals of certain equipment and a yearly gift of gear. This unique perk makes employees feel valued and familiarizes them with REI products. REI has made diversity and inclusion an important company value. A diverse workforce has the advantage of reaching a wider array of diverse customers. One way in which REI seeks to increase workforce diversity is by utilizing nontraditional recruiting sources to locate prospective employees from diverse backgrounds. Retail managers and staff are provided with diversity training to help them to create a more inclusive environment for all employees. Although REI is member-owned, REI and its owners understand that employee well-being is vital to the success of the cooperative. REI's [corporate responsibility annual report](#) also established how as a consumer cooperative they are able to reach major goals. In 2024 for example, they invested \$84.8 million in incentives and profit sharing for employees, a 48.5% increase from 2023. REI added over a million new members and distributed \$189 million to members through Co-op Member Rewards. REI also invested \$8.9 million in over 300 nonprofit partners working to make the outdoors more accessible and inclusive for everyone, and achieved their commitment to reach zero waste across all U.S. operations, becoming the first national retailer to do so. REI is another strong case to show how with cooperatives, which can be argued as the most involved for stakeholders, they still see great success in the outdoor goods industry by valuing stakeholder needs.

Since cooperatives is a business type that we haven't explored much in our classes, we were also given an article titled "[Do Cooperatives Exercise Market Power? Evidence from Pass-Through to Retail Prices](#)" as additional empirical evidence by Professor Ericson. It

discusses whether external pressures such as taxes compel cooperatives to be more profit-motivated, essentially exercising their market power. It analyzes how a tax increase in Spain affected the price increases between for-profit and cooperative gas stations and how their decision-making was impacted by their motive of efficiency pricing or exercising market power. Market power is important to analyze in this context as it is “particularly apparent in the case of cooperative gas stations in our sample, as many of them are located in isolated areas, catering to small towns with very limited or no competition.” Studies such as one from Bajo-Buenestado and Borrella-Mas (2022) show that there was a pass-through rate of only 72% among for-profit gas stations, meaning only part of the tax increase affected fuel prices, showing signs that these gas stations were exploiting market power as given the industry competition, they likely wanted to preserve their market position. The article’s research on the tax shock on cooperatives showed that they passed through the entire tax to their fuel prices, showing that these firms weren’t using the tax as a reason to increase profit margins but rather follow efficiency pricing principles that maximized welfare: “Using a difference-in-differences approach, our estimates reveal an average fuel price increase of 0.056-0.059€ per liter among gas stations owned by cooperatives in the five states of Spain affected by the tax change, indicating a pass-through rate of about 100%...providing compelling evidence of the absence of a markup adjustment.” While our question is not covering the Spanish fuel industry, this article serves as good empirical data for how cooperatives are generally acting for welfare maximization rather than profit maximization, even in situations with external pressures like taxes where market power may be exercised. It displays the dynamics of cooperative decision-making and potential differences between worker-owned versus consumer-owned coops along with balancing welfare between consumers and firms.

These sources will be used extensively for us to detail the need businesses have for a well-defined corporate purpose and how a stakeholder approach with certain revisions is optimal. The mix of empirical evidence along with a look at real companies across for-profit, public-benefit, and cooperative business types strengthens our reasoning in answering our research question. The emphasis on cooperatives is necessary as it gives key insights into how they have effectively used a modified stakeholder approach and, in the case of REI, generated massive financial incentives and reached major milestones before other competitors have.

The Impact of ESG Initiatives on Market Outcomes and Firm Performance

Introduction

Environmental, Social, and Governance (ESG) factors have emerged as an increasingly influential framework for investors, regulators, and the broader public to evaluate corporate performance. ESG encompasses a set of non-financial criteria used to assess a firm's environmental impact, employee and community relationships, and the quality of its governance structures. The environmental dimension addresses issues such as resource management, pollution reduction, and the adoption of sustainable technologies. The social dimension evaluates labor practices, customer relations, and engagement with local communities. The governance dimension examines board independence, managerial accountability, transparency, and ethical oversight. Together, these dimensions provide a more holistic view of corporate behavior than traditional financial metrics can offer alone.¹

The significance of ESG has expanded rapidly over the past decade, driven by rising expectations from diverse stakeholders. Investors increasingly demand ESG information to guide capital allocation, fueling the growth of ESG-focused funds and sustainable investment strategies. In response, firms have enhanced their ESG disclosures to demonstrate responsibility, attract capital, and mitigate reputational risk.² Around 99% of "S&P 500 companies reported

¹ Mark S. Bergman, Ariel J. Deckelbaum, and Brad S. Karp, "Introduction to ESG," Harvard Law School Forum on Corporate Governance (blog), August 1, 2020, <https://corpgov.law.harvard.edu/2020/08/01/introduction-to-esg/>

² Morgan Stanley. "Sustainable Investing on the Rise." Morgan Stanley, January 26, 2024. <https://www.morganstanley.com/ideas/sustainable-investing-on-the-rise>

sustainability information in 2023,” creating market pressure for transparency and ESG-aligned initiatives.³ Governments and standard-setting bodies have further intensified this focus by introducing reporting requirements and frameworks such as the Global Reporting Initiative (GRI), the Sustainability Accounting Standards Board (SASB), and the Task Force on Climate-Related Financial Disclosures (TCFD), which aim to enhance the transparency, consistency, and comparability of ESG data across firms and industries. Globally, both the EU and UK now mandate ESG disclosures for certain companies and continue to expand these requirements.⁴

This heightened attention has also introduced significant challenges. As companies face mounting pressure to appear socially and environmentally responsible, some engage in ESG window-dressing and greenwashing by selectively highlighting positive initiatives or exaggerating sustainability commitments.⁵ These practices complicate evaluations of ESG performance and raise questions about whether ESG is genuinely improving firm behavior or simply reshaping communication strategies. Against this backdrop, scholars have increasingly examined whether ESG activities meaningfully influence firm financial performance. Existing research yields mixed findings: some studies demonstrate that strong ESG performance enhances profitability and long-term value creation, while others highlight implementation costs, neutral effects, or the importance of authenticity in implementation.

³ “S&P 500 Sustainability Reporting and Assurance Analysis | the CAQ.” Thecaq.org, 2025, www.thecaq.org/sp-500-and-esg-reporting.

⁴ “The Transatlantic Divide in ESG Disclosure Requirements: Why This Matters to Global Businesses.” Americanbar.org, 2025, www.americanbar.org/groups/business_law/resources/business-law-today/2025-march/divide-in-esg-disclosure-requirements/.

⁵ Responsible Investor. “Study Suggests US Funds Used ‘Window-Dressing’ to Boost Morningstar ESG Ratings.” Responsible Investor, July 20, 2023. <https://www.responsible-investor.com/study-suggests-us-funds-used-window-dressing-to-boost-morningstar-esg-ratings/>

This paper examines how ESG performance influences firm performance and market outcomes, and investigates why these effects vary across different contexts. By integrating academic research with real-world evidence, the analysis seeks to clarify when ESG creates value, when it produces neutral or adverse effects, and how factors such as governance quality shape market reactions to ESG activities.

The remainder of this paper is organized into four main sections. The first section establishes foundational background on ESG, including definitions of the three dimensions, trends driving ESG's growing significance, the evolution of ESG reporting, and challenges such as window-dressing and greenwashing. The second section synthesizes empirical research on the relationship between ESG and firm performance, highlighting positive, long-term, and neutral findings. The third section presents a case study of Volkswagen, analyzing how governance weaknesses contributed to the “Dieselgate” scandal and connecting these failures to broader research on governance and firm outcomes. The final section concludes by distilling key insights, discussing the future of ESG reporting, and linking the findings to the stakeholder expectations outlined in the introduction.

Literature Review

Prior research examining the relationship between ESG performance and firm outcomes can be organized around three central themes. First, a substantial body of work finds that ESG performance is positively associated with firm performance, with governance-related initiatives often exhibiting the strongest and most consistent effects. Second, several studies emphasize that the financial benefits of ESG initiatives are mainly long term, as improvements in governance quality, stakeholder trust, and risk management are gradually reflected in sustained firm value.

Finally, a smaller but important subset of the literature reports neutral or economically modest effects of ESG on firm outcomes, highlighting ongoing debate within the field.

Theme 1: Positive Effects of ESG on Firm Performance

A significant volume of research supports the positive relationship between ESG performance and firm performance. Aydogmus, Gulay, and Ergun (2022) explore ESG initiatives in the context of Freeman's Stakeholder Theory, which introduces "the idea that successful companies are able to align the interest of all stakeholders and therefore they are more sustainable." They chose eight years of data from 2013-2021 for the top 5000 largest publicly listed companies to capture long-term financial effects rather than short-term market reactions. Results indicated "ESG performance has a positive and highly significant relationship with firm value and profitability." The authors argue that ESG improves firm performance by strengthening stakeholder relationships, enhancing trust and credibility, and reducing non-financial risks, which collectively improve operational efficiency and financial outcomes. When they break this relationship down further, they note that the mean environmental score and correlation to firm value is lower than for social and governance scores. The authors claim that this can be explained by environmental efforts being more costly and time-consuming.

Similar to how Aydogmus, Gulay, and Ergun identified two dimensions of ESG (social and governance) that had a positive relationship with firm performance, Velte (2017) examines the impact of ESG performance on corporate financial performance using data from firms listed on Germany's Prime Standard indices between 2010 and 2014. Drawing on 412 firm-year observations, the study evaluates both accounting-based measures of performance, such as return on assets (ROA), and market-based measures, such as Tobin's Q. The results show that overall ESG performance is positively associated with ROA, an accounting measure that reflects

near-term operating profitability, but has no significant effect on Tobin's Q. When disaggregating ESG components, governance performance exhibits the strongest relationship with ROA, suggesting that effective oversight, board structure, and accountability mechanisms play a critical role in improving firm performance.

Chen, Song, and Gao (2023) similarly document a positive relationship between ESG performance and firm performance using a global sample of 3,332 firms over the period from 2011 to 2020. Grounded in stakeholder theory and signal transmission theory, the authors find that ESG performance is positively related to corporate financial performance as measured by ROA, which primarily captures firm performance over annual reporting horizons rather than long-term market valuation. The results are particularly strong for large firms and firms facing higher levels of risk, indicating that ESG engagement improves performance by reducing operational risk, enhancing reputation, and strengthening stakeholder trust. A key distinction of this study from the aforementioned studies is that all three ESG dimensions are found to have statistically significant effects on firm performance.

Theme 2: Benefits From ESG Initiatives Accrue Over the Long Rather Than Short Term

Numerous studies further substantiate the positive relationship between ESG performance and firm outcomes, emphasizing that the benefits of ESG initiatives are more pronounced over the long term rather than in the short term. Elamer and Boulhaga (2024) reinforce the positive relationship between ESG and firm performance by demonstrating that ESG controversies primarily generate short-term disruptions in firm value and investor confidence. Importantly, the authors emphasize that strong governance mechanisms, including board independence, gender diversity, and transparent reporting, limit the persistence of these negative effects. Firms with well-established ESG practices recover more quickly in firm value

and stock performance following controversies, indicating that sustained ESG engagement plays a central role in preserving long-term performance rather than driving immediate gains.

Additionally, Huang (2019) argues that firms do not engage in ESG activities to generate short-term financial gains, but rather to support long-term economic and social sustainability. The study finds that stronger ESG performance is generally associated with improved market outcomes, including higher firm value, more resilient stock performance, and greater investor confidence, though these effects emerge gradually and are economically modest over the short term. Overall, Huang concludes that ESG creates value primarily through long-term mechanisms such as risk reduction, reputational enhancement, and stronger stakeholder trust, which attract patient, long-horizon investors rather than delivering immediate performance gains.

Furthermore, Zhou, Liu, and Luo (2022) provide further evidence that ESG integration supports long-term value creation rather than generating short-term financial gains. Using a sample of Chinese listed companies from 2014 to 2019 and ESG data compiled by SynTao Green Finance, the authors examine how ESG performance influences firm market value through financial performance as a mediating mechanism. Their findings show that stronger ESG performance is associated with higher firm value, with this relationship operating primarily through sustained improvements in profitability and operational efficiency over time. The mediating role of financial performance is particularly pronounced among state-owned enterprises, where ESG engagement tends to produce more substantial and persistent operational benefits. Overall, the study links ESG initiatives to durable economic outcomes, suggesting that ESG activities function not only as reputation-enhancing tools but also as mechanisms that strengthen internal capabilities and competitive positioning in the long-run.

Theme 3: Neutral and Mixed Findings on the Positive Effects of ESG Initiatives

The abundance of literature supporting the argument that ESG positively impacts firms' financial performance and market outcomes is evident. However, research exists that may indicate the contrary. Christophe Revelli and Jean-Laurent Viviani (2014) explain that ESG or socially responsible investing doesn't have a clear positive or negative effect on a company's financial performance. The study finds that the relationship is generally neutral, meaning ESG practices neither consistently improve nor hurt financial returns. It also suggests that other factors, such as market conditions and investment strategies, might play a bigger role in determining a firm's financial outcomes.

Lastly, Friede, Busch, and Bassen (2015) provide a comprehensive synthesis of the ESG literature that highlights the prevalence of neutral and modest effects alongside positive findings. Drawing on evidence from more than 2,000 empirical studies published since the 1970s, the authors combine results from prior reviews and individual studies to assess the overall relationship between ESG factors and corporate financial performance. Their meta-analysis shows that approximately 90% of studies report either a positive or neutral association between ESG and firm performance, with only a small minority identifying negative effects. Importantly, the authors emphasize that many positive findings are economically modest and highly dependent on study design, time horizon, region, and asset class. While ESG integration is rarely associated with performance deterioration, the evidence suggests that its financial impact is neither uniform nor guaranteed, underscoring the context-dependent nature of ESG outcomes.

Overall, the academic literature suggests a clear answer to this paper's research question: ESG engagement positively influences firm financial performance and market outcomes primarily through long-term value creation rather than short-term gains. Across a broad range of studies, ESG initiatives are associated with sustained improvements in firm value, profitability,

and investor confidence. Rather than contradicting these positive findings, studies reporting neutral effects indicate that ESG's impact is highly context dependent, varying across industries, institutional environments, and measurement approaches, and reinforcing the importance of understanding the conditions under which ESG engagement translates into improved firm outcomes over time.

Volkswagen Case Study⁶

Brief History on Volkswagen (VW)

Volkswagen was first established in Germany in 1937 by Hitler's Nationalist Socialist Party as a state-owned automobile company. The company was originally operated by the German Labor Front. Due to its unusual design and Nazi connections, the car did not initially sell too well in the United States.

Following World War II, the British Military Government took control of Volkswagen. They focused mostly on mass production but had to cut their initial monthly production goals down to 25%. Unfortunately, these high-pressure goals caused severe malnutrition and general exhaustion among the workforce. In 1948, the company finally overcame the severe supply crisis and expanded its sales abroad. Exports grew by 63% between 1948 and 1949.

This era at Volkswagen represented West Germany's Economic Miracle, "wirtschaftswunder." They achieved this through mass production and a targeted long-term growth strategy. Volkswagen exported 1/3 of their total production to 18 countries, and even started to expand to markets in South America.

⁶ HISTORY.com Editors. "Volkswagen Is Founded." HISTORY, 13 Nov. 2009, www.history.com/this-day-in-history/may-28/volkswagen-is-founded.

In the 1960s, Volkswagen examined possibilities to pursue ventures with Daimler-Benz AG. This new model formed the basis for a new range maintained by Audi as an independent brand within the Volkswagen Group.

The launch of new models like the Passat and Golf helped Volkswagen recover from the severe financial strain caused by the 1974–75 oil crisis and global recession. While most automakers saw sales drop by up to 40%, Volkswagen stabilized domestic sales thanks to the Golf's popularity, though export markets in Europe, North America, and other regions suffered due to inflation and currency shifts. By 1976, after reducing its workforce and aligning production with demand, Volkswagen increased sales by over 15% and successfully emerged from the crisis.

To take advantage of structural changes in the automotive industry, Volkswagen focused on expansion in the European and Asian markets to counter the negative trends in the automotive industry during the 1980s. However, they were faced with increased pressure from the competition in Europe and North America, higher energy prices, instability on international currency markets as well as environmental concerns demanded new product design and manufacturing concepts. To combat these challenges, Volkswagen focused on innovative and expansive approaches, flexible productions, and cost-cutting.

Martin Winterkorn became Volkswagen's CEO in 2007, following a long career with the Volkswagen group in the Audi division. Winterkorn being known for his perfectionist management style, Winterkorn demanded technical excellence and exerted intense pressure on teams to meet ambitious production and quality goals. Winterkorn's tenure was defined by the introduction of "Strategy 2018," an ambitious plan to make Volkswagen the world's leading automaker by 2018. The strategic focus emphasized four goals: superior innovation and

customer satisfaction, increasing unit sales to more than 10 million units per year, sustainable profitability (8% pre-tax margin), and becoming the industry's most attractive employer.⁷

A major element of this plan was to expand VW's diesel vehicle sales in the United States, where the company sought to compete against Toyota's hybrid dominance by promoting its "Clean Diesel" technology. Winterkorn's vision emphasized German engineering abilities, technological precision, design efficiency, and cost control, but created immense internal pressure to deliver results within tight constraints.

From 2007 to 2014, Volkswagen's total vehicle sales more than doubled, increasing from approximately 5 million to over 10 million vehicles annually. They met their first goal regarding unit sales by 2015.⁸ Revenues rose from €108 billion in 2007 to €202.5 billion in 2014, with operating profits climbing 8.8% in that final year.

The pressure to meet these ambitious targets, however, was a key incentive for management to pursue alternative approaches and potentially unethical practices.

Overview of the emissions scandal

What Happened

In September 2015, the U.S. Environmental Protection Agency (EPA) revealed that Volkswagen (VW) had installed software known as a "defeat device" in millions of diesel cars around the world. This software could tell when a vehicle was being tested for emissions and would automatically activate full pollution controls to pass the test. But once the car was driven under normal conditions, the controls would switch off, and the car would release emissions up to 35-40 times higher than legal limits.

⁷ "Strategy 2018 of the Volkswagen Group." Business Ethics, Sustainability and CSR Volume 2, ResearchGate. https://www.researchgate.net/figure/Strategy-2018-of-the-Volkswagen-Group_fig5_356567745

⁸ "First goal of Strategy 2018 achieved: Volkswagen Group delivers over ten million vehicles for first time." Volkswagen, media.vw.com/releases/427.

The discovery, first made by researchers at West Virginia University and later confirmed by the California Air Resources Board, triggered one of the biggest corporate scandals in the auto industry. VW faced massive fines and lawsuits that were eventually estimated to cost over \$46 billion worldwide. The company's CEO, Martin Winterkorn, resigned, and VW's image as a leader in "clean diesel" technology was destroyed.

Although the emissions scandal was shocking, it wasn't VW's first controversy. Over the years, the company had faced several other ethical problems, including industrial espionage in the 1990s and bribery scandals in the 2000s. This pattern showed that VW's problems went deeper than just one bad decision it reflected serious issues within its leadership, structure, and culture.

Why It Happened

1. Unrealistic Goals and Pressure to Perform

VW's goal of becoming the largest carmaker in the world by 2018 put extreme pressure on its engineers and managers. The company wanted to dominate the U.S. market with "clean diesel" cars that combined great performance with low emissions. But the technology to meet strict American standards didn't actually exist within VW's tight deadlines and budgets.

Instead of admitting that, some engineers took a shortcut. They used the defeat device to make it look like VW had achieved its goals. The pressure to meet targets at any cost made people focus more on results and sales numbers than on honesty and compliance. In short, VW's goal-setting system rewarded success, not integrity.⁹

⁹ Reuters. "VW Culture to Blame for Silence over Emissions Scandal, Ex-Manager Says in Trial." Reuters, 23 Sept. 2021, www.reuters.com/business/autos-transportation/vw-culture-blame-silence-over-emissions-scandal-ex-manager-says-trial-2021-09-23/.

2. Market and Regulatory Pressures

During the 2000s and 2010s, global emissions standards became much stricter, and consumers wanted cars that were both efficient and environmentally friendly. VW chose to compete with diesel engines rather than hybrids like Toyota's Prius. The company promised "clean diesel" as a revolutionary solution, but it struggled to make those engines meet U.S. environmental laws while maintaining high performance.

Instead of slowing down production or redesigning the technology, VW's leadership encouraged employees to cheat the system using this software. The company took advantage of predictable testing procedures, assuming regulators would never catch on. This decision reflected short-term thinking and a willingness to take major risks for immediate gains.

3. Organizational Culture and Ethics

VW's culture also played a huge role. The company prided itself on German engineering excellence and precision. Employees were expected to deliver perfect results, and "departments were humiliated if internal goals were not reached."¹⁰ This environment made it hard for anyone to speak up when things went wrong.

The lack of open communication and ethical awareness led to moral blind spots. People convinced themselves that manipulating emissions data wasn't really "cheating," but just bending the rules to stay competitive. Because ethical values weren't part of VW's daily decision-making, employees made choices that looked smart in the moment but were disastrous in the long run.

¹⁰ "Organisational Wrongdoing, Boundary Work, and Systems of Exclusion: The Case of the Volkswagen Emissions Scandal." University of Edinburgh Business School, 2015, www.business-school.ed.ac.uk/about/news/organisational-wrongdoing-boundary-work-and-systems-of-exclusion-the-case-of-the-volkswagen-emissions-scandal.

4. Weak Corporate Governance

Volkswagen's governance system was unusually complicated. The German state of Lower Saxony owned a significant stake in the company and held seats on the board, giving politicians and labor representatives a strong voice in company decisions. At the same time, members of the Piëch and Porsche families had major influence as shareholders. The Porsche family held "52% of VW's voting shares."¹¹ This structure created confusing power dynamics and made it difficult to hold anyone truly accountable.

Under long-time leader Ferdinand Piëch, VW developed a very top-down, authoritarian culture. Employees were expected to follow orders rather than challenge them. Piëch was a chairman of the executive board of the Volkswagen Group from 1993 to 2002 and a chairman of the supervisory board from 2002 to 2015. Even after Piëch stepped down, this culture continued under Winterkorn. Important ethical or technical concerns, like Bosch's 2007 warning that the emissions software might be illegal, were ignored or buried in the bureaucracy.

Further Governance Analysis

1. Weak oversight and limited independence

The supervisory board and executive board failed to provide effective oversight of technical and environmental compliance. Without rigorous oversight, management could implement "defeat devices" without detection, allowing unethical practices to go unchecked.

¹¹ Magazine, Family Business. "Report: Porsche Family Leaves "Power Vacuum" during vw Crisis." Family Business Magazine, 27 Apr. 2016, familybusinessmagazine.com/uncategorized/report-porsche-family-leaves-power-vacuum-during-vw-crisis/.

Major technical and strategic decisions were concentrated among a few top executives in Germany. This reduced diverse input and critical questioning from middle management or engineers, allowing risky decisions to go unchallenged.¹²

Volkswagen's governance structure reflects Germany's two-tier board system, consisting of a Management Board (executive) and a Supervisory Board (oversight). Volkswagen's supervisory board reflected a highly concentrated and internally connected ownership structure. The Porsche and Piëch families, acting through Porsche Automobil Holding SE, held approximately 31.5% of Volkswagen's total equity, yet controlled an outsized 50.73% of the voting rights. The State of Lower Saxony owned approximately 20% of the company, and Qatar Holding, a sovereign wealth fund, held roughly 15% of the shares. Ultimately, one family controlled a majority of the decision-making.

The 20-member supervisory board includes representatives from shareholders, employees, and state officials, per Germany's codetermination laws. Under Germany's codetermination model, half of the twenty supervisory board seats were reserved for employee representatives. Among the remaining shareholder representatives, only one member was truly independent or unaffiliated with major stakeholders.

Though intended to balance power, this system instead fostered limited independence and weak oversight. This concentration of control produced overlapping and conflicting interests.

Research on board independence reveals that independent directors often aren't as independent as they appear, especially when they have personal, financial, or social connections

¹² Copenhagen Compliance. "VW, a Horror Story of Bad Governance and the Destruction of Corporate Values." Copenhagen Compliance, issue XXI. Accessed December 3, 2025.
https://www.copenhagencompliance.com/news/issueXXI/VW_horror_story.php

Kenwright, Simon. "What VW's €31 Billion Lesson in Listening Can Teach You." Thriving People, September 23, 2025. <https://www.thrivingpeople.org/articles/the-vw-diesel-emissions-scandal-a-failure-to-listen>

with major shareholders that can cloud their judgment and weaken their monitoring role (Ararat, Orbay & Yurtoglu, 2010, as cited in Syed Fuzi, Abdul Halim, & Julizaerma, 2016).¹³ Even when companies check the box on having the right number of independent directors, their effectiveness can be quietly undermined by appointing people with little board experience, irrelevant backgrounds, or who simply lack the expertise to push back against executives (Wang & Oliver, 2009, as cited in Syed Fuzi et al., 2016). As the paper points out, just meeting the technical requirements for board composition is not enough; independent directors actually need to do their jobs effectively, and when you add in concentrated ownership by dominant shareholders, you get overlapping and conflicting interests that make it even harder for independent directors to do their monitoring job (Syed Fuzi et al., 2016). This is exactly what happened at Volkswagen, where the board looked independent on the surface, but family control and a shortage of genuinely independent voices created a system that couldn't catch or stop the emissions scandal.

Germany's two-tier board structure, while designed to balance stakeholder interests through codetermination, can paradoxically create governance weaknesses when combined with concentrated family ownership.¹⁴ The German Stock Corporations Act mandates strict separation between the management board, which runs day-to-day operations, and the supervisory board, which appoints, supervises, and advises management while being involved in fundamental decisions (Muswaka, 2014). This separation is intended to allow the supervisory board to closely scrutinize management performance and ensure employee interests are not neglected (Muswaka, 2014). However, the Co-determination Act of 1976 requires that half of supervisory board seats

¹³ Fuzi, S. F., S. Halim, and M. K. Julizaerma. 2016. "Board Independence and Firm Performance." *Procedia Economics and Finance* 37: 460–465. [https://doi.org/10.1016/S2212-5671\(16\)30152-6](https://doi.org/10.1016/S2212-5671(16)30152-6)

¹⁴ Muswaka, Linda. "The Two-Tier Board Structure and Co-determination: Should South Africa Follow the Germany Example?" *Mediterranean Journal of Social Sciences* 5, no. 9 (May 2014): 142–148. <https://doi.org/10.5901/mjss.2014.v5n9p142>

be filled by employee representatives in large companies, with the chairperson elected by shareholders and holding a tie-breaking double vote (Muswaka, 2014). When this system intersects with concentrated family control, as at Volkswagen, the theoretical benefits of codetermination are undermined: the Porsche-Piëch family's control over the chairperson position and their dominant voting rights meant that employee representatives, despite holding half the seats, lacked the practical power to challenge family-backed management decisions, turning what should have been a check on executive power into a largely symbolic gesture that failed to prevent the emissions scandal.

Ferdinand Piëch's role as supervisory board chair in combination with Winterkorn's CEO position, effectively centralized power, leaving no room for external scrutiny. This lack of independence allowed systemic issues, such as emissions manipulation, to remain unchecked.

While codetermination was designed to democratize governance, in the case of VW, it created a paradox of power sharing. Employees had a voice, but deeply embedded was a culture that strongly discouraged whistleblowing.

2. Lack of Transparency and Accountability

VW's internal reporting and whistleblowing mechanisms were weak, and employees feared retaliation. Problems within the company were not reported or escalated, allowing the scandal to persist undetected for years.¹⁵

Volkswagen's corporate culture and reporting structure were defined by a lack of transparency, rigid hierarchy, and fear of reprisal. While the company maintained formal compliance programs and a published Code of Conduct emphasizing integrity, the actual

¹⁵ Jacobs, Daniel, and Lawrence P. Kalbers. "The Volkswagen Diesel Emissions Scandal and Accountability: Where Were the Auditors and Attorneys during the Sustainability Charade?" The CPA Journal, July 22, 2019. <https://www.cpajournal.com/2019/07/22/9187/>

implementation of these systems was superficial. Employees were expected to display loyalty to management and protect the company's image rather than openly address ethical or technical problems.

Under Martin Winterkorn's strict management style, engineers and managers avoided challenging the unrealistic emissions goals because they feared professional repercussions. Even when early concerns emerged, such as Bosch's 2007 warning that the defeat software might violate U.S. law, the concerns were filtered through management layers and never reached the supervisory board or regulators. The supervisory board, consisting mostly of family, political, and labor representatives, relied heavily on management to self-report, and, given its makeup, had little incentive to investigate compliance risks further.

Research on whistleblowing behavior reveals that organizational cultures discouraging internal dissent create conditions where wrongdoing goes unchecked.¹⁶ Whistleblowing, the voluntary disclosure of ingroup wrongdoing to an external agency with the expectation that the agency will take corrective action, is critically influenced by employees' perceived power to effect change internally and their fear of retaliation (Anvari, Wenzel, Woodyatt, & Haslam, 2019). Studies show that when employees perceive low intragroup power, meaning they lack the capacity to influence group behavior internally through persuasion or legitimate authority, they are less likely to voice concerns (Anvari et al., 2019). The perception that organizational change is unlikely serves to inhibit voice and predict silence. This is often accompanied by rationalization mechanisms that allow employees to reduce their sense of responsibility without addressing the wrongdoing (Anvari et al., 2019). Furthermore, fear of retaliation has been

¹⁶ Anvari, Farid, Michael Wenzel, Lydia Woodyatt, and S. Alexander Haslam. "The Social Psychology of Whistleblowing: An Integrated Model." *Organizational Psychology Review* 9, no. 1 (2019): 41–67. <https://doi.org/10.1177/2041386619849085>

consistently cited as a primary barrier to whistleblowing, as perceived personal costs contribute to a sense of powerlessness to effect change (Anvari et al., 2019). Even when formal whistleblowing channels exist, their effectiveness depends on whether employees believe reporting will be safe, that they will be protected from negative repercussions, and that their concerns will be responded to swiftly and decisively (Anvari et al., 2019). At Volkswagen, engineers and managers who identified the emissions problems perceived themselves as having no intragroup power to challenge Winterkorn's directives, feared severe professional retaliation, and recognized that formal compliance channels were superficial avenues for addressing wrongdoing, resulting in a culture of silence that allowed the fraud to continue undetected for years.

3. Goals and Incentives

Executives and engineers were pressured to meet aggressive performance targets, such as emissions compliance and performance benchmarks, while maintaining cost efficiency. Incentives reward results over ethical behavior, encouraging staff to cut corners and prioritize profits over legal and environmental responsibilities.¹⁷

The company emphasized market success, brand reputation, and “clean diesel” marketing over strict regulatory adherence. When culture favors appearances over ethics, employees are more likely to engage in deceptive practices to meet corporate goals.

¹⁷ John L. Weinberg Center for Corporate Governance. “Volkswagen Emission Scandal – Lessons for Investors, Boards, Chief Legal Officers, and Compliance and Governance Professionals.” Weinberg Center for Corporate Governance.
<https://weinberg.udel.edu/volkswagen-emission-scandal-lessons-for-investors-boards-chief-legal-officers-and-compliance-and-governance-professionals/>

Ethical Systems. “Very Worrying: VW, Leadership and Ethical Culture.” Ethical Systems. October 6, 2015.
<https://www.ethicalsystems.org/very-worrying-vw-leadership-and-ethical-culture/>

Volkswagen's executive compensation system was heavily tied to short-term financial and operational metrics, including unit sales, cost reductions, and market share, and excluding ethical or environmental performance indicators. For years, Volkswagen's corporate culture was driven by the goal of becoming the world's largest carmaker by sales volume. This objective was heavily tied to executive bonuses. Senior executives, like Martin Winterkorn, had compensation packages with a high ratio of performance-related pay. By linking massive bonuses to aggressive sales and profit targets, Volkswagen's system pushed employees to chase results at any cost, even when it meant cutting corners. This fostered a "moral hazard" where ethical behavior and compliance mattered less than performance metrics. In contrast, peers like BMW and Daimler tied part of executive pay to CO₂ reduction and sustainability goals.

Research on goal setting shows that specific, challenging goals can drive unethical behavior and narrow organizational focus in harmful ways. When employees face aggressive performance targets, they often use unethical methods to reach them or lie about their performance to appear successful. This happens especially when their actual performance falls just short of the goal (Ordóñez, Schweitzer, Galinsky, & Bazerman, 2009). Goal setting makes employees focus on results rather than on how they achieve those results. This makes it harder for employees to recognize ethical problems and easier for them to justify unethical behavior (Ordóñez et al., 2009). Goals can also cause people to focus so narrowly on the targets that they overlook other important parts of their jobs. This problem is called "inattention blindness." When employees concentrate intensely on meeting targets, they become blind to critical issues that seem unrelated to their goals (Ordóñez et al., 2009). The problem gets worse when goals emphasize narrow, easy-to-measure metrics like quantity or revenue. When this happens, employees ignore harder-to-measure dimensions like quality, safety, or ethics. They sacrifice

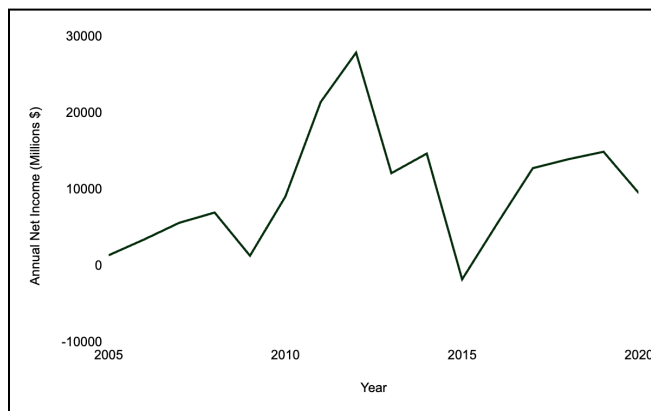
these important values to meet their numerical targets (Ordóñez et al., 2009). Goal setting can also quietly change organizational culture. Aggressive targets create an environment where unethical behavior becomes more common. This is especially true when companies have weak oversight and offer financial rewards for hitting performance targets (Ordóñez et al., 2009). At Volkswagen, engineers facing aggressive emissions and cost targets used defeat devices to fake compliance. Senior management focused narrowly on becoming the world's largest automaker by volume. This caused them to ignore safety and environmental concerns. The combination of challenging goals and performance-based pay created a culture where meeting targets by any means became normal.

Market and Financial Impacts

The stock market reacted swiftly to this new announcement. After the company stopped sales of diesel devices in the United States, shares fell over 20%.¹⁸ Figure 1 on the right shows a more in-depth timeline

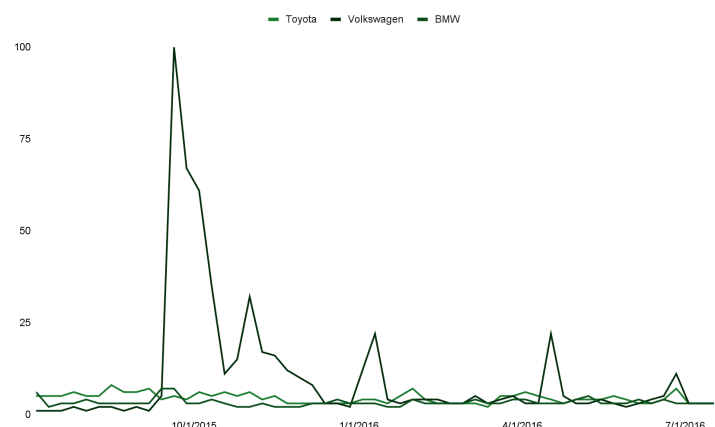


of the rapid stock price reaction to early events in the Volkswagen 'dieselgate' scandal.¹⁹



In 2014, Volkswagen's net income was around \$14,700M USD. In 2015, the company's net income plummeted to -\$1756M. While the figure increased slightly in the following years, pre-scandal profit levels were not recovered until after 2019.

This reduced consumer confidence is further evidenced by heightened Google searches for Volkswagen, especially in comparison to historical search numbers and searches for competitors like Toyota and BMW.



¹⁸ Kalyeena Makortoff. "Volkswagen Stock Drops 20% on US Diesel Recall Probe." CNBC, 21 Sept. 2015, www.cnbc.com/2015/09/21/volkswagen-stock-drops-20-on-us-diesel-recall-probe.html.

¹⁹ Snyder, Benjamin, and Stacy Jones. "Here's a Timeline of Volkswagen's Tanking Stock Price." Fortune, 23 Sept. 2015, fortune.com/2015/09/23/volkswagen-stock-drop/.

The swift and significant market reaction to Volkswagen's Dieselgate scandal further proves the wide-reaching impacts of poor governance. The consequences of poor decision-making impacted the company financially for years, while its reputation has still not been recovered for many consumers.

Conclusion and Key Takeaways

The Volkswagen emissions scandal did not result from a single bad actor or isolated mistake. Rather, it stemmed from systemic failures within the company's structure, culture, and leadership. VW's concentration of executive power, unattainable performance targets, and pervasive culture of fear combined to create an environment where fraudulent compliance appeared necessary.

The central lesson from the scandal is that corporate success divorced from ethics proves unsustainable. Strong governance, realistic goals, and a culture that rewards transparency are as critical as innovation and profitability. VW's downfall demonstrates how rapidly a company's reputation can collapse when integrity takes a back seat to ambition. These actions are exacerbated by weak governance and corporate structure, which mandated ESG reporting can meaningfully strengthen and deter.

While companies like Volkswagen could have prevented significant market skepticism and internal challenges through more transparent ESG reporting and requirements, firms like GE Vernova approached their carbon challenges transparently. GE Vernova chose to address “the core issue of trust in these markets with decarbonization programs that can be measured, verified, reported and exchanged reliably,”²⁰ generating realistic, time-bound goals with clear

²⁰ PricewaterhouseCoopers. “GE Vernova’s Decarbonization Journey:PwC.” PwC, 2024, www.pwc.com/us/en/library/case-studies/ge-vernova-carbon-market-strategy.html.

outlooks “on the 2030 and 2050 carbon markets, along with prime areas of impact.”²¹ Since this initiative, the company has self-reported internal decision making processes to increase transparency and confidence in their corporate structure. These sustainability efforts are reportedly “overseen by the GE Vernova Board of Directors and informed by Enterprise Risk Management (ERM) and materiality assessments,” which is composed of third-party, independent auditors with extensive experience, expertise, and defined roles.²² This combination of comprehensive reporting, transparent public goals, and rigorous auditing fosters a culture of innovation while discouraging unethical shortcuts to meet unrealistic standards. Since the simultaneous establishment of this board and GE Vernova’s spin off from GE, GE Vernova’s price-to-earnings ratio of 98.4 has greatly surpassed GE’s price-to-earnings of 38.62, reflecting a higher market confidence.²³²⁴

Although mandated ESG reporting may incentivize greenwashing and face implementation challenges amid evolving regulations, standardized reporting criteria and regular audit requirements strengthen corporate governance and reinforce companies' obligations to communicate transparently with shareholders.

²¹ *Ibid.*

²² “Sustainability Governance and Strategy | GE Vernova.” *Gevernova.com*, 2024, www.gevernova.com/sustainability/governance.

²³ “GE Aerospace (GE) Stock Price, News, Quote & History - Yahoo Finance.” *Yahoo Finance*, 2025, finance.yahoo.com/quote/GE/.

²⁴ “GE Vernova Inc. (GEV) Stock Price, News, Quote & History - Yahoo Finance.” *Yahoo Finance*, 2025, finance.yahoo.com/quote/GEV/.

Appendix:

Exhibit 1: Timeline of Key Events

Exhibit 2: Plots of Diesel Vehicle Sales in the US (2007-2015)

Exhibit 3: Volkswagen Annual Net Income (2005-2020)

Exhibit 4: VW's Daily Share Price Performance

Exhibit 5: Public Attention Analysis

Exhibit 6: Martin Winterkorn - Year-Over-Year Compensation

EXHIBIT 1

Timeline of Key Events

1936 Volkswagen founded in Germany under state control; reorganized after WWII.

1993 Ferdinand Piëch becomes CEO and begins major global expansion.

1998-2002 VW acquires Bentley, Lamborghini, and Bugatti; launches New Beetle.

2002 Piëch steps down from CEO position

2003-2005 Company faces espionage and bribery scandals.

2007 Bosch warns VW that emissions software may be illegal.

2007 Martin Winterkorn becomes CEO

2008 Defeat devices used in VW diesel cars sold in the U.S.

2014 West Virginia University detects irregular emissions data.

Sept 2015 EPA announces VW's use of defeat devices; scandal goes public.

Oct 2015 CEO Winterkorn resigns; VW halts U.S. diesel sales.

2016–2017 VW faces billions in fines and ongoing investigations.

EXHIBIT 2

Plots of Diesel Vehicle Sales in the US (2007-2015)

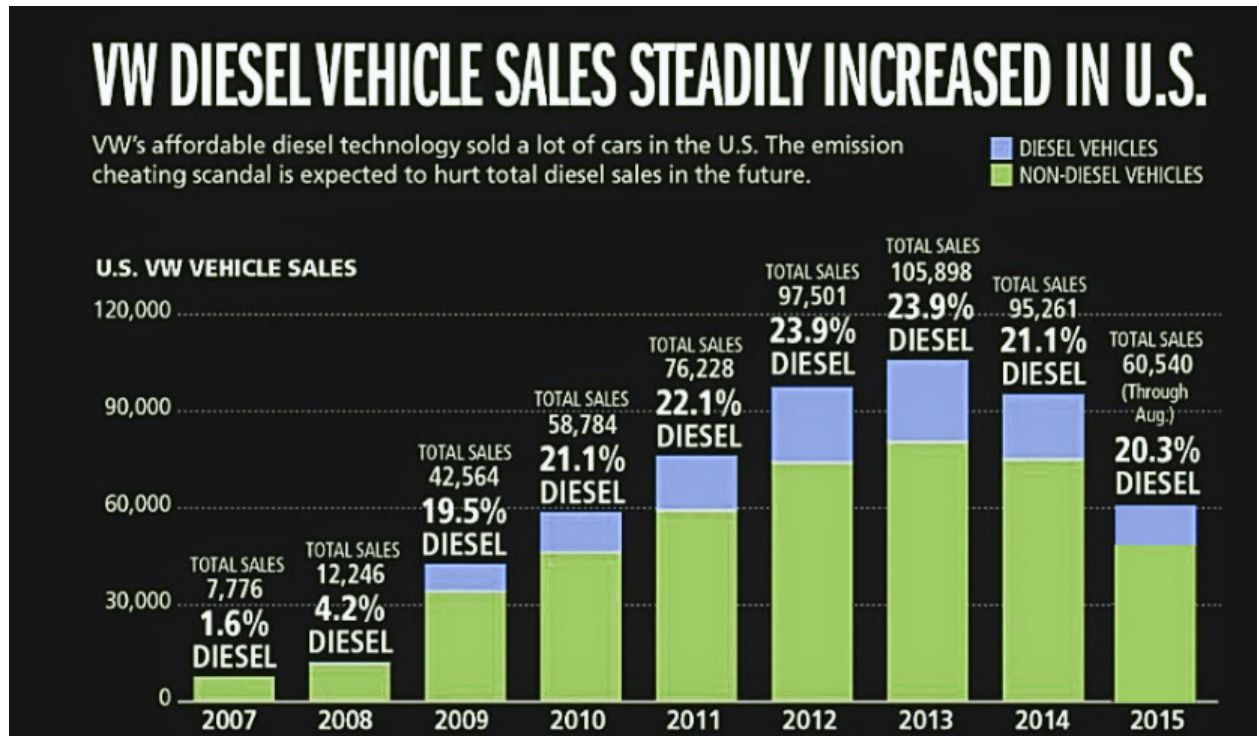


EXHIBIT 3

Volkswagen Annual Net Income (2005-2020)

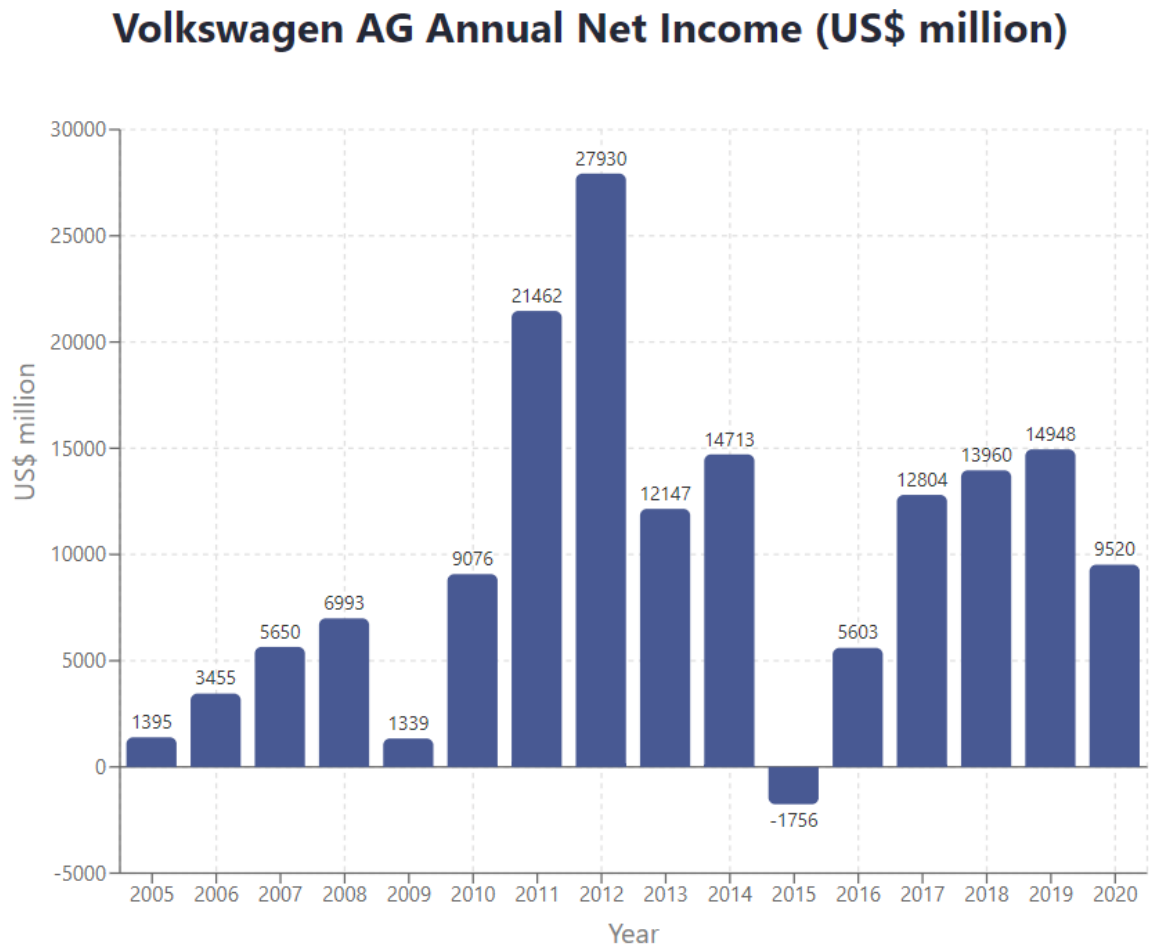
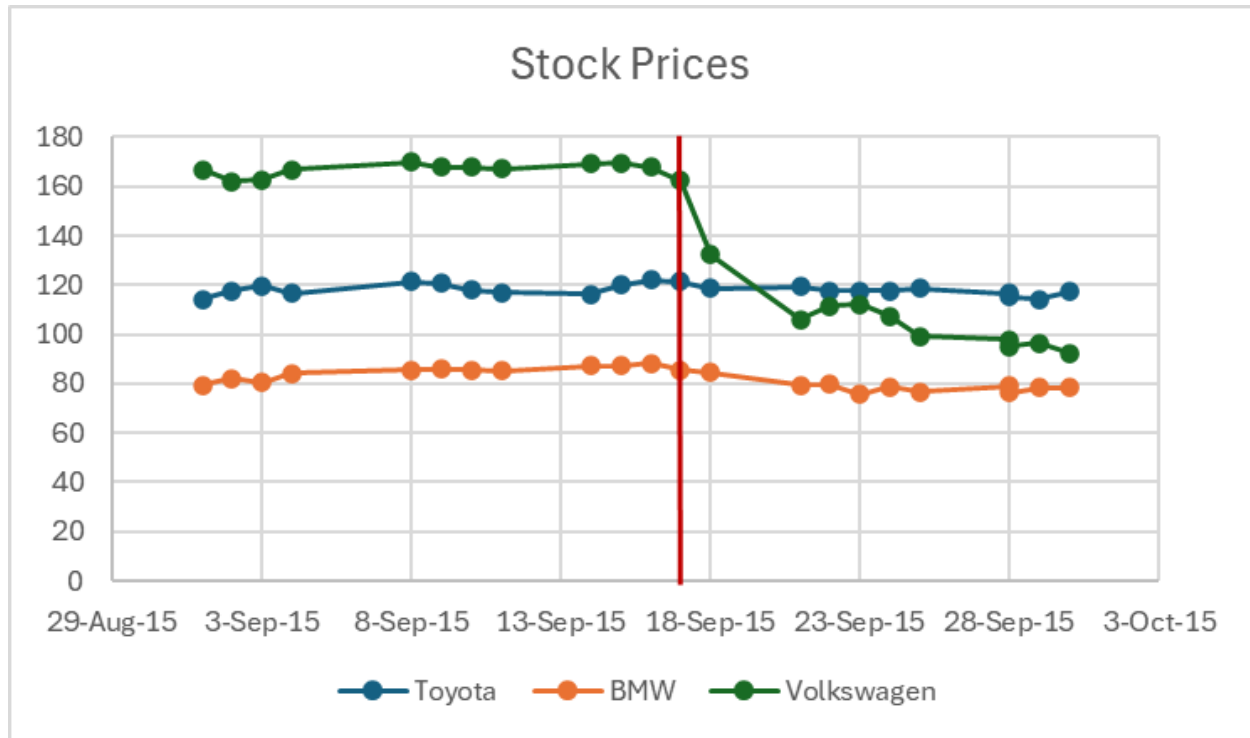


EXHIBIT 4

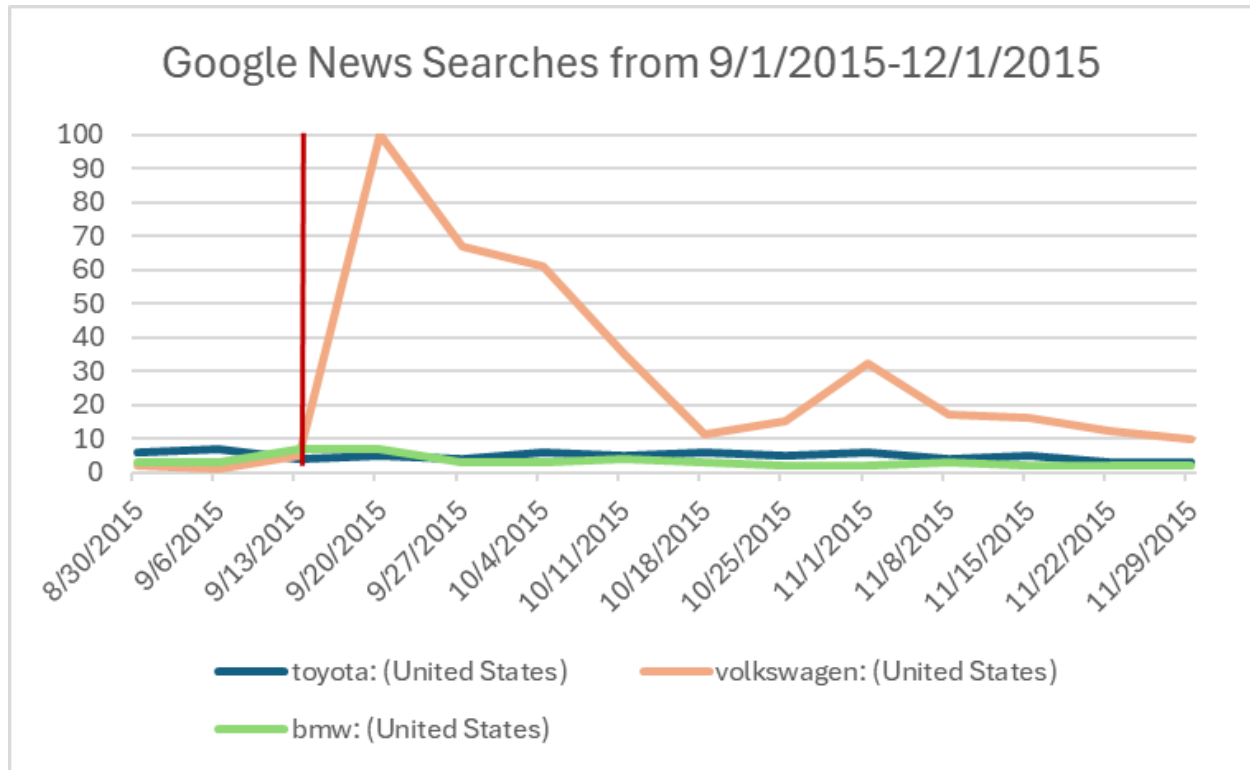
**VW's daily share price performance from September 1, 2015 to October 1, 2015.
Benchmarked against 2 peer companies over the same period.**



Red line marks “Dieselgate” scandal announcement

EXHIBIT 5

Public attention analysis - Google Trends plot showing daily search interest in VW (August 30, 2015 – November 30, 2015). Benchmarked against 2 competitors.



Red line marks “Dieselgate” scandal announcement. Numbers represent search interest relative to the highest point on the chart for the given region and time. A value of 100 is the peak popularity for the term. A value of 50 means that the term is half as popular. A score of 0 means there was not enough data for this term.

EXHIBIT 6

Martin Winterkorn - Year-Over-Year Compensation

Year	Fixed Remuneration	Variable/Bonus	Stock Options/LTI	Other	Total Compensation	Change from Prior Year
2007	€1,225,996	€3,700,000	€219,500	-	€5,145,496	-
2008	€1,636,572	€4,500,000	€6,575,800	-	€12,712,372	+ € 7,566,876 (+147.0%)
2009	€1,700,317	€4,900,000	-	-	€6,600,317	- € 6,112,055 (-48.1%)
2010	€1,730,210	€4,800,000	€2,800,000	€900,970*	€9,330,210**	+ € 2,729,893 (+41.4%)
2011	€1,886,206	€11,040,000	€3,670,000	€860,000*	€17,456,206	+ € 8,125,996 (+87.1%)
2012	€1,916,276	€8,655,000***	€3,940,000	€860,000*	€14,511,276	- € 2,944,930 (-16.9%)
2013	€1,907,862	€9,003,000***	€4,095,000	-	€15,005,862	+ € 494,586 (+3.4%)
2014	€1,617,025	€13,444,000****	-	-	€15,861,478	+ € 855,616 (+5.7%)

2015*****	€1,445,341	€5,867,689	-	-	€7,313,030	- € 8,548,448 (-53.9%)
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* Pension additions/contributions

** 2010 total includes pension value of €17,857,178 in brackets (not included in main total)

*** Breakdown includes Special remuneration and Individual performance-related bonus

**** 2014 includes one-year variable (€3,148,000), multiyear variable (€10,796,000), but excludes pension expense

***** 2015 compensation only through September 25, 2015 (partial year)

**Models of Governance Around the World:
Implications of Worker Board Representation in the U.S. —
Germany's Codetermination Model and the United Airlines Case**

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1. Introduction

In recent years, the question of how to democratize corporate governance has gained urgency amid rising economic inequality, declining labor power, and growing public scrutiny of corporate behavior. Central to this debate is the role of worker representation on corporate boards. Worker representation is a governance model in which employees hold formal seats in shaping firm strategy and oversight (OECD 2025). Scholars have argued that democratizing work is not only a matter of fairness but also a potential lever for improving firm performance, resilience, and legitimacy in the eyes of stakeholders (Battilana 2022). In the U.S., proposals like Senator Elizabeth Warren's Accountable Capitalism Act have brought these ideas into mainstream policy conversations by calling for employee seats on the boards of large corporations (Klein 2018). By contrast, many European economies, including Germany, Sweden, Austria, and Denmark, have long institutionalized this practice through codetermination laws: legal frameworks that mandate employee participation in corporate governance by reserving a specified number of board seats for worker representatives in medium and large companies. (OECD 2025; Jäger et.al. 2021)

1.1 Research Question

This divergence raises a central question: why has this model diffused unevenly across countries, particularly between Germany and the U.S., and how does worker representation on corporate boards affect firm governance and performance? Addressing this question requires not only an examination of the empirical effects of codetermination on firm outcomes such as productivity, innovation, and profitability, but also an understanding of the institutional and ideological factors that shape its adoption and implementation.

2. Literature review

2.1 Conceptual Foundation

The comparison between Germany and the U.S. is especially illuminating because it reflects two contrasting models of corporate governance. While Germany's governance model is embedded within a network of labor institutions, legal frameworks, and long-standing norms of collaboration (OECD 2025), the U.S. system prioritizes shareholder oversight and operates within a more adversarial labor environment, limiting formal avenues for employee influence. These structural differences help explain why certain governance innovations, such as board-level employee participation, have been sustained in Germany but remain largely experimental and contingent in the U.S..

National institutional features, including the configuration of boards and the scope of employee representation, further shape the effectiveness and durability of worker involvement. In Germany, dual-board (or two tier) structure is mandatory. A management board with executive directors decides on the strategic planning and implementation of decisions, while a supervisory board with non-executive directors oversee the process on behalf of the directors (Block & Gernster 2016). Conversely, the U.S.'s one-tier board systems with only a board of directors rarely accommodate such formal participation.

Cultural expectations around consensus-building, long-term planning, and mutual accountability also underpin Germany's system, creating a context in which codetermination aligns naturally with managerial and shareholder goals (Streeck 2007). By comparison, U.S. firms operate in an environment where competitive pressures, short-term performance metrics, and shareholder primacy often constrain the ability of employees to exercise meaningful influence.

This institutional lens underscores that codetermination cannot be evaluated in isolation; its effects depend on the broader social, legal, and organizational ecosystem in which it operates (Battilana et al. 2022). Understanding these contextual factors is essential for assessing how

governance structures can accommodate worker perspectives, promote stability, and contribute to organizational performance across different national settings.

2.2 Theoretical Arguments

To evaluate the impact and uneven diffusion of worker representation on corporate boards, it is essential to first examine the theoretical arguments that frame its governance implications. Proponents contend that employee involvement at the board level enhances information flow, organizational commitment, and mutual trust, thereby improving both firm performance and internal cohesion. When workers are granted formal influence in corporate decision-making, such as through board representation, they become more invested in the firm's success and more likely to contribute valuable operational insights (Freeman & Lazear 1995). This shift transforms employees from passive labor providers into active stakeholders, aligning their incentives with long-term strategic goals. Their participation helps reduce information asymmetries between management and the shop floor, improving responsiveness to operational challenges and fostering organizational learning. Furthermore, moderate levels of employee representation can strengthen internal monitoring and reduce agency cost (Fauver & Fuerst, 2006). By incorporating diverse perspectives into governance, firms can mitigate managerial opportunism and improve oversight.

Codetermination is most effective in industries where tacit knowledge, coordination, and long-term workforce development are critical, because employee board representatives help integrate operational insight into strategic decision-making (Jäger et.al. 2022). Comparative research suggests that worker participation improves information flow and cooperation between labor and management, particularly in complex firms where coordination matters (World Economic Forum 2016). These findings suggest that codetermination can function as a stabilizing governance mechanism in organizational environments that rely heavily on skilled labor and firm-specific knowledge.

Nonetheless, critics caution that these benefits may come at the expense of efficiency. Fauver and Fuerst's (2006) also warns that excessive representation can slow decision-making, dilute accountability, and create strategic inertia. Their analysis introduces a U-shaped

relationship between representation and performance: too little representation risks alienating labor, while too much may hinder agility. Codetermination also risks “capture” by labor interests, where employee representatives prioritize job security or wage growth over innovation and competitiveness (Freeman & Lazear 1995). Firms with extensive codetermination structures may struggle to implement rapid restructuring or pivot in volatile markets, particularly in sectors driven by speed and innovation.

At the heart of this debate lies a fundamental tension between efficiency and legitimacy. While worker representation may constrain managerial autonomy, it also enhances the democratic legitimacy of corporate governance by giving labor a voice in decisions that affect their livelihoods. This tradeoff reflects deeper ideological commitments about the role of the firm in society and the balance between shareholder value and stakeholder inclusion. Understanding this equilibrium is essential for evaluating the broader implications of codetermination across different institutional contexts.

2.3 Evidence from Continental Europe, Germany

Germany provides the most established example of codetermination, reflecting its postwar commitment to industrial democracy and cooperative labor relations. The Codetermination Act of 1976 mandates that firms with over 2,000 employees have employee representatives on their supervisory boards for at least half of the seats, while firms with 500 to 2,000 employees must allocate one-third of the seats to employee representatives. These worker seats are filled by elected employees and are often supported by unions and works councils, thereby institutionalizing employee voice in corporate decision-making (OECD 2025). Additionally, codetermination is closely intertwined with the works council structure, which facilitates cooperation and information exchange at the plant level and ensures that employee interests are represented beyond collective bargaining (Jäger et al. 2021). Together, these institutions embed participation deeply into Germany’s governance model, encouraging long-term orientation, trust, and social stability.

2.4 Empirical Findings on Performance

Empirical research on European firms consistently finds that board-level employee representation is associated with higher labor productivity, increased investment in worker training, and lower turnover, largely by strengthening trust and long-term employment relationships (Jones & Svejnar 1982; Economic Possibility Project 2021). Evidence suggests that codetermination has neutral to mildly positive effects on overall firm performance: employee participation at the board level does not reduce profitability or deter investment and may instead contribute to productivity gains, higher wages, and greater job stability (Jäger et al. 2021). These outcomes are reinforced by improved communication and cooperation between workers and management, which tends to mitigate conflict rather than exacerbate it. During periods of economic stress, firms with codetermined boards are also more likely to preserve job quality and employment levels, offering stronger protection against layoffs and instability (Harju, et.al. 2021; Gregorič & Rapp 2019). Beyond economic performance, shared governance carries broader democratic and sustainability benefits, as worker participation enhances organizational legitimacy, inclusion, and long-term strategic orientation (Battilana et al. 2022).

2.5 The U.S. Context and Policy Initiatives

While evidence from Europe largely portrays codetermination as a governance model that promotes stability and social responsibility without compromising firm performance, the U.S. continues to follow a shareholder-centric model, where board representation remains exclusive to investors and formal worker participation is minimal (Dammann & Eidenmüller 2021).

In the U.S., corporate governance is firmly grounded in shareholder primacy, positioning the maximization of shareholder value as the board's central duty. The one-tier board design reflects long-standing legal precedent and deeply embedded cultural norms surrounding market efficiency and managerial autonomy (Dammann & Eidenmüller 2021). Attempts to introduce worker representation have consistently met resistance, shaped by weak labor unions, historically adversarial labor relations, and path dependence that reinforces a shareholder-centric model (Garnero 2018). As Dammann and Eidenmüller (2021) argue, these features make

codetermination a “poor fit” in the U.S., where labor influence is widely viewed as incompatible with corporate control and investor expectations.

Rising concerns about inequality and worker disenfranchisement have nevertheless spurred lawmakers to propose reforms inspired by European codetermination. Senator Elizabeth Warren’s Accountable Capitalism Act (2018) would require corporations with over \$1 billion in annual revenue to obtain a federal charter and allocate at least 40% of board seats to employees, embedding worker voice into strategic decision-making. Senator Bernie Sanders’s Workplace Democracy Plan (2019) goes further, emphasizing employee elections of nearly half of corporate board members. Both proposals aim to counterbalance executive and shareholder dominance and realign governance with broader stakeholder interests.

Yet scholars argue that these reforms face deep structural and institutional barriers. Dammann and Eidenmüller (2021) contend that codetermination in countries like Germany relies on an entire ecosystem of complementary institutions, such as strong unions, robust collective bargaining frameworks, and cooperative labor–management relations, that the U.S. lacks. Without these foundations, board-level worker representation could become largely symbolic, offering the appearance of inclusion without meaningful influence over corporate strategy. They further argue that the U.S. legal framework, rooted in shareholder primacy and fiduciary duties to investors, fundamentally conflicts with governance models that redistribute authority to employees. Consequently, while proposals such as Warren’s and Sanders’s reflect a significant ideological shift toward democratizing corporate power, their implementation would require far-reaching institutional changes for codetermination to operate effectively in the American context.

3. Case Study: United Airlines 1995 ESOP

3.1 The Debate on Workplace Democracy in the U.S. Context

Driven by rising economic inequality and public scrutiny of corporate behavior, the debate over democratizing work continues to gain traction in the U.S.. To understand where it stands, it is crucial to evaluate concrete attempts to give workers a voice inside firms. While Germany and some other European countries' codetermination models provide robust legal and cultural foundations for worker representation, the U.S. has historically relied on more market-based mechanisms. One of the few large-scale American experiments in this direction was United Airlines' adoption of an Employee Stock Ownership Plan (ESOP) in 1995. According to the Corporate Finance Institute, ESOP is a type of benefit plan that gives employees partial ownership as a financial incentive to align their interests with a firm's performance ("Employee Stock Ownership Plan" Corporate Finance Institute). While this does not constitute actual worker representation, United Airline's plan was unique because it emerged through collective bargaining and explicitly incorporated governance elements – Workers gained the right to elect union representatives to sit in reserved seats on the board of directors. This plan made United Airlines one of the only large U.S. corporations in which employees held both substantial equity and representation on the board level. Examining this case helps illuminate what forms of worker representation are feasible within the U.S. institutional environment, and what structural constraints may limit their success.

3.2 Early Promise and Perceived Success of the 1995 ESOP

United Airline's 1995 ESOP was created at a moment of financial and labor tension (Ossi 2018). Employees accepted over \$700 million in wage concessions for a 55% ownership stake, making them the majority shareholders of the company (Flanigan 2002). At the time, this arrangement was widely seen as an innovative attempt to align worker interests with corporate goals while stabilizing labor relations in a turbulent industry. The early years of the ESOP

appeared to validate its promise. Productivity improvements, fewer labor grievances, and a significant rise in United's stock price suggested that ownership and worker representation could effectively motivate employees and support firm performance. For a brief period, the ESOP created a sense of shared purpose and mutual benefit: workers gained a financial stake in the company's success, and management benefited from enhanced operational efficiency. In this phase, United's experiment was often cited as evidence that worker ownership could serve as a pathway toward democratized corporate governance in the U.S..

3.3 Reasons Why ESOP Fell Apart

However, the deeper structural and cultural limitations of the model soon became apparent. United's ESOP was not designed to foster long-term participatory governance or embed employee voice into corporate strategy; rather, it was largely a defensive measure intended to block outsourcing, prevent corporate breakups, and secure immediate labor peace (Ossi 2018). Employees technically owned a majority stake, but ownership was fragmented among worker groups, creating tensions and limiting their ability to act as a unified shareholder bloc. Moreover, the U.S. corporate governance system did not support the development of a durable ownership culture (Hansmann 1999). Shaped by adversarial labor relations, shareholder primacy norms, and a weak legal framework for worker influence, ESOP provided mere symbolic power rather than strategic control. The pressures of the airline industry further destabilized the arrangement. By the early 2000s, United Airlines finally fell apart and filed for Chapter 11 bankruptcy ("Saving United Airlines" 2002). Employees lost much of their equity, and their "board influence" did little to prevent restructuring decisions that undermined their interests.

3.4 Aftermath, Legacy, and Lessons for the U.S.

United Airlines was able to save itself under restructuring, but worker representation as well as benefits continued to be a heated topic that often resulted in union protests. United Airlines maintains an ESOP structure in a much more limited form, but it no longer resembles the governance experiment of the 1990s. It is now just part of the benefit plan as a financial incentive, not a potential bargaining chip to block executive decisions. The legacy of this period

reveals important lessons for current debates on democratizing work in the U.S. context. ESOPs can serve as effective tools for financial alignment, employee retention, and motivational incentives; they can also support discrete labor-management compromises. Yet they cannot substitute for genuine governance participation in large corporations, particularly when the surrounding legal and cultural infrastructure does not support shared decision-making.

4. Analysis

4.1 Codetermination Requires Institutional Complements

Codetermination in Germany is not a plug-and-play solution, but rather one component of an interconnected institutional ecosystem. It succeeds there because it operates in tandem with strong labor organizations, supportive laws, and deeply ingrained norms of cooperation rooted from collective bargaining. In fact, codetermination has historically been a supplement to, not a substitute for, robust union representation and centralized collective bargaining (Jäger et.al. 2022).

Strong unions and works councils is one of the most distinctive characteristics of the German corporate governance environment. These powerful trade unions and legally mandated works councils at the shop-floor level articulate worker interests, negotiate collective agreements, and ensure that employee representatives on boards have an organized base of support. Board-level representation was never intended to stand alone; it sits atop a foundation of workplace participation that normalizes worker voice in governance.

The German legal frameworks and conflict-resolution mechanisms further complement a democratic corporate governance model. The German legal regime, such as the *Mitbestimmungsgesetz* and Works Constitution Act, not only requires employee board seats, but also prescribes procedures for cooperation. Works councils and management are obligated to pursue consensus and resolve disputes through dialogue rather than confrontation (Kochan 2018). This formal architecture protects worker representatives against retaliation and embeds

their role in corporate decision-making. In short, law and institutions set the stage for labor and management to approach each other as partners.

Perhaps most importantly, codetermination thrives amid a culture of labor–management trust that has evolved over decades. In the German context, corporate governance is shaped by norms of long-term orientation, consensus, and stakeholder responsibility, which provide the cultural foundations necessary for shared decision-making at the board level. These informal norms, often described as the “hidden infrastructure” supporting codetermination, shape expectations of cooperation and mutual restraint, allowing employee participation to function constructively rather than competitively (Flanigan 2002). With such norms absent, formal mechanisms of worker representation in the U.S. tend to produce limited effects, as board-level power sharing alone cannot overcome adversarial labor relations. The following section will provide a more detailed examination of how national cultural contexts condition the effectiveness of codetermination.

4.2 Cultural Fit Matters More Than Legal Design

Germany’s system of codetermination illustrates how trust, collective bargaining norms, and a consensus-oriented business culture operate as the “hidden infrastructure” to make worker representation effective (Thelen 2014). Diving deeper into the cultural context, the German system functions because their corporate governance is embedded in a culture of long-term decision making, social partnership, and stable labor–management cooperation (Streeck 2007). Because employees and employers expect to cooperate, sharing power on a board is seen as natural rather than antagonistic. On the other hand, the U.S. did not form such cooperative culture for several reasons. Scholars such as Lucian Bebchuk and Mark Roe explain that the U.S. corporate law evolved to institutionalize shareholder power and to limit stakeholder governance, producing a system where boards serve primarily as agents for investors rather than employees or the broader community (Bebchuk 2005; Roe 1993). Historical attempts to mimic codetermination, such as United Airlines’ ESOP, collapsed because these structures clashed with U.S. adversarial labor norms and litigation-driven dispute resolution (Murphy 2017).

This contrast underscores a core finding in comparative political economy: formal legal rules are never self-executing without the complementary cultural and institutional frameworks that shape behavior. Hall and Soskice’s work demonstrates that corporate governance systems depend on national norms of trust, cooperation, and long-term orientation, which are factors that determine whether codetermination succeeds or fails (Hall & Soskice 2001). In Germany, codetermination aligns with cooperative labor institutions; in the U.S., competitive and short-termist norms undermine it. Thus, codetermination cannot simply be transplanted. Its effectiveness rests upon cultural infrastructures of trust and reciprocity, not statutory mandates alone.

4.3 Partial and Fragmented Workforce Voice in the U.S.

It’s important to know that despite the lack of institutional structure and incompatible work culture, workers in the U.S. still have informal channels of “voice” in the workplace. Aside from ESOP, other channels will be discussed in this section with more details. Nevertheless, U.S. workers still “have no say in decision-making processes” at the board level, creating a voice-power mismatch, where employees can express opinions or feedback, yet lack the power to influence company direction in any binding way (The Library of Economic Possibility 2023).

One example of employee representation is employee councils and committees. Some firms, especially in tech, have internal forums, advisory councils, or engagement committees where employees can voice concerns or ideas. However, unlike European-style works councils, these bodies have no independent authority to negotiate or veto decisions. Without a union, standalone works councils are essentially illegal, as labor law deems employer-sponsored representative groups an unfair practice (Cass 2017). Thus, company-run councils tend to be consultative at best, reliant on management’s willingness to heed their advice.

In addition to councils, many organizations have turned to Diversity, Equity, and Inclusion (DEI) committees and Employee Resource Groups (ERGs). These groups aim to amplify employee voices on workplace culture and diversity issues. They can recommend policy changes or initiatives, but they also lack decision-making power or direct access to governance. Often, without strong executive support, such groups “feel heard, but not empowered”. The

company checks the box on listening to diverse voices, yet “nothing fundamentally changes” in policy or power structures (Mah 2025). In other words, DEI committees and ERGS often end up providing a mere space for voice without the power to hold the organization accountable.

Another mechanism is the HR business partner (HRBPs) structure. Many companies embed HR professionals in business units as liaisons for employee issues. While this gives employees a point of seemingly objective and neutral contact to voice concerns, the HR partners ultimately represent management interests. Their role is to align workforce feedback with corporate strategy, rather than to champion worker power. So while HRBP structure may facilitate better communication, it is no substitute for independent worker representation in governance.

These practices show there is real demand among U.S. workers for a greater voice, yet the mechanisms available remain weak substitutes for formal representation. Employees may participate in surveys, committees, or own shares, but they lack authoritative power to influence corporate governance decisions. In contrast to codetermination systems that embed employee power in oversight, the U.S. approach has been ad hoc and voluntary. Workers are encouraged to speak up, but their input can be easily overridden or ignored by management and shareholder priorities. As seen from the United Airline ESOP, U.S. firms with a history of labor conflict may see temporary boosts in morale or performance when employees feel listened to, either through financial stakeholding or other mechanisms. Without formal power-sharing, those gains are ultimately fragile.

4.4 Representation vs. Accountability

In discussions of corporate governance reform, the focus often centers on representation. For example, debating whether workers should have seats on corporate boards. But the more fundamental concern is accountability: how to ensure companies are answerable to all stakeholders, employees, customers, and communities, not just shareholders. In other words, the key question is not who sits on the board, but to whom the board is accountable. A lack of stakeholder accountability under the current shareholder-centric model has been linked to issues

like rising inequality and corporate behavior that disregards interests beyond shareholder returns (Bodie & Hayden 2022).

Worker board seats are just one tool in a broader stakeholder accountability system. Countries where codetermination thrives typically pair it with other institutional supports. Germany's governance model combines board-level worker representation with strong labor unions, shop-floor works councils, and legal mandates (Strine et.al. 2021) Simply adding a token employee-director to a traditional shareholder-focused board is unlikely to shift corporate priorities without complementary reforms, such as inclusive laws, stronger labor rights, and greater transparency in social and environmental performance.

As a result, policymakers started to prioritize accountability-focused governance reforms, such as the Accountable Capitalism Act (2018). This approach aims to curb short-termism and symbolic representation, while ensuring management is accountable to workers and communities, not just investors. Crucially, such measures are most effective when combined with broader structural changes that realign corporate incentives toward long-term, sustainable value for all stakeholders.

Ultimately, shifting the debate from “representation” to “accountability” reframes corporate governance reform as a question of outcomes and obligations rather than just inclusion. Worker representation through codetermination is a powerful means to give stakeholders a voice, but it should be viewed as part of a larger accountability architecture rather than a stand-alone fix.

5. Conclusion

The effects of employee board participation are context-dependent. Evidence from continental Europe, particularly Germany, shows that codetermination can function alongside competitive markets while reinforcing organizational stability, cooperation, and long-term strategic thinking. Its effectiveness is grounded not in board seats alone, but in a dense institutional environment that includes strong unions, legally empowered works councils, and

deeply rooted norms of collaboration. Within this ecosystem, worker representation tends to be substantive rather than symbolic, with empirical research indicating neutral to modestly positive effects on productivity and firm value, as well as greater resilience during economic downturns. The U.S. corporate governance remains dominated by shareholder primacy, and formal avenues for employee influence at the board level are largely absent. Although firms have experimented with alternative mechanisms, such as ESOPs, advisory councils, DEI, ERGs, and HRBPs. These arrangements primarily facilitate expression rather than authority. They allow workers to be heard, but rarely grant them meaningful leverage over strategic decisions. As a result, employee voice in the U.S. remains fragmented and contingent, lacking the institutional grounding necessary to shape corporate priorities in a durable way.

The United Airlines ESOP of 1995 underscores the limitations of introducing elements of shared governance without supportive legal and cultural foundations. Fragmented ownership, adversarial labor culture, weak legal protections for employee influence, and pressures from a highly competitive airline industry undermined the initial gains, even leading to destructive outcomes. United's experience illustrates that formal board representation alone is insufficient: without complementary institutions and norms of trust, worker voice risks remaining symbolic, unable to shape corporate strategy or long-term decision-making.

Through different studies and the United Airlines case, a recurring theme in the U.S. is the persistent gap between voice and power. While surveys, committees, or ownership plans offer employees avenues for feedback, they remain largely excluded from binding decision-making authority. Therefore, any meaningful reform will need to shift the focus from mere inclusion to stakeholder accountability, in which boards can be made responsible to a broader set of stakeholders beyond shareholders. In this sense, worker board seats should be understood as merely one component of a wider accountability framework, rather than a stand-alone remedy.

While the Germany–U.S. comparison provides valuable insights, it also highlights the limits of generalizability. Lessons from one context may not fully translate to countries with distinct legal, economic, or cultural frameworks. Future research should move beyond binary comparisons of codetermination versus no codetermination and explore hybrid or voluntary

models of employee voice suitable for shareholder-oriented systems. Comparative studies could examine how labor laws, capital markets, and political institutions shape the conditions under which worker participation enhances performance, stability, and social outcomes. Linking board-level employee representation to ESG performance, innovation capacity, and inequality reduction represents another promising avenue. Open questions include whether hybrid forms of board-level employee participation can succeed in shareholder-oriented economies, how they interact with broader organizational goals, and what institutional or cultural conditions are necessary for effective and sustainable workplace democracy. Addressing these questions can inform governance reforms that are both meaningful and adaptable across diverse contexts.

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SM460 Honors Capstone: Who Should Corporations Serve? A Comparative Study of Governance Models in US, Sweden, and Korea

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Abstract

Our comparative study of corporate governance in the United States, Sweden, and Korea shows how each country's history and institutional culture shape firm behavior, stakeholder relationships, and economic outcomes. We use country-specific case studies to show how these governance systems operate in practice. The paper begins by outlining the two main governance models: shareholder primacy and stakeholder inclusion, and explains why governance matters for both economic performance and broader societal outcomes. We then provide a brief history of how each country's governance system developed and how those developments shaped their current structures. Finally, we compare the three models and discuss their political implications and the global trends shaping corporate governance today.

Research Question

How do different corporate governance models, particularly shareholder primacy and stakeholder-inclusive systems, affect firm performance and societal outcomes across Sweden, Korea, and the United States?

Introduction

In an ever-evolving world, businesses face a myriad of challenges both internally and externally. At the center of every business lies a framework that management utilizes to guide the business forward. This framework shapes the way each business approaches corporate governance and helps management determine the answers to crucial questions such as who should the corporation serve and how. Should the focus be on maximizing profits and return for shareholders or should the focus be on the collective outcome for all stakeholders? In order to understand the importance of corporate governance and the necessity of having sound corporate governance models, it is essential to understand what governance really means. Boards and leadership within a company define how they allocate resources, balance interests, and affect society (Aguilera, Desender, & Kabbach-Castro, 2012). Depending on which interests they prioritize, their decisions influence how money flows through the economy, the types of growth that occur, and who ultimately holds power within society.

Corporate governance creates a chain-like reaction: the rules shape incentives, incentives shape how managers behave, and management behavior ultimately affects firm and societal outcomes.

This results in feedback of the effectiveness of the current governance, which then influences how governance evolves. Seeing how much governance affects things like fairness, innovation, wages, and public trust is what fuels our motivation to compare different governance systems in the first place. And when we look at countries like the United States, Sweden, and Korea, it becomes clear that there is no “best” corporate governance model. Each system’s effectiveness depends on its own national context, legal institutions, and cultural values (Haxhi, 2023).

Before diving into the models used in Sweden, Korea, and the United States, it helps to be clear on what we mean by “governance” in the first place. Governance covers everything from who owns the firm, to how the board is set up, to voting rules, and the protections given to different stakeholder groups (Aguilera et al., 2012). In practice, these pieces do not work on their own, they come together as bundles of practices that complement one another (Aguilera et al., 2012). The two most common bundles are the shareholder-primacy model and the stakeholder-inclusive model. The shareholder-primacy model emphasizes efficiency and accountability to investors, while the stakeholder-inclusive model emphasizes inclusivity, balancing the interests of employees, customers, and society, and long-term sustainability.

The goal of the shareholder primacy model is to maximize shareholder value. The pros of this system include clear accountability and reliance on market discipline to keep managers in check. At the same time, it can lead to short-termism thinking and can neglect to consider workers and the community. On the other hand, the goal of the stakeholder-inclusive model is to balance the interests of all members of society. The pros of this model are that this can encourage collaboration, better sustainability, and a focused long-term vision. The cons are that success of corporations can be harder to measure as there is no one metric that can be used to evaluate performance and weaker accountability as the firm is not accountable to solely one party.

As mentioned before, governance is crucial because of its ability to shape incentives that determine economic and social outcomes. Research shows that strong shareholder rights link to higher valuation (Gompers, Ishii, & Metrick, 2003) but also that stakeholder inclusion can enhance innovation and social legitimacy (Hall & Soskice, 2001). Additionally, there is evidence that employee satisfaction raises long-term returns (Edmans, 2011). These findings show that both models have strengths, which is why understanding where each system works best is important. To explore this, it helps to look at how governance systems developed historically in Sweden, Korea, and the United States.

First taking a look at the United States, much of the U.S. governance model is shaped by and has evolved as a result of common law (Cheffins and Reddy, 2025). There has also been a long-standing fiduciary responsibility to shareholders. In the *Dodge v. Ford Motor* case of 1919, the court determined that the corporation is primarily for the purpose of serving shareholders and cannot prioritize anything over shareholder returns if it conflicts with profit maximization

(Dodge v. Ford, 1919; eBay v. Newmark, 2010). More recently, since the 1980s, there has been a trend of deregulation and greater stakeholder activism.

In Sweden, there have long been social democratic roots and codetermination tradition (Codetermination Act 1976). According to Högfeldt, the Swedish Social Democratic Party played a major role in maintaining the stability of corporate ownership throughout much of the 20th century despite political upheavals, wars, economic crises, and changing social policies (Högfeldt, 2005). There is also a history of long-term family control and union collaboration (Högfeldt, 2005). In order to maintain family control, firms often used dual-class shares to keep control within the family despite a smaller economic stake in the company (Högfeldt, 2005).

In Korea, following the war, there was a period of state-led industrialization that led to the formation of chaebols, which are large, family-controlled conglomerates (Bae, Kang, & Kim, 2002). The Asian Financial Crisis of 1997 resulted in more changes. Part of these changes included the reform of the IMF, which resulted in independent directors and enhanced disclosure and transparency becoming mandatory (Black, Jang, & Kim, 2006).

With these historical evolutions of governance in mind, we will now dive deeper into the models used throughout the three countries.

Literature Review

Corporate governance is the rulebook of how a company is managed and held accountable for its decisions. It includes who actually holds authority like owners, boards, or managers, and how decisions are made through voting rules, board organization, and internal procedures. It also covers how different groups such as shareholders, workers, creditors, customers, and communities are protected when there is a conflict of interest. The research shows that governance is not just one rule or model. It's a mix of practices that grow together over time, shaped by things like who owns companies, what boards look like, and what the law requires (Aguilera, Desender, & Kabbach-Castro, 2012).

Governance is not a single rule but a conglomerate of practices that fit together, differing in ownership structure, board composition, legal duties, and labor power (Aguilera, 2012). These bundles are shaped by each country's legal system, political history, and business culture. Some places developed strong worker protections, while others built systems focused on investors or family ownership. Because of that, different countries end up with different governance styles that still work well for them and fit their own needs and traditions (Haxhi, 2023).

One of the central debates regarding corporate governance is between shareholder primacy in comparison to a stakeholder inclusive approach. In a shareholder primacy model, managers are

accountable to shareholders, in other words the owners, and success is measured by the value provided to them on a monetary basis (Palladino, 2019). However, in a stakeholder inclusive model, boards are expected and in some cases even required by law, to consider employees, suppliers, customers, creditors and communities when making a decision (Bebchuk & Tallarita, 2020). In case of shareholder primacy, critics argue that it can motivate managers to make short term decisions without taking into account workers and other members of the community, whereas supporters consider that it creates clear accountability and allows for efficient capital markets (Freeman, 1984). Overall, both viewpoints are supported by evidence, however it's key to understand the cultural and legal circumstances of each company to decide its ideal system.

The US: Shareholder Value Above All

The United States has a sharply shareholder oriented model, U.S law and markets are widely regarded as prioritizing shareholders and maximizing the value provided. A classic article argued that corporate law worldwide had converged towards this model (Hansmann & Kraakman, 2001), citing the famous case of *eBay v. Newmark* to demonstrate that U.S corporate law, prioritizes stockholder value by law unless the company's charter says so (Del. Ch. 2010). All of this happened before the Business Roundtable's 2019 statement, declaring a shift to 'maximizing value for all stakeholders' (Business Roundtable, 2019). However, there is little evidence to demonstrate a substantial shift in board incentives aligned with this philosophy (Bebchuk & Tallarita, 2022). In short, the U.S keeps clear accountability to the stockholders and relies on regulation, labor law and other policy to protect its stakeholders.

An approach which has proven successful, since studies link stronger shareholder rights to higher valuation and overall an increase in long term return. For example, a study by Gompers, Ishii and Metrick from the *Journal of Economics* (Gompers, P. A., Ishii, J. L., & Metrick, A. , 2003), found that firms with lesser anti-takeover protection, earned superior returns. However, some investments on the 'stakeholders' have also proven successful, since studies show that firms with high employee satisfaction earned higher returns, suggesting that markets may undervalue investments in their human capital (Edmans, 2011).

Sweden: Stakeholder Governance in Action

As for Sweden, they developed a stakeholder-inclusive model with concentrated ownership, aspiring to combine the strengths of both systems. Most large Swedish companies have a long-term "block holder," usually a family or foundation, that owns a big enough stake to guide major decisions (Högfeldt, 2005). These owners want to stay in control for several generations so Sweden uses dual-class shares which allows for some shares to carry extra votes allowing for controlling owners to keep their decision power even if they do not own the majority of the stock (Cronqvist & Nilsson, 2003). In addition, according to Swedish law, workers get formal board representation and recognition. Workers can elect two to three board members through their unions who will participate in major decisions alongside other directors (OECD, 2025).

Usually, large Swedish firms will have long term family owners that keep control with dual-class shares, being able to guide the strategy of the company even if they don't own most of the cash flow. A prominent example would be the Wallenberg Family Foundation which controls Investor AB, a majority investor in many Swedish blue chip firms. Even if they own a smaller slice of the money rights, they still hold considerable votes. An example figure is roughly 20% of capital rights but 40% of votes (Investor AB, n.d.a). This represents a beneficial system since it protects management from short term pressure and is able to focus on long term strategy, R&D, and better information flow from the floor to the board (Hall & Soskice, 2001).

However, critics argue that this setup can weaken protections for minority shareholders. When a controlling owner has more voting power than the amount of the company they actually own, they can push decisions that benefit themselves while smaller shareholders suffer most of the downside. This problem is called the “private benefits of control problem” (Cronqvist & Nilsson, 2003). Sweden uses laws on related party deals, independent audit committees, active investors, disclosure and strong reputational norms which are aimed at keeping those controllers honest and in check (OECD, 2025).

Korea: Balancing Family Power and Reform

Lastly, Korea's corporate governance system historically concentrates power in family groups that control webs of affiliated firms. These firms are legally separate companies within the same business group, connected by ownership stakes and common controllers. These business groups are called ‘chaebol’ (Bae, Kang, & Kim, 2002). The founding family sits at the top of the business group and under Korean law each company in that group is an affiliate of the others. The control is achieved through structures similar to pyramids, where Company A will control Company B who controls Company C, and cross-shareholding, where affiliates own shares in others. Through this complex structure, the family can direct the whole group while holding modest direct capital stakes (Black, B. S., Jang, H., & Kim, W. 2006). Usually, Chaebols are typically diversified across industries instead of one only sector. Some of the most prominent groups would be the Samsung Group, owning stakes across energy, life sciences, etc.

However, after the financial crisis in the late 90s, the Korean government required companies to have independent directors, in other words, board members who had no prior ties to the firm (Choi, Park, & Yoo, 2007). This was meant to limit how much control the founding families had, improve oversight, and prevent the kind of risky insider deals and heavy borrowing within the groups that helped create the crisis in the first place. Research shows that implementing this policy was in general associated with higher firm valuations and governance scores (Black, Jang, & Kim, 2006). Even with these reforms, critics argue that related-party deals inside business groups still happen and often hurt minority investors. These deals also raise the risk of tunneling, where valuable assets are moved from one affiliate to another in ways that benefit the family

more than the shareholders (Bae, Kang, & Kim, 2002). Most recently, Korea introduced the Korea Stewardship Code, a voluntary set of principles for investors pushing for more transparency. The National Pension Service adopted it with the aim of pushing large investors to more active oversight (KCGS, 2016). Since the code is voluntary, it nudges companies to follow this behavior, and does not strictly enforce them to do so.

Nevertheless critics still argue against the concentration of power and ownership, since research shows evidence on chaebol intra-group mergers acquiring affiliate's stock at a lower price, consistent with tunneling (Bae, Kang, & Kim, 2002). Similarly, some experts argue that there is a lack of legal and reputational checks (Cronqvist & Nilsson, 2003). The middle ground can be found when we consider concentrated control can be value creating when it is adequately paired with strict safeguards, such as independent directors or disclosure. Without this control, the system can focus on tunneling and value extraction, creating an unfair environment for other shareholders. The post-crisis governance reforms were an attempt to maintain the benefits of coordinated groups while minimizing the cost for minorities (Black et al., 2006).

When the systems are compared side by side, their priorities become clearer. The U.S. has dispersed ownership and strong shareholder rights, which pushes companies to focus on returns and fiduciary duty. Sweden's system is built around concentrated, long-term owners, strong worker representation, and a high-trust environment that makes it easier for firms to invest patiently and coordinate with labor. Korea sits somewhere in the middle: its Chaebol groups benefit from coordinated development and resources, but the family control also creates governance risks, which recent reforms have tried to address with stronger protections for minority shareholders. These differences help explain why countries see different firm outcomes. In shareholder-oriented systems like the U.S. and Korea, research shows that stronger shareholder rights tend to align with higher valuations (Gompers et al., 2003). In stakeholder-focused systems like Sweden, the literature highlights better information flow and long-term investment, while also warning about downsides of dual-class control (OECD, 2025).

As a result, there is not a clear industry view on which system to adopt as ideal. Stakeholder-governance advocates propose some legal and policy tools, such as worker board seats or charter changes to achieve a more equal power spread (Roosevelt Institute, 2019). However, critics argue that a pure vision of stakeholder governance, may not reliably deliver to workers or communities, arguing for stronger regulation and clear oversight of managers (Bebchuk & Tallarita, 2022). Overall, the argument becomes more of which mix of board rules, ownership spread or labor inclusion may produce the best outcome, rather than which system is better.

The Three Models

I. The US: Shareholder Primacy

Structure and Historical Foundations

The United States (U.S.) represents the clearest example of a shareholder-primacy governance system. U.S. corporate law, market structure, and board incentive structures are built around the principle that firms exist primarily to maximize value for shareholders. Boards and directors are legally expected to prioritize shareholder interests unless a corporation explicitly adopts an alternative purpose, and judicial precedent has consistently reinforced this expectation (Practical Law Corporate & Securities, 2023). As a result, shareholder value maximization has become the default governing objective across most publicly traded U.S. corporations.

The legal foundations of this model emerged early in the twentieth century. Early cases like *Dodge v. Ford Motor Co.* (1919) established that corporations are organized primarily for the benefit of shareholders, constraining managerial discretion to pursue broader social objectives. This principle was reaffirmed nearly a century later in *eBay v. Newmark* (Del. Ch. 2010) where it was ruled that directors may not subordinate shareholder interests to generalized stakeholders goals unless such priorities are explicitly embedded in the corporate charter. Since most American companies do not incorporate stakeholder obligations into their government documents, directors remain legally bound to shareholder primacy (Lipton, 2024).

The legal architecture aligns closely with dominant academic theories. Agency theory articulated by Jensen and Meckling (1976), conceptualizes managers as agents for shareholders and should therefore be monitored and incentivized to act in the shareholder's best financial interests. Milton Friedman (1970) added to this perspective by arguing that a company's main social responsibility is to increase its profits. Together, these legal precedents and theoretical frameworks explain why shareholder primacy remains deeply embedded in U.S. corporate governance.

Ownership Structure and Market Discipline

The U.S. governance model is also shaped by its distinctive ownership structure. Unlike coordinated systems such as Sweden or Korea, where families or the state often hold large ownership blocks, most American companies have thousands of dispersed investors claiming ownership. This dispersion is made possible by developed capital markets, strong legal protections for shareholder rights, and high liquidity. Investors can buy and sell shares quickly and at low cost, creating a constant market-based discipline on management.

This environment generates strong external monitoring through stock prices, takeover threats, and activist investors. If shareholders disapprove of managerial decisions, they can exit by

selling their shares, putting downward pressure on the firm's market valuation. Consequently U.S. managers face continuous incentives to emphasize efficiency, profitability and stock price performance. Scholars like Hansmann and Kraakman (2001) famously argued that these characteristics represented an "end of history" for corporate governance, predicting convergence toward the shareholder-oriented U.S. model due to its perceived efficiency and transparency.

Empirical research has lent support to this view. Gompers, Ishii, and Metrick (2003) demonstrated that firms with stronger shareholder rights, meaning greater investor power and fewer managerial protections, exhibited higher firm valuations and superior long-term returns. Their findings reinforced the belief that strong shareholder-centered governance structures produce measurable financial benefits.

Performance Trade-offs and Systemic Limitations

The strengths of shareholder primacy lie in its ability to generate disciplined, high performing firms. Strong investor oversight and performance-linked executive compensation tend to align managerial actions with shareholder interests, driving operational efficiency and financial results. Gompers et al. (2003) show that companies with governance structures favoring shareholders outperform those with weak oversight. Firms operating within this system are often quick to adapt to market signals and capital allocation pressures.

However, the model's limitations are increasingly well documented. Because managerial performance is evaluated heavily through quarterly earnings and stock price movements, shareholder primacy can encourage short-termism. Unlike stakeholder-oriented systems, the U.S. does not mandate employee representation on corporate boards, which can reduce the influence of labor and other non-shareholder perspectives in strategic decision-making. As a result, long-term investments in workforce development, organizational culture, or innovation may be deprioritized if they do not yield immediate financial returns.

Edmans (2011) found that firms with high employee satisfaction outperformed their peers over long horizons, suggesting that capital markets may undervalue investments with delayed payoffs. This creates a structural tension for U.S. managers: while long-term stakeholder investments may enhance firm value over time, short-term shareholder pressure often discourages such strategies.

Outcomes and Evolution: Case Studies in Governance Performance

The consequences of shareholder primacy vary substantially across firms, depending on how governance mechanisms and incentives are implemented. Examining firm-level case studies illustrates both the potential strengths and systemic risks inherent in the U.S. model.

Apple: Shareholder Primacy as Strategic Discipline

Apple provides a high-performing example of shareholder primacy functioning effectively. The firm operates under intense market scrutiny, with executive compensation tightly linked to stock performance, cash flow generation, and shareholder value creation. This accountability has contributed to a culture of cost discipline, high margins, and careful capital allocation.

Apple's board structure further reinforces shareholder accountability. The board is composed predominantly of independent directors with deep expertise in technology, finance, and global operations, strengthening its ability to monitor management effectively. While Apple remains founder-influenced in culture, its governance is notably distinct from founder-controlled firms. Unlike many founder-controlled firms, Apple maintains a one-share, one-vote structure with no dual-class shares, ensuring equal voting rights and exposure to market discipline and potential shareholder activism.

A defining feature of Apple's governance approach is its extensive capital-return program. Since 2012, the company has given more than \$650 billion to shareholders through dividends and share repurchases, which is the largest capital-return program in corporate history (Bloomberg, 2023). Despite these payouts, Apple has maintained robust investment in research and development, product innovation, and human capital. In a shareholder primacy model Apple is appealing towards shareholders along with their customer base.

Overall, Apple represents a "best-case scenario" of shareholder primacy. It's a company that keeps shareholders at the center of its decisions and capitalizes on continuous innovation to keep customers engaged. Apple's sustained financial performance and competitive positioning indicate that shareholder primacy, when coupled with disciplined governance and strategic clarity, can support long-term value creation.

Wells Fargo: Heading

In contrast, Wells Fargo illustrates the risks associated with shareholder-primacy when incentive structures and oversight mechanisms fail. For years, the bank emphasized aggressive cross-selling targets to demonstrate growth to investors, tying employee compensation and executive bonuses to customer-account metrics. If these numbers were hit, managers and executives would get bonuses, so there was a lot of pressure to keep investors happy even when the goals were unrealistic. Employees said that if they didn't hit their goals, they could lose their jobs or get demoted, so the pressure spread across the company. Investigations later found that this pressure led to the creation of millions of fake customer accounts being opened just to meet quotas (United States Department of Justice, 2020).

The scandal reflected not merely excessive focus on shareholder value, but compounded governance failures. Internal controls provided ineffective, cultural barriers discouraged upward reporting of misconduct. Power remained concentrated among senior executives and the board.

The pursuit of short-term performance metrics amplified these weaknesses. The bank's reputation was heavily damaged and cost them billions in penalties. It also led to strict oversight still current. In this case, shareholder primacy didn't create healthy incentives. Rather, it pushed the company to focus on short-term numbers instead of ethical behavior and long-term trust.

In this case, shareholder primacy exacerbated incentives that undermined ethical behavior and long-term firm value. Shareholder primacy did not serve its intended role of promoting efficiency and accountability. Instead, it narrowed managerial focus to narrowly defined financial indicators, enabling behavior that ultimately destroyed firm value. Wells Fargo thus demonstrates that shareholder primacy is not inherently value enhancing. When incentive alignment, board oversight, and internal governance mechanisms are inadequate, shareholder-oriented systems can generate incentives that undermine ethical conduct and long-term firm performance.

Comparative Implications and Ongoing Tensions

The comparative experiences of Apple and Wells Fargo illustrate how shareholder primacy can produce sharply divergent valuation outcomes. Strong board independence, incentive alignment, and disciplined capital allocation have reinforced market confidence, resulting in sustained high valuations and durable investor trust. Capital returns through dividends and share repurchases have signaled financial strength without crowding out investment, allowing markets to price Apple as a firm capable of both returning excess cash and sustaining future growth. In this context, shareholder primacy has functioned as a credible commitment mechanism, reducing agency costs and supporting valuation stability. Shareholder primacy can deliver great financial performance when paired with strong internal controls and long-term strategic discipline, but it can also incentivize harmful short-term behavior when monitoring and ethical safeguards fail.

In 2019, the Business Roundtable made a statement that companies should serve all stakeholders, not just shareholders, but this had limited practical impact or execution (Bebchuk & Tallarita, 2022). The real incentives like executive pay, board expectations, and investor pressure still revolve around shareholder value. Apple shows how this model can work well, that the company focuses on shareholder performance but still invests in long-term innovation and stability. Whereas Wells Fargo shows the downside, where this pressure to meet these shareholder driven targets enabled poor behavior. Together, these examples highlight the ongoing tension in the U.S. system. Companies are expected to care about employees, communities, and long-term impact, but the structure of the system still pushes leaders to prioritize short-term financial results.

These cases underscore that shareholder primacy is valuation-enhancing only when supported by robust governance institutions. The principle itself does not guarantee superior outcomes; rather, valuation effects hinge on how effectively boards, incentive systems, and internal controls constrain short-termism and protect long-term value.

II. Sweden: Stakeholder Primacy

Structure and Historical Foundations

Sweden is widely regarded as one of the clearest contemporary examples of a stakeholder-oriented corporate governance system. Unlike the Anglo-American model, which prioritizes shareholder value maximization and individual wealth accumulation, Swedish corporate governance reflects a communitarian institutional framework in which firms are viewed as embedded social institutions rather than purely contractual arrangements. The Swedish model seeks to balance the interests of shareholders, employees, long-term owners, and society, emphasizing coordination, stability, and long-term value creation.

The governance structure alongside Sweden's broader political economy, characterized by coordinated wage bargaining, strong unions, and an encompassing welfare state. Corporate governance institutions evolved in parallel, embedding mechanisms that grant labor and long-term owners formal influence over corporate strategy and oversight. Rather than relying primarily on market discipline, Swedish firms operate within an institutional environment that prioritizes cooperation, information sharing and intertemporal investment, reducing volatility while supporting sustained industrial competitiveness.

Ownership Structure and Control Mechanisms

A defining structural feature of Swedish corporate governance is the prevalence of concentrated ownership, often reinforced through dual-class share structures that give certain shareholders, typically founding families, superior voting rights. Cronqvist & Nilsson (2003) document how Sweden has one of the highest rates of dual-class firms globally, enabling controlling shareholders to retain strategic influence even without majority cash-flow rights. This structure supports long-term investment by insulating firms from short-term capital market pressures.

In the Swedish context, concentrated ownership functions as a stabilizing governance mechanism. Controlling shareholders typically act as long-horizon stewards rather than short-term profit maximizers, prioritizing reinvestment in innovation, sustainability, and firm-specific human capital. This structure facilitates investments that may generate uncertain or delayed returns but are critical for maintaining competitive advantage in advanced manufacturing and technology-intensive industries.

However, this separation between voting rights and cash-flow rights also has important governance implications. While it reduces exposure to short-term market volatility, it simultaneously weakens the market for corporate control as an external disciplining mechanism. Underperforming firms are less susceptible to hostile takeovers or activist intervention, allowing inefficient management or strategic inertia to persist. This creates scope for the extraction of private benefits of control and increases the risk of underperformance. Although regulatory

oversight, disclosure standards and social norms mitigate these risks, they remain embedded within the system and underscore the trade-off between stability and market discipline.

Stakeholder Representation and Institutional Coordination

Swedish corporate governance further institutionalizes stakeholder participation through employee board representation. Under co-determination rules, employees elect one to two representatives to corporate boards (OECD, 2025) granting labor a formal voice in strategic decisions. This reflects Sweden's broader communitarian institutional framework, characterized by coordinated wage bargaining, strong unions, and high levels of labor-market cooperation.

Employee representation reduces information asymmetries between management and labor, facilitates trust during restructuring, and improves workforce acceptance of long-term investment and adjustment strategies. By embedding employees directly into governance structures, Swedish firms experience lower labor conflict, higher productivity and smoother adaptation to technological change.

Long-Term Owners, Formal Oversight and Minority Protection

A unique strength of the Swedish system is the presence of long-horizon family owners and industrial holding companies that provide strategic continuity and stewardship. The Wallenberg family, through Investor AB (Investor AB, n.d.-a), exemplifies this model by maintaining controlling stakes in Sweden's most significant industrial firms. These owners function not merely as residual claimants but as long-term custodians of industrial capabilities, emphasizing reinvestment, innovation, and global competitiveness across generations. Their governance role reinforces norms of responsibility and continuity, compensating in part for the reduced role of market-based discipline.

To counterbalance concentrated control, Swedish corporate governance relies heavily on formal oversight mechanisms. Independent audit committees and strong board structures enhance accountability and monitor potential conflicts of interest associated with controlling shareholders. Swedish law also mandates high standards of disclosure for financial reporting, ownership structures, and related-party transactions (OECD, 2025), reducing information asymmetries and protecting minority shareholders. The “comply or explain” governance framework further encourages best practices while allowing flexibility consistent with long-term ownership and stakeholder participation.

Together, these governance and social institutions form the foundation of Sweden's economic performance. By embedding firms within a communitarian governance framework that prioritizes coordination, long-term investment, and stakeholder inclusion—rather than relying primarily on market discipline—Sweden has fostered innovation, adaptability, and sustained growth. At the same time, the attenuation of the market for corporate control highlights an

inherent trade-off in stakeholder governance, in which stability and continuity are gained at the potential cost of prolonged underperformance when internal governance mechanisms fail.

Outcomes and Evolution: Case Studies in Governance Performance

Sweden ranks among the world's highest performers in research intensity, technological sophistication, and innovation capacity. Hall & Soskice (2001) argue that in coordinated market economies, firms benefit from institutional complementarities that support incremental and advanced innovation. Global leaders such as Ericsson, Volvo, Atlas Copco, Sandvik, and ABB have built their competitive advantages on precisely these capabilities. As a result, Sweden consistently ranks near the top of the Global Innovation Index and spends roughly 3–3.5% of its GDP on R&D, one of the highest levels in the world. These investments have produced a high-value industrial ecosystem capable of sustaining global leadership in complex engineering and manufacturing fields.

Sweden's stakeholder model also produces outcomes beyond technological competitiveness. Strong labor-management cooperation reduces workplace conflict and increases the legitimacy of corporate decisions. Workers have greater job security, more transparent access to information, and influence over major decisions such as downsizing or restructuring. These dynamics support a stable macroeconomic environment with lower income inequality, high employment rates, strong social protections, and a commitment to balancing economic growth with societal well-being. The system therefore supports not only firm-level competitive performance but also broad-based social welfare.

Despite its strengths, the stakeholder model contains inherent weaknesses. Dual-class share systems can weaken the protection of minority shareholders, especially foreign investors who may be less familiar with Swedish norms of stewardship. Cronqvist & Nilsson (2003) highlight the risk that controlling shareholders may use their voting power to extract private benefits or pursue agendas that do not maximize firm value. While Sweden's stringent disclosure rules, active institutional investors, and strong regulatory oversight mitigate many of these concerns, the potential for governance imbalances remains a persistent point of critique in international capital markets.

Overall, the Swedish corporate governance system delivers exceptionally strong outcomes—high innovation, stable labor relations, global industrial competitiveness, and broad social cohesion—demonstrating that a stakeholder-oriented model can be both economically effective and socially sustainable.

Atlas Copco: Strategic Autonomy and Stakeholder Alignment

Atlas Copco is widely regarded as one of Sweden's most successful stakeholder-governance firms. Founded in 1873, the company has evolved into a global leader in industrial tools, compressors, and equipment—fields requiring continuous innovation and close collaboration with customers. Their high profitability and consistent margins (~21.6% operating margin)

reflect efficient operations and sustainable business strategy, not short-term cost cutting. A strong ROCE of ~28% suggests the company efficiently turns capital into profits. This is a sign of disciplined long-term capital allocation and stable governance.

Crucially, Atlas Copco's stakeholder governance framework has complemented, rather than constrained, strategic decision-making. Employee representation and strong union presence are integrated into formal governance structures, creating dense channels of information flow between workforce and management. This institutionalized dialogue supports continuous skills development, process innovation, and organizational learning—critical in advanced manufacturing sectors where tacit knowledge accumulation drives competitiveness. Rather than fostering rigid labor relations, stakeholder participation has enhanced adaptability and productivity by aligning employee incentives with the firm's long-term strategic objectives.

At the ownership level, the use of dual-class share structures has reinforced strategic stability by enabling concentrated control while maintaining access to public capital markets. This insulation from short-term shareholder pressure has allowed Atlas Copco to pursue sustained investment in R&D, customer-specific innovation, and global capacity expansion without compromising financial discipline. Unlike cases of stakeholder failure, concentrated ownership at Atlas Copco is paired with strong internal controls and a coherent strategic vision, preventing managerial entrenchment while preserving autonomy.

Together, these institutional and organizational features illustrate why the stakeholder model has proven effective in Atlas Copco's case. Stakeholder governance functions not as a substitute for profitability, but as a mechanism that supports long-term investment, internal coordination, and strategic continuity. The contrast with firms such as Saab highlights that stakeholder capitalism is most successful when embedded within ownership structures that preserve strategic autonomy, ensure adequate capitalization, and align internal decision-making authority with long-term corporate objectives.

Saab Automobile: Ownership Challenges

While many Swedish firms have prospered under stakeholder-oriented corporate governance, the failure of Saab Automobile illustrates that this model is neither self-enforcing nor universally stabilizing. Saab, once recognized for engineering sophistication and distinctive design, filed for bankruptcy in 2011 despite operating within Sweden's institutional framework of strong unions, employee representation, and historically patient industrial ownership. Its collapse highlights how stakeholder governance can prove ineffective when firms become embedded in ownership structures that undermine strategic autonomy. Saab's trajectory diverged sharply from more successful Swedish companies following General Motors' (GM) acquisition of a controlling stake in 1990, which introduced a fundamental misalignment between Sweden's stakeholder-oriented governance norms and GM's centralized, shareholder-driven strategic logic.

Under GM ownership, strategic decision-making authority was concentrated in Detroit, often without sustained consideration of Saab's niche positioning within European premium markets. Although Sweden's stakeholder institutions remained formally intact, they were insufficient to counterbalance the power asymmetries created by foreign corporate control. Saab lacked effective representation within GM's internal capital markets, and long-term brand development was consistently subordinated to short-term cost containment. This erosion of strategic influence contributed directly to organizational drift and declining competitiveness.

By the late 2000s, Saab's global sales had collapsed from a peak of over 130,000 vehicles annually in the 1980s to fewer than 33,000 units in 2010, severely reducing economies of scale (Oliver & Holweg, 2011). European market share fell below 1%, research and development expenditures were repeatedly curtailed, and model renewal cycles lagged key competitors, accelerating the firm's competitive decline (Oliver & Holweg, 2011). These outcomes underscore the limited capacity of stakeholder institutions to safeguard firms against sustained underinvestment when strategic control rests elsewhere.

Saab's vulnerability deepened as it became strategically dependent on GM-controlled platforms, powertrains, and capital without corresponding decision-making autonomy. Weak board-level representation prevented Saab from influencing investment priorities or safeguarding long-term capabilities. GM's divestment of Saab to the under-capitalized Spyker group in 2010 further exposed these structural weaknesses. Saab exited the GM group without sufficient financial buffers, remained constrained by GM-owned intellectual property that restricted access to international partnerships, and suffered from weak internal financial governance and liquidity management. Swedish government oversight of the restructuring was limited and largely procedural, failing to impose meaningful conditions on capitalization, governance reform, or ownership suitability. As a result, stakeholder governance institutions proved unable to compensate for failures of corporate control, leaving Saab without the strategic or financial capacity necessary for survival.

Valuation Implications and Comparative Assessment:

The divergent firm-level outcomes in Sweden demonstrate that stakeholder governance does not uniformly protect individual companies from failure. However, the system's aggregate performance and its record of producing competitive firms suggest that its effects should be assessed at the level of long-term value creation rather than short-term survival. From a valuation perspective, Sweden's stakeholder model tends to favor stability, innovation capacity, and sustained cash-flow generation, even while accepting greater similarity in firm-level outcomes.

At the same time, the Swedish model generates distinct valuation trade-offs. Dual-class share structures and concentrated control can weaken minority shareholder rights and reduce market liquidity, potentially increasing firm-specific governance risk and valuation discounts. The Saab case illustrates how stakeholder institutions alone cannot offset failures of strategic autonomy,

capitalization, or corporate control. In such instances, valuation collapses rapidly as cash-flow expectations deteriorate and access to external capital tightens. By contrast, cases such as Atlas Copco demonstrate how stakeholder governance can enhance valuation sustainability when embedded in ownership structures that preserve strategic coherence, internal discipline, and credible long-term investment commitments.

In comparative terms, the Swedish system produces fewer high-growth, short-horizon equity outcomes than Anglo-American markets but excels at generating durable, cash-generative firms with strong global positions. This pattern is visible in Sweden's high R&D intensity, export competitiveness, and the persistence of globally leading industrial firms despite relatively small domestic capital markets. From a macro-valuation perspective, stakeholder governance in Sweden appears to operate as a risk-sharing and coordination mechanism, shifting value creation toward long-term productive capacity rather than near-term shareholder extraction.

Overall, the Swedish case illustrates that valuation outcomes are fundamentally shaped by institutional context. Governance arrangements, social norms, and ownership structures jointly influence firms' risk profiles, capital allocation choices, and strategic behavior. While stakeholder governance does not eliminate firm-level failure, it systematically reorients valuation toward long-term stability and innovation-led growth, offering a credible alternative to shareholder-dominant models of corporate governance.

III. Korea: The Hybrid Model

Structure and History

Korea's corporate governance system grew out of its history of rapid, state-led industrialization, which pushed the formation of large, family-controlled business groups. These groups, known as chaebol, consist of legally separate companies that are tied together through complicated shareholding links and pyramid ownership structures (Bae, Kang, & Kim, 2002; Black, Kim, 2006). Over time, this created a governance model that looks different from both the U.S. system and Sweden's coordinated stakeholder approach. Instead, Korea ended up with a hybrid structure where concentrated family control and interconnected ownership networks play a central role.

The term 'chaebol' developed during the presidency of Park Chung Hee and his policy of state development during the 1960s and 1970s. The government deliberately helped these business groups as vehicles for rapid economic development. This created a sort of partnership, where the state provided priority access to capital through banks that were state owned, guaranteeing foreign loans and awarding major project contracts to select 'chaebols' in exchange for meeting government export and production targets (How State Capacity Drives Industrialization, 2020). This alliance created a term that academics coined as 'guided capitalism', where plans originated from the government and chaebols executed them. It resulted in a concentration of economic

power and produced corporations capable of competing globally, but also governance structures that later proved to be problematic (Korea's Economic Development - Chung-hee, 2022).

The characteristics of chaebol governance are unique, since the founding family will usually sit at the top of the group, consolidating control through two mechanisms: pyramid ownership, where Company A will control Company B, which in turn controls Company C. As well as cross shareholding, where affiliates own shares of each other, sort of in circular patterns that maintain ownership. Thanks to these structures, families can direct the entirety of their groups while holding modest cash positions (Bae et al., 2002). Moreover, some academics on Korean chaebols state that controlling families in some cases hold voting rights that far exceed their cash positions. An example, within the case of Samsung Group, the majority controlling shareholder held approximately 17% of voting rights but only 5% of the cash flow rights. This divide is not often common, however this divide creates incentives and opportunities to extract value for personal reasons, rather than to benefit the whole group and corporations (Black et al., 2006).

The relationship between the government and business during the development period produced outstanding economic growth, however it also fostered a system of opacity and weak accountability for improper practices (Bae et al., 2002). Chaebols are usually diversified across industries and the level of interconnectedness meant that problems for a member could cascade to the entire group. Furthermore, the close relationship between the political leaders and business families created conditions where normal market practices did not restrain managers behavior.

Reform and Modernization

The system proved to be successful for a number of years, however the Asian financial crisis of 1997 exposed very clearly the vulnerabilities of Korea's governance model (Recovery from a Financial Crisis: The Case of South Korea, n.d). When the crisis struck, chaebols with highly leveraged balance sheets and opaque transactions fueled by inadequate risk management were unable to face the shock. As a result, major groups such as Hanbo, Sammi or Kia among others declared bankruptcy. By December 1997, Korea required a \$58 billion bailout from the IMF (International Monetary Fund), which was conditional upon a complete restructuring that included corporate governance reforms (The 1997 Financial Crisis and Governance, n.d)..

These series of post-crisis reforms targeted several interconnected problems, the first was government mandated requirements for independent directors on corporate boards. Research by Choi, Park and Yoo (2007) uncovers that this reform had significant positive effects on firm performance across Korea, a stark contrast to studies of American firms where board independence shows no significant change. Their findings proved that independent outside directors, in particular those without business ties to the existing firm, contributed significantly to monitoring management and improving corporate performance. The positive impact was especially felt when combined with foreign ownership, since those individuals were able to bring

international best practices and accountability standards to Korean boardrooms (Choi, Park, & Yoo, 2007). Signaling to the capital markets that the firms were committed to better practices.

The second reform, dictated transparency through combined reporting of large groups, which revealed inter group exposures previously unknown that had remained hidden. The third main reform ensured that the cross-exposure structures that had caused problems to cascade through business groups in the past, would be improved . Abolishing debt guarantees and pressure clauses to reduce leverage and overall exposure. The fourth reform consisted on strengthening minority shareholder protections, including rights to access corporate documents, bring lawsuits and exercise appropriation rights in situations of restructuring (Black et al., 2006).

Overall, the evidence on these reforms proves them to have had a positive impact. Black, Jang, and Kim (2006) found that improved governance, which was measured through a comprehensive Korean Governance Index, predicted higher firm market values. Firms that were subject to the new board structure requirements realized a cumulative higher market return when the reforms were adopted, with some instances of firms experiencing returns of approximately 40% (Kim & Chang, 2019). This suggests that investors valued the requirements that an independent oversight placed upon controlling shareholder's ability to extract private benefits from their positions. More recently, in 2016, Korea introduced the Korea Stewardship Code through its Corporate Governance Service, establishing voluntary principles for institutional investors to engage more actively in portfolio companies (Korea's Stewardship Code and the Rise of Shareholder Activism, 2022). Moreover, the National Pension Service adopted this code in 2018, committing to publish voting policies, records and manage conflicts of interest. This represented an overall major shift for the nation's largest institutional investor to take a more active role regarding its corporate governance oversight. There have also been some new reforms in early 2024 and 2025, where as an example, the National Assembly passed reforms to the Commercial Code (National Pension Service Investment Management, 2019). These reforms expand director's fiduciary responsibilities to explicitly include 'protection of all shareholders interests' and establish systems of independent directors (Commercial Code Amendments Reform, 2025).

Outcomes and Evolution: Case Studies in Governance Performance

As mentioned before the evidence on Korea's post crisis reforms proves to be successful, however the outcomes across different firms have ultimately been uneven. While improved governance, which is measured through the Korean Corporate Governance indices, predict a higher firm market value and higher cumulative returns, there are some instances where certain chaebols have adapted significantly differently than others. Examining specific cases of these instances will further explain the possibilities and limitations of Korea's governance model.

Hyundai Motor: Governance reform and Corporate Success

One of the most compelling examples of a chaebol successfully implementing the new reforms and navigating the tensions between the concentrated family control and market driven expectations. The Chung family has maintained leadership through the group since the 1970s, the Hyundai group has become the second largest chaebol in the country, controlling as much as 54 subsidiaries which include Hyundai Motor, Kia Motor and Hyundai Steel. And while they have remained in control, the group has actively embraced transparency and shareholder engagement initiatives, distinguishing it from its competitors. Following pressure from foreign investors around the 2010s, they undertook a governance transformation which included appointing independent directors, increasing dividend payouts and planned one of the first governance roadshows with international investors in 2015 (Hyundai Governance Journey, 2017). An outreach that demonstrated the willingness from management to explain its structure to those who remained skeptical, and even requested for their feedback on performance.

The outcomes of this policy on Hyundai have been substantial, the company increased its dividend payout ratio from 11% to 17% and introduced its first interim dividend, a stark shift toward prioritizing shareholder returns (Hyundai Governance Journey, 2017). The company then published a Corporate Governance Charter in 2016, which established explicit guidelines for board roles, director independence and transparency standards. More recently, the group announced a plan to restructure its governance, which included eliminating circular ownership, increasing share value, committing 30-50% dividends from surplus cash flows and lastly strengthening shareholder rights through externally appointing directors (S.B.S.P, 2019).

However, most surprisingly, it was under the leadership of Jose Muniz, an experienced automotive executive that was recruited from Nissan, that Hyundai was transformed in the North American market. With Muniz accelerating the decision making processes within the firm and positioned Hyundai as a major competitor to the traditional American car manufacturers (Transformation of Hyundai Motor, 2022). This turnaround was enabled explicitly by a governance structure that empowered professional management and decreased bottlenecks when major decisions needed approval from Korea's headquarters. By the year 2022, Hyundai Motor had competitive valuations and a competitive position within North America. Nevertheless, even though the group publicly committed to governance improvements and shareholder returns to be unthinkable a decade earlier, the controlling family still retained decision making power. This was seen with the succession within the founding family, where Chung Eui-son was elevated to CEO in 2019, with his father remaining as a chairman (S.B.S.P, 2019).

Samsung Group: Governance risks and Continuing Challenges

Despite these number of reforms, the chaebol system still causes tensions between interests of controlling families and minority shareholders. The academic literature is insistent on expressing their concerns about tunneling, where value from minority shareholders is transferred to

controllers through intra-group transactions. In particular, the study by Bae, Kang, & Kim (2002) provides convincing evidence of wealth transfers within business groups. Usually, controlling shareholders will use their position to direct transactions that benefit themselves at the expense of outside investors, with the controlling family gaining while minority shareholders lose.

The Samsung Group is a particularly interesting case that allows us to understand both the challenges that arise from governance and the pressures the reforms had on chaebols. The Vice Chairman of the group, Lee Jae-yong, who in reality was the leader since his father was hospitalized in 2014, was convicted of bribery, embezzlement and concealment of proceeds related to payment to entities controlled by associates of his father. Prosecutors claimed that Samsung had paid approximately \$38 million in bribes in exchange for government support, for a merger in 2015 between SamsungC&T and Cheil Industries. This merger would then strengthen Lee's control over the Samsung Empire (Samsung heir Lee indicted, 2020).

As a result Lee was sentenced to 2 years and six months in prison, before receiving the presidential pardon (Lee Jae-yong: Samsung heir, 2021). Nevertheless, Lee was later acquitted in 2024 of separate financial crime charges related to the 2015 merger, where the court ruled that prosecutors had not proved that the transaction was conducted through illegal steps. Overall the Samsung controversy highlighted how complex ownership structures, political connections and succession planning negatively impacted minority shareholders who opposed the mergers.

Valuation Implications and Comparative Assessment:

Overall, the evidence indicates that Korea's governance reforms have produced significant improvements in firm valuation and protections for minority shareholders, however the fundamental tension between concentrated family control and dispersed ownership continues. It has been argued that better governance, measured by board independence, quality disclosures and shareholder protections, predict higher firm market values (Black, Jang, & Kim, 2006). This positive effect is particularly notable for firms where controlling shareholders have incentives to tunnel, suggesting that governance reforms are successful in limiting value extraction.

The nature of Korea's system is purely hybrid, producing both strengths and weaknesses. On the positive side, chaebol structures have proven to be extremely successful in developing the economy of Korea, and the concept of 'guided capitalism' has been highly regarded. These structures enable coordination between businesses and long term investment horizons, not suffering the pressure of quarterly earnings goals (How State Capacity Drives Industrialization, 2020). The group structures can move resources for major investments and share knowledge across affiliates, advantages that helped Korean firms achieve global competitive positions in multiple industries. However, the concentration of control has led to multiple instances of corruption, value extraction, conflict of interests and can result in inefficient allocation of resources to the benefit of the owners. When controlling stakeholder's interests diverge from

those of minority investors, the governance system has been taken advantage of to protect outside shareholders (South Korea's Economic Development under Park Chung-hee, 2022).

Looking forward, Korea's reforms within governance appear to involve an interest in strengthening protection for minority shareholders and creating an independent ownership structure that remains concentrated. By moving toward this goal, Korea aspires to further attract foreign investors which will in turn bring their expertise and benefit the corporation as a whole. The most recent step towards this goal was 'The 2025 Commercial Code' amendments, mandating that directors protect all shareholders interest and limit controlling shareholder voting power in audit committee elections (Commercial Code Amendments Ignite Governance Reform Hopes in Korea, 2025). However, formal rules alone cannot eliminate the tensions within a system where families control a disproportionate influence.

Therefore, the Korean example offers important lessons for comparative governance. A concentrated ownership can coexist with relevant minority protections when legal framework and mechanisms to enforce them exist. The post crisis reforms demonstrate that the improvements experienced by governance translate to benefits for shareholders. As a result, Korea's hybrid model continues to evolve, balancing the coordination advantages of business groups while meeting the transparency and fairness demands of modern capital markets.

Conclusion:

Our comparative analysis of corporate governance across the United States, Sweden, and South Korea reveals that no single governance system dominates through ownership structure, board composition or stakeholder rights. Instead, each model reflects distinct institutional and cultural priorities, generating characteristic tradeoffs between efficiency, stability and flexibility. As a result governance outcomes are therefore best understood through the institutional contexts in which the firms operate, not through an universal comparison.

Key Findings:

Comparing the governance systems of these three countries, one quickly realizes how each system differs. The United States exemplifies shareholder primacy, where market dynamics and management accountability, drive efficiency and financial performance. As a result, strong shareholder rights and protections generally attain higher market valuations, and firms like Apple demonstrate the potential for continued innovation and value creation within this model. Yet, the Wells Fargo case exemplifies the vulnerabilities of this model to short-termism and misaligned incentives, where a focus on meeting quarterly metrics can incentivize unethical behavior.

Sweden is based on a fundamentally different vision, rather than focusing on the shareholder return's, they pursue a stakeholder inclusive model. Where long term ownership, employee board representation and labor/management collaboration create an ecosystem that prioritizes sustained investment, innovation and cohesion. Companies like Atlas Copco show how this can prove to

be successful, with operating margins of about 21.6 percent while having engaged employees with continuous innovation. However, the case of Saab highlights relevant limitations, since even Swedish governance protections could not offset failures of strategic autonomy and capitalization, highlighting the system's vulnerability to unsuitable ownership.

Lastly, the system in South Korea developed out of different historical circumstances, where families maintained control over vast business empires with limited direct financial stakes. However, after the 1997 financial crisis, reforms have imposed independent directors and improved disclosure, and research has shown such changes have resulted in significant gains in company valuations. Hyundai is one example of successful adaptation, where the Chaebol maintained control while bringing in professional managers from outside the family and increasing shareholder returns. Nevertheless, in some occasions such as Samsung, the gap between voting rights and economic stake remains produces instability around value extraction.

Implications & Trade-offs:

All of these examples serve to underpin a series of trade-offs in each of the systems. Models anchored around market discipline and financial accountability alone tend to produce strong short term returns but may undervalue investments in employee development, organizational culture, and research. In contrast, stability and inclusivity foster value creation and social cohesion but may allow for inefficiencies. These are not flaws, but structural features inherent to the different corporate governance methods. The comparative evidence suggests that whether implementation proves successful or unsuccessful will depend on whether the chosen model is supported by the country's context and complementary institutions.

Practical Implications

Looking forward, what the combined evidence suggests is that governance systems that integrate accountability and inclusivity with market discipline and stakeholder engagement are more likely to prove resilient. Effective regulation, enforcement and transparent standards can mitigate governance failures without undermining institutional foundations. As for multinational corporations, these findings caution against displacing governance norms across borders, since practices that may succeed in one national context may fail elsewhere.

The evidence ultimately rejects both a universal ideal governance system or radically favoring one group over another. Instead of asking which system represents a superior model, it suggests that sustainable value creation depends on a combination of the context surrounding it. In particular regarding market discipline, institutional safeguards, short term financial accountability and long term strategic vision. The most compelling examples in each system, Apple for the United States, Atlas Copco in Sweden and Hyundai in South Korea, all demonstrate that different institutional approaches can generate superior outcomes when governance rules, ownership structures and management incentives align coherently with the broader social, cultural and economic conditions.

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Abstract

Artificial Intelligence (AI), specifically Generative Artificial Intelligence, has captured today's headlines with its seemingly revolutionary power. Despite its benefits, AI also holds the same capacity to inflict harm on society. Effective regulatory frameworks must therefore exist to mitigate AI's negative effects while still encouraging its benefits. However, the US's approach to regulating AI developers is flawed in both regards. Not only is it imperfect in encouraging competition and innovation, but it is also inadequate in ensuring that risks created by developers are fully internalized. With the development and adoption of AI rapidly increasing, it is imperative that US regulators revise their approach to regulation to ensure that the US remains competitive on a global scale, while controlling societal harms. In this research paper, we will begin by conducting a review of the literature that motivated our research. We will then detail the externalities that AI bears on society and compare differing approaches to regulating AI. Finally, we will analyze OpenAI as a case study for demonstrating how US regulations are flawed and conclude with policy recommendations that the US can implement.

Literature Review

AI promises enormous gains in productivity and innovation; whether AI can deliver on these lofty goals is a topic of ongoing research. A 2019 paper, "Implications of AI innovation on

economic growth: a panel data study,” by Gonzales¹, which analyzes AI related patents as a proxy for AI innovation, found a correlation between long-term economic growth amongst a variety of industries in Organization for Economic Co-Operation Development constituent countries. Effects were pronounced in manufacturing, information communication technology, transportation, and finance. However, due to a limited data set, the study used an unbalanced panel data set, drawing the conclusions into some scrutiny.

A 2022 piece “How Artificial Intelligence Technology Affects Productivity and Employment”² by Yang broadly concurs. The paper studied the differences in outcomes for firms in Taiwan which are not highly innovative, are highly innovative, and innovate in the field of AI. The paper found that firms who innovate in AI have a productivity score of 12.48, slightly higher than the 11.06 of typical firms and 11.37 of innovative firms. Though, with a standard deviation of 27.97 the minor discrepancy in results may not be significant. The paper also notes that AI innovating firms are a much smaller portion of the data set and are typically larger firms with higher R&D budgets. The paper highlights that AI development is significantly and positively associated with firm productivity. The paper also highlights AI has a pro-employment effect, though a non-linear one.

More recent studies further support this view. A paper published in March 2025 titled “The impact of artificial intelligence on organizational performance: The mediating role of employee productivity”³ by Kassa and Worku echoed these findings. The study found that AI had a transformative impact on employee productivity in contemporary organizational settings, though it still noted that more research is needed to further develop our understanding.

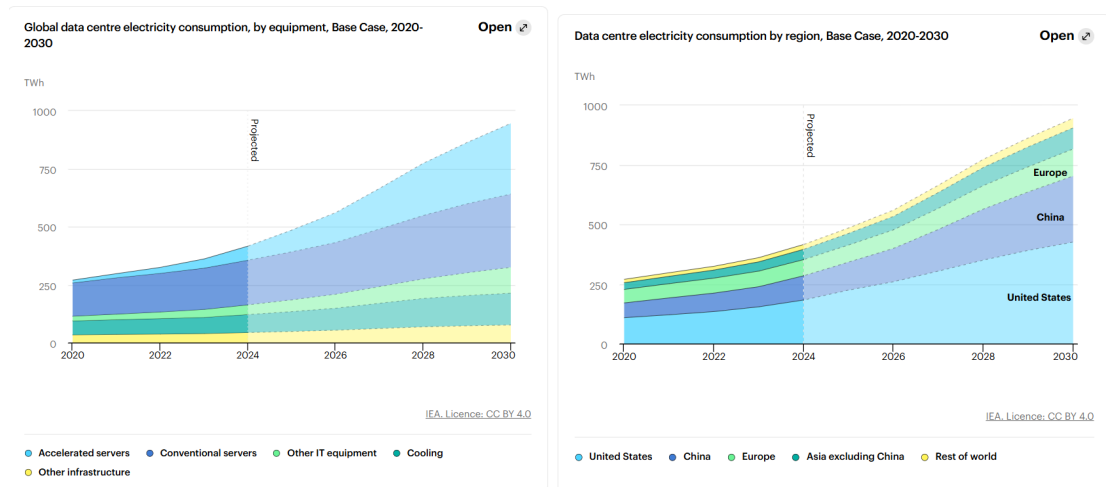
¹ Gonzales, “Implications of AI innovation on economic growth: a panel data study,” *Journal of Economic Structures*, (2023): 12:13, <https://doi.org/10.1186/s40008-023-00307-w>, <https://link.springer.com/content/pdf/10.1186/s40008-023-00307-w.pdf>

² Chih Hai-Yang, “How Artificial Intelligence Technology Affects Productivity and Employment,” *Research Policy*, 51, No. 6 (2022): 0048-7333, <https://doi.org/10.1016/j.respol.2022.104536>, <https://www.sciencedirect.com/science/article/pii/S0048733322000634>.

³ Belayneh Yitayew Kassa, Eyob Ketema Worku, “The impact of artificial intelligence on organizational performance: The mediating role of employee productivity,” *Journal of Open Innovation: Technology, Market, and Complexity*, 11, No. 1 (2025), 2199-8531, <https://doi.org/10.1016/j.joitmc.2025.100474>, <https://www.sciencedirect.com/science/article/pii/S219985312500009>.

Beyond productivity, AI also supports innovation and research. A 2024 analysis of Generative AI Patent Families and Scientific Publications⁴ uncovered a strong correlation between the two, and a rapid surge in publications following the release and widespread adoption of ChatGPT. The seemingly exponential growth present seems to suggest that the revolutionary ability of AI to facilitate research and innovation is only becoming stronger and more significant.

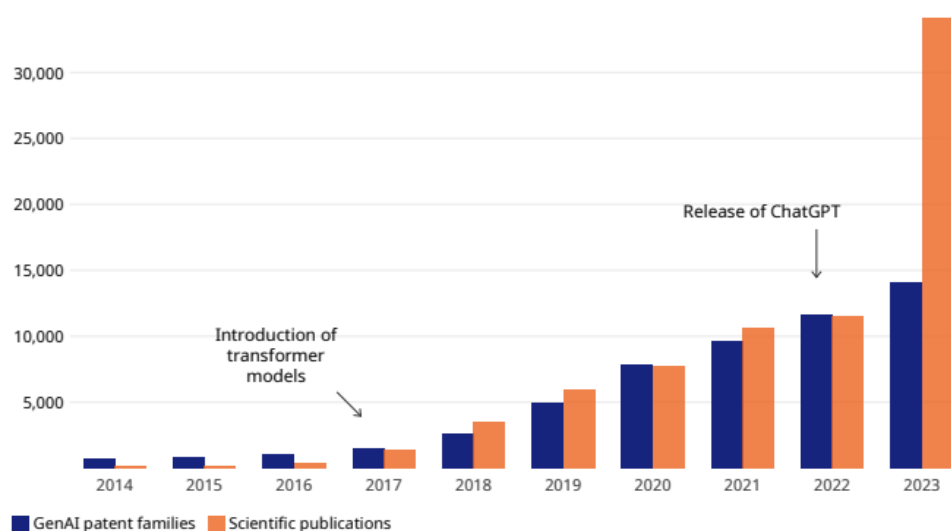
While the productivity benefits of AI are substantiated in the literature, it is also worth noting the cost in energy AI consumes. Between 2020 and 2030, energy usage by AI data centers has surged, growing from around 250 Terawatt hours to nearly 1,000.⁵ This trend has been replicated across the globe, but is especially pronounced in China and the US, which represent the bulk of AI energy consumption. In total, the projected energy consumption by data centers in 2030 would amount to approximately 3% of the world's energy usage.



⁴ "Patent Landscape Report: Generative Artificial Intelligence," *WIPO*, Geneva 2024, <https://doi.org/10.34667/tind.49740>, https://www.wipo.int/web-publications/patent-landscape-report-generative-artificial-intelligence-genai/assets/62504/Generative%20AI%20-%20PLR%20EN_WEB2.pdf.

⁵ "Energy and AI," *IEA*, 2025, Paris <https://www.iea.org/reports/energy-and-ai>.

⁶ *Ibid.*



Source:
WIPO, based on patent data from EconSight/IFI Claims, April 2024, and publications data from The Lens, January 2024.

Despite the strong empirical evidence that AI can enhance productivity, innovation, and long-run economic growth, the broader literature demonstrates that firms are structurally disincentivized from internalizing many of AI's societal costs. As Sunstein argues in *AI, Reducing Internalities and Externalities*,⁷ digital platforms and frontier AI labs systematically externalize harms such as misinformation, carbon intensity, and privacy degradation because these costs do not appear on corporate balance sheets. This diagnosis is reinforced by the Knight Institute's *AI as Normal Technology*⁸ essay, which contends that AI follows the historical pattern of general-purpose technologies: early gains accrue privately to firms, while negative spillovers, from environmental impacts to market concentration, are socialized unless regulatory institutions intervene. While firms may capture the productivity surplus identified in studies by Gonzales (2023), Yang (2022), and Kassa and Worku (2025), they do not bear the full costs of energy consumption, water utilization, biased outputs, or labor displacement risk generated by their AI systems.

⁷ Cass R. Sunstein, "AI, Reducing Internalities and Externalities," *Harvard Law School*, (May 4, 2024), <http://dx.doi.org/10.2139/ssrn.4817483>, <https://ssrn.com/abstract=4817483>.

⁸ Arvind Narayanan and Sayash Kapoor, "AI as Normal Technology," *25-09 Knight First Amend. Inst.*, (April 14, 2025.) <https://knightcolumbia.org/content/ai-as-normal-technology>

Recent studies of corporate governance in the AI sector further underscore the structural inability of firms to self-regulate these externalities. Both “The Lesson of OpenAI Is That Governance Matters”⁹ and “Why OpenAI’s Corporate Structure Matters to AI Development”¹⁰ highlight how OpenAI’s governance crisis revealed deep tensions between public-benefit narratives and profit-maximizing investor incentives. Wei et al.¹¹ similarly document how AI companies strategically “fine-tune policy” by shaping regulatory language and leveraging information asymmetries, demonstrating the persistent risk of regulatory capture. In short, the combination of corporate opacity, concentrated technical expertise, and weak statutory guardrails prevents firms from independently mitigating negative AI externalities.

Parallel research on labor markets and public opinion strengthens the motivation for regulatory intervention. The reports “AI and Jobs: The Final Word (Until the Next One)”¹² and the Harvard Business School’s Institute for Business in Global Society’s “Will AI Improve or Eliminate Jobs? It depends on who you ask,”¹³ show that while AI may have net positive productivity effects, its distributional impacts are uneven, exacerbating inequality and disproportionately affecting mid-skill labor. A study conducted by the Stanford Digital Economy Lab¹⁴ supports this contention by demonstrating that entry-level workers in AI-exposed industries, such as software development and customer service, experienced a 13% decline in employment due to AI. Pew Research’s “How the US Public and AI Experts View Artificial

⁹ Tedd Ladd, “The Lesson Of OpenAI Is That Governance Matters,” *Forbes*, December 18, 2023.

<https://www.forbes.com/sites/teddladd/2023/12/15/the-lesson-of-openai-is-that-governance-matters/>.

¹⁰ Kevin Frazier, “Why OpenAI’s Corporate Structure Matters to AI Development,” *Lawfare*, May 15, 2025.

<https://www.lawfaremedia.org/article/why-openai-s-corporate-structure-matters-to-ai-development>.

¹¹ Wei, et. al. 2024. “How Do AI Companies ‘Fine-Tune’ Policy? Examining Regulatory Capture in AI Governance,” *Proceedings of the AAAI/ACM Conference on AI, Ethics, and Society* 7 (1):1539-55. <https://doi.org/10.1609/aies.v7i1.31745>.

¹² Sarah Eckhardt and Nathan Goldschlag, “AI and Jobs: The Final Word (Until the Next One),” *Economic Innovation Group*, August 10, 2025. <https://eig.org/ai-and-jobs-the-final-word/>.

¹³ Steven Melendez, “Will AI improve or eliminate jobs? It depends on who you ask,” *Institute for Business in Global Society, Harvard Business School*, June 6, 2025. <https://www.hbs.edu/bigs/will-artificial-intelligence-improve-or-eliminate-jobs>.

¹⁴ Erik Brynjolfsson, Bharat Chandar, and Ruyu Chen, “Canaries in the Coal Mine? Six Facts about the Recent Employment Effects of Artificial Intelligence,” *Digital Economy Lab, Stanford University*, November, 2025. <https://digitaleconomy.stanford.edu/publications/canaries-in-the-coal-mine/>.

Intelligence”¹⁵ (2025) reports high levels of public concern regarding accuracy, environmental impact, and democratic stability. These concerns align with empirical findings on externalities, including surges in data-center electricity demand, water depletion (MIT News, 2025)¹⁶, and expanding carbon emissions.

Global regulatory comparisons provide additional justification for US policy development. The EU AI Act¹⁷ establishes risk-tiered obligations, transparency requirements, and penalties for misinformation and bias, offering a proactive model for governance. In contrast, US regulatory approaches remain fragmented across states and lack binding federal standards, relying primarily on voluntary frameworks such as the National Institute of Standards and Technology’s AI Risk Management Framework¹⁸ and Executive Order 14110¹⁹. This regulatory gap places the US at risk of allowing incumbents to solidify market dominance, externalize societal harms, and shape the policy environment in their favor. The open letter “Not for Private Gain”²⁰ warned the now-complete restructuring of OpenAI away from a non-profit overseeing a capped-for-profit entity would jeopardize the safeguards that had been put in place to prevent the development of harmful AI. The paper “Opportunities, Challenges, and Benefits of AI Innovation in Government Services”²¹ reinforces this conclusion by highlighting ways in which public-centered governance and administrative capacity could be strengthened, while “Insights from Nuclear History for AI Governance”²² underscores the necessity of robust

¹⁵ Colleen McClain, et. al., “How the U.S. Public and AI Experts View Artificial Intelligence,” *Pew Research Center*, April 3, 2025, <https://www.pewresearch.org/internet/2025/04/03/how-the-us-public-and-ai-experts-view-artificial-intelligence/>.

¹⁶ Adam Zewe, “Explained: Generative AI’s Environmental Impact,” *MIT News*, January 17, 2025, <https://news.mit.edu/2025/explained-generative-ai-environmental-impact-0117>.

¹⁷ EU AI Act, 2024, *Regulation (EU) 2024/1689*, <https://eur-lex.europa.eu/eli/reg/2024/1689/oj/eng>.

¹⁸ Autio, Chloe, et. al., “Artificial Intelligence Risk Management Framework: Generative Artificial Intelligence Profile,” *National Institute of Standards and Technology*, July 2024, <https://doi.org/10.6028/NIST.AI.600-1>, https://tsapps.nist.gov/publication/get_pdf.cfm?pub_id=958388.

¹⁹ Donald J. Trump, Executive Order 14110, “Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence,” 88 FR 75191 (October 30, 2023), <https://www.federalregister.gov/documents/2023/11/01/2023-24283/safe-secure-and-trustworthy-development-and-use-of-artificial-intelligence>

²⁰ “Not For Private Gain,” April 2025, <https://notforprivategain.org/>.

²¹ Alhosani, K., Alhashmi, S.M., “Opportunities, challenges, and benefits of AI innovation in government services: a review,” *Discover Artificial Intelligence*, (October 3, 2023). <https://doi.org/10.1007/s44163-024-00111-w>.

²² Benjamin Boudreaux, et. al., “Insights from Nuclear History for AI Governance,” *RAND*, (May 21, 2025), <https://www.rand.org/pubs/perspectives/PEA3652-1.html>.

institutional oversight for dual-use technologies with systemic societal risks. The paper indicates early failures to create multinational, cross-jurisdictional, regulatory frameworks allowed for the proliferation of harmful and irresponsible uses of nuclear technology before efforts were put in place to address inconsistencies across borders and prevent reckless competition.

Taken together, the literature and data suggest that left to market forces, firms will not internalize AI's negative externalities, whether environmental, informational, or socio-economic. US regulation must intervene to ensure that AI's substantial positive externalities (productivity, scientific acceleration, medical and environmental problem-solving) are realized without imposing disproportionate costs on society or stifling innovation. It is necessary to design a governance system that creates the right balance of innovation incentives, risk mitigation, and adaptive oversight.

Thus, this paper advances the central research question: How can US regulators effectively govern developers of AI platforms to balance the positive and negative externalities of AI?

Externalities

Before we analyze AI's externalities on society, it is important to define exactly what an externality is. Externalities²³ are benefits or costs that are not realized by parties that directly produce or consume a certain good or service. Instead, they are a side effect that affects other parties not directly involved in the activity itself. For example, a negative externality of industrial activity is pollution that harms the environment, while a positive externality of company research and development is new technology that spills over to other firms and benefits society as a whole. However, firms often have little incentive to seek or correct externalities as they are not

²³ Will Kenton, "Understanding Externalities: Positive and Negative Economic Impacts," *Investopedia*, (August 10, 2025), <https://www.investopedia.com/terms/e/externality.asp>.

inherently internalized by the firms that create them. Thus, government intervention in the form of taxes, subsidies, or regulation is necessary to encourage firms to address them. For instance, up until its repeal in September 2025, the US government subsidized up to \$7,500 for new consumer purchases of electric vehicles to grow consumer demand and motivate firms to produce them.²⁴

We begin our analysis by distinguishing the differences between the direct benefits and unintended outcomes of AI. AI is being used to augment worker productivity, automate tasks and reduce labor costs, and aid discoveries in science, technology, and medicine. These outcomes are direct, intentional benefits that are realized by users of AI, rather than being unintended consequences realized by third parties. Therefore, positive externalities go beyond simply the parties that are engaged in the usage of AI. Take the implementation of AI in the workplace for example. Beyond helping workers save time, AI makes high-quality information more widely accessible to everyone, increasing workers' knowledge and skills. Furthermore, society as a whole benefits from advances in medicine by becoming healthier and treating diseases more effectively. Ultimately, the proliferation of AI not only provides many direct benefits to its users; it also brings positive externalities to society.

Although most of the attention that AI gets is in a positive light, AI also holds the equal potential to leave negative externalities on society. First, operating data centers, which train and run AI models, is extremely resource-intensive. In 2024, data centers consumed 415 terawatt hours (TWh) of electricity, or about 1.5% of global energy usage, and is projected to climb to 945 TWh and 3% of global consumption by 2030.²⁵ This usage both drives up the cost of energy, harming households and businesses, and increases carbon emissions associated with generating

²⁴ "Credits for new clean vehicles purchased in 2023 or after," Internal Revenue Service, <https://www.irs.gov/credits-deductions/credits-for-new-clean-vehicles-purchased-in-2023-or-after>.

²⁵ "Energy and AI," IEA.

this electricity. Cooling data centers also consumes excessive amounts of water. According to a report from the Environmental and Energy Study Institute,²⁶ the average large data center can consume up to 5 million gallons per day, equivalent to the water usage of a town between 10,000 and 50,000 residents. Ultimately, operating and maintaining data centers can threaten the water supply for local communities and can potentially damage local ecosystems. Beyond the consumption of natural resources, the proliferation of AI also has many social costs. AI is already having a material impact on the job market as a side effect of automation within the workplace. According to a study conducted by the Stanford Digital Economy Lab,²⁷ entry-level workers in AI-exposed industries, such as software development and customer service, have experienced a 13% decline in employment due to industry implementation of AI. Additionally, AI holds the potential to spread misinformation and bias. Relying on Generative AI models for information and research purposes exposes users to misinformation via hallucinations, and Generative AI models can perpetuate implicit biases that are held in the data that those models are trained on. Furthermore, deep fakes, which are fake videos and audios that simulate real people, can threaten the security of individuals, businesses, and governments. With today's AI and Machine Learning algorithms, bad actors can generate highly realistic videos and audios of real people from a few media inputs. Ultimately, if left unregulated, AI has the potential to leave both positive and negative externalities on society. Government intervention to some extent is therefore necessary to correct these negative impacts while encouraging more positive outcomes.

²⁶ Miguel Yañez-Barnuevo, "Data Centers and Water Consumption," *Environmental and Energy Study Institute*, (June 25, 2025), <https://www.eesi.org/articles/view/data-centers-and-water-consumption>.

²⁷ Erik Brynjolfsson, Bharat Chandar, and Ruyu Chen, "Canaries in the Coal Mine? Six Facts about the Recent Employment Effects of Artificial Intelligence."

Regulatory Overview

Approaches to regulating AI technology and development vary across the globe. We start by comparing how both the US and the EU approach regulation and discussing their respective merits. The US is the land of the free—free speech, free markets, and minimal regulation. These principles dictate the US’s reactive, somewhat “too little, too late,” fixation with ex-ante regulation and self-governance. Currently, there is no sweeping federal regulation that developers must follow when training and testing AI models. Instead, the US has the AI Risk Management Framework (AI RMF)²⁸, which essentially acts as a handbook of corporate governance procedures that companies can integrate as they see fit. Published in January 2023 by the National Institute of Standards and Technology, this framework is entirely voluntary and imposes no legally binding requirements that developers must follow. The Trump Administration continued this minimal-regulation stance when it published a policy directive titled America’s AI Action Plan²⁹ in July 2025, which repealed red tape and removed references to misinformation, DEI, and climate change from the AI RMF. The plan also addresses the diffusion and adoption of AI platforms in the workplace, a major barrier to accessing AI’s benefits, by encouraging the development of open-source and open-weight models. This benefits commercial, governmental, and academic users of AI as it allows them to use AI with sensitive data. However, the plan’s recommended policy actions are flawed, as it primarily focuses on helping downstream users of AI by increasing access to large-scale computing resources. The plan overshadows the importance of encouraging upstream developers to create somewhat less-profitable open-source technologies, and should do so by providing subsidies and tax benefits as well. Ultimately, these orders and directives demonstrate how the US prioritizes encouraging innovation and positive

²⁸ Autio, Chloe, et. al., “Artificial Intelligence Risk Management Framework: Generative Artificial Intelligence Profile.”

²⁹ Donald J. Trump, “America’s AI Action Plan,” *The White House*, (July 2025), <https://www.whitehouse.gov/wp-content/uploads/2025/07/Americas-AI-Action-Plan.pdf>.

externalities to stay competitive in the global AI race. With minimal regulatory requirements on developers, potential new entrants have fewer barriers to entry. This dynamic increases industry competition and innovation, leading to more technological advances and more positive externalities. However, by not having any binding regulatory requirements, developers are less likely to address their negative externalities.

The EU takes an opposing stance when regulating AI developers. Instead of prioritizing encouraging innovation, they value proactive, ex-ante regulation by ensuring that negative externalities are properly mitigated before they proliferate. In July 2024, the EU published the EU AI Act³⁰ as the world's first comprehensive set of binding regulations on developers. The Act classifies and regulates AI according to its perceived risk to society. Developers of lower-risk systems, such as chatbots, only need to comply with transparency and disclosure to end-users. Developers of high-risk technologies, such as AI systems used as a safety component of a product, must comply with requirements like having a risk management system, usage records, and a quality management system. Finally, ultra-high risk technologies, such as AI algorithms for social scoring or predicting criminal activity, are prohibited outright. In addition, these regulations apply not only on developers that are based in the EU, but also to any developer wishing to commercialize or deploy AI systems in the EU. Ultimately, this framework reflects the EU's proactive approach to regulation and firm stance for limiting negative externalities. While it does a great job at achieving this goal, it imposes higher burdens on developers that hinder new entrants and innovation. This perspective is not simply limited to the AI industry—EU regulation as a whole follows this approach, and as a consequence, the EU severely lags behind the US and other global peers in innovation. Former European Central Bank President Mario Draghi was recently tasked to identify and address this gap. In his September

³⁰ EU AI Act

2024 report titled *The Future of European Competitiveness*,³¹ he highlighted that venture capital funding in the EU is around 5 times smaller than the US at every funding stage, and no EU company with a market capitalization over €100 billion has been created in the last 50 years.

In sum, the US and EU hold polar opposite philosophies for regulating AI. The US applies its free-market ideology to gain an advantage in the global AI race, while the EU focuses more on controlling potential negative externalities that may harm society. While the US certainly needs stricter regulation to mitigate potential negative externalities, its minimal stance to regulation enables the US to be a leader in the global AI race. According to *Forbes’ 2025 AI 50 List*,³² which is a spotlight of the world’s 50 most promising privately-held AI companies (excluding China), 42 companies represent the US, while only 6 are from the EU. With this in mind, we acknowledge that we must carefully craft our policy recommendations to be realistic in implementation and policymaker support.

OpenAI Case Study

The complexities surrounding OpenAI’s corporate structure and operations serve as an excellent case study for demonstrating how the US’s regulatory framework is flawed from both positive and negative externality perspectives. In this case study, we will review OpenAI and its founding mission, its unique two-tiered board structure, and two controversies that shaped its brief history and rapid growth.

OpenAI was founded in 2015 with a mission of ensuring that Artificial General Intelligence benefits all of humanity.³³ Its flagship products are ChatGPT, DALL-E, and Sora. OpenAI was initially structured as a non-profit board overseeing a capped, for-profit subsidiary

³¹ European Union, “The future of European competitiveness,” *Publications Office of the European Union*, (2025), doi:10.2872/9356120, https://commission.europa.eu/document/download/97e481fd-2dc3-412d-be4c-f152a8232961_en?filename=The%20future%20of%20European%20competitiveness%20-%20A%20competitiveness%20strategy%20for%20Europe.pdf.

³² Rashi Shrivastava, “AI 50,” *Forbes*, (April 10, 2025), <https://www.forbes.com/lists/ai50/>.

³³ OpenAI, “Our structure,” <https://openai.com/our-structure/>.

that oversees operations. However, in October 2025, the company transitioned into a non-profit board controlling a public benefit corporation (PBC), which is a relatively new legal entity that has a legal obligation to advance both its financial mission and the broader interests of all stakeholders. This event is the first case that we will analyze, as it unfolded alongside years of controversy and through navigating a concerningly cloudy legal landscape. The second case that we will discuss is the ousting of Sam Altman as CEO of OpenAI. In November 2023, Sam Altman was quietly and quickly removed from his position after the board of directors lacked trust in his communications. However, almost all employees threatened to move to Microsoft and customers were considering switching to competitors unless Altman was reinstated as CEO.³⁴ Therefore, the board had no choice but to reinstate Altman only four days later.

These two controversies in OpenAI's brief history are excellent perspectives to analyze US regulatory frameworks from. First, although OpenAI transitioned into a PBC partly to advance its mission of benefiting humanity, this change may have the opposite effect. Becoming a PBC enables the company to raise additional capital by going public, which they have expressed an interest in doing so from late 2026 to early 2027. Going public significantly increases the company's financial reporting obligations and duty to serve shareholders. Therefore, the financial incentives from a PBC going public risk overshadowing its public benefit obligations; investors can easily punish poor earnings, while those harmed by negative externalities, such as the environment, cannot as easily penalize social harm. Without clear accountability frameworks, AI firms can externalize costs, such as misinformation or carbon emissions, while privatizing the benefits of innovation.

³⁴ Lawrence J. Trautman, "Sam Altman, OpenAI, and the Importance of Corporate Governance," *Journal of Law, Technology & the Internet* 16, no. 2 (2025), <https://scholarlycommons.law.case.edu/cgi/viewcontent.cgi?article=1169&context=jolti>

Furthermore, OpenAI's transition into a PBC highlights how existing legal precedent is outdated. With no binding federal regulations on AI, developers rely on legal interpretations on a state-by-state level. In fact, the two attorneys general of California and Delaware had the sole legal authority to grant OpenAI their switch to a PBC, demonstrating that legal gray areas lead to concentrated decision-making authority. Additionally, reliance on legal authorities at the state level, rather than federal, creates a non-uniform, patchwork-like set of laws that leaves developers uncertain on how laws will be enforced. It also enables companies to engage in so-called "jurisdiction-shopping" for the most developer-friendly state, which can initiate a race to the bottom where states compete through deregulation. This disproportionately benefits large corporations, like OpenAI, who can use their size to gamble with strained interpretations of the law at the expense of smaller competitors.³⁵ In sum, concentrated legal authority and unclear regulatory frameworks expose how US corporate law lags behind emerging technologies, leaving no consistent mechanism to regulate AI's harms or support new entrants.

We now analyze the removal and subsequent reinstatement of Sam Altman as CEO of OpenAI. Theoretically, this incidence of self-governance is how boards should operate; boards self-regulate and remove potential bad actors within the company. After Altman was ousted, however, employees threatened to quit unless Altman was reinstated. This example demonstrates that boards' power to self-govern and potentially internalize harmful costs are limited by the extent of other stakeholders' bargaining power. It also complements the flaws behind PBCs, as going public increases the board's obligations to investors and empowers investors to resist executive changes. Therefore, hands-off regulation via self-governance is flawed at encouraging firms to internalize their societal costs, as investors have clearer mechanisms to have their needs addressed rather than those who are harmed by negative externalities. Ultimately, OpenAI as a

³⁵ Kevin Frazier, "Why OpenAI's Corporate Structure Matters to AI Development."

case study exemplifies how existing US corporate law is cloudy and outdated, which reduces positive externalities surrounding innovation and enables negative externalities to proliferate.

Regulation Discussion

A regulatory intervention for artificial intelligence in the United States must be motivated by clear objectives grounded in historical precedent, empirical data, and the systemic challenges articulated throughout the literature review. The body of evidence demonstrates that unregulated AI markets enable concentration of power, weak accountability, and negative externalities that markets alone cannot correct. At the same time, AI's potential for productivity spillovers, administrative efficiency, and scientific innovation is significantly underprovided without public investment. The overarching purpose of a national regulatory framework, therefore, is to establish an institutional architecture capable of moderating these dynamics through balanced policy design. This framework ultimately seeks to create legal constraints that limit incumbent advantage, foster competitive innovation, reduce environmental harms, protect affected parties, and provide a blueprint for safe, socially beneficial AI development that positions the United States as a global standard-setter.

The framework targets two major externalities that represent both the risks and unrealized potential of contemporary AI systems. First, it addresses the negative externality created by the rapid growth of data center infrastructure and microchip fabrication. These facilities consume vast amounts of electricity, require high water usage for cooling, and generate localized air, land, and carbon emissions. These costs are not borne by AI producers, and current market incentives encourage expansion without regard for environmental pressure or geographic distribution. Second, the framework emphasizes a positive externality arising from AI diffusion into government, private sector operations, and educational environments. The literature

demonstrates that firms capture only a portion of AI's social benefits, particularly in public administration, workforce skill development, and knowledge creation. Without regulatory encouragement, these sectors will not adopt or integrate AI technologies at socially optimal levels. Effective regulation must therefore mitigate environmental harms while stimulating socially valuable adoption.

Historical policy successes help illuminate how the federal government can influence innovation incentives and externality management. The Federal AI Environmental Impacts Act of 2024 made early efforts to quantify and report energy and water consumption associated with large scale compute systems, demonstrating that federal transparency requirements can shift corporate behavior. The Bayh–Dole Act of 1980 provides evidence that intellectual property reforms can expand innovation ecosystems by enabling universities and small firms to commercialize federally supported research. The Inflation Reduction Act of 2022 shows how coordinated federal incentives can catalyze private investment, expand manufacturing capacity, and accelerate decarbonization. Meanwhile, the Leahy–Smith America Invents Act of 2011 illustrates how procedural changes to patent law can reduce patent thickets and open pathways for downstream innovation. These precedents reveal that targeted regulation can meaningfully shape market structure and technology development. Drawing on these lessons, the framework proposes three interlocking policy buckets, supported by a dedicated enforcement and research division within the US government.

The first bucket promotes innovation by expanding the positive externalities associated with AI diffusion. A major component involves supporting the development of nonprofit or public benefit arms within AI firms that can produce open source or cloud based models tailored to the needs of public institutions, small businesses, and organizations that lack internal AI

capacity. This lowers barriers to adoption and ensures that the gains from AI are more evenly distributed across society. The framework also employs grants, federal research funding, and tax credits to reduce the structural barriers in intellectual property systems that inhibit innovation.

On another note, IP violations in AI can arise from unauthorized replication of models, improper use of copyrighted training data, misappropriation of proprietary input pipelines, or illegal disclosure of protected outputs, regulatory clarity is essential. A reform to IP law, loosening restrictions will lower litigation risk for responsible innovators, narrowing opportunities for incumbent firms to weaponize IP portfolios, and incentivizing shared-resource models. This strategy increases competitive dynamism and in turn, firms benefit from reduced legal uncertainty, expanded markets, and enhanced reputational credibility, while society benefits from broader access to high quality AI systems.

The second bucket mitigates negative externalities associated with environmental harms and harmful model behavior. The framework proposes a national system of tradeable pollution and land permits for AI data centers, modeled on the successful emissions trading systems under the Clean Air Act and Clean Water Act. These systems create explicit costs for pollution, incentivize the use of sustainable energy, and push firms to locate infrastructure in less fragile or densely populated areas. In addition, the framework requires increased investment in clean energy production specifically tied to AI manufacturing and computing needs, ensuring that AI expansion aligns with national decarbonization trajectories. A key regulatory mechanism involves reinstating Executive Order 14110, which required algorithmic safeguards against misinformation, discrimination, and social harm. Although recently replaced, its original provisions demonstrated that federal mandates can directly shape the ethical and social constraints embedded within AI systems. This portion of the framework ties in to the figures

above in the literature review outlining the exponential growth of energy usage by AI data centers. Together, these policies seek to align private incentives with public welfare by internalizing environmental costs and reducing societal harms associated with algorithmic misuse.

The third bucket introduces an adaptive oversight model that governs both positive and negative externalities through a centralized federal entity. This agency would support AI integration in nonprofits, small firms, and public institutions, while also providing technical assistance, evaluations, and standardized benchmarking. It would maintain a federal research and reporting system to track long term societal impacts and compute ecosystem changes. Improved sandboxing mechanisms would require firms to engage in rigorous model and infrastructure testing prior to deployment. Simulation analyses would be mandatory for new model families, AI chips, and data centers, enabling early detection of environmental risks, catastrophic failure modes, or the emergence of self modifying architectures that circumvent built in safety measures.

Adaptive oversight also establishes enforceable accountability mechanisms for firms that fail to meet safety, ethical, or environmental standards. Through this entity, the federal government would create a dynamic, evolving regulatory environment that adapts alongside technological progress. In this case, an adaptive framework would serve to not only hold firms accountable now, but to predict and anticipate future organizational and innovational decisions firms could make, and economically incentivize the firms to steer away from such decisions that would cause negative externalities and societal outcomes. Working alongside the rest of the arms in the division, the US can centralize control over the technologies that affect the livelihood of civilians, while still supporting fair competition and innovation.

Although robust, the framework presents several potential drawbacks. The first drawback concerns funding gaps, as the scope of these policies may rival programs such as the Green New Deal. Implementing grants, incentives, research centers, and enforcement mechanisms will require substantial investment. The rebuttal recognizes these costs but argues that large scale federal initiatives have been successfully funded through combinations of tax revenues, public bonds, and appropriated budgets. Additionally, because the framework is structured to support future legislation, funding could be phased, allowing the government to build capacity over time. Most importantly, the long term economic value created by sustainable AI systems, reduced cleanup costs, and increased innovation significantly outweighs upfront expenditures.

A second drawback is enforceability. Passage requires bipartisan support and sustained political commitment. The rebuttal notes that the framework is grounded in widely accepted economic principles of externality correction and competition policy. Both major political parties can find value in provisions such as tax credits, domestic manufacturing incentives, accountability mechanisms for large firms, and reduced foreign dependence on computer production. With proper coalition building, bipartisan support is achievable, and once enacted, the framework would carry immediate legal authority through its enforcement division.

A third drawback lies in implementation logistics and time costs. These include administrative complexity, the need for specialized personnel, and multi year timelines for full operational capacity. The rebuttal emphasizes that federal agencies routinely recruit experts from academia, national laboratories, and private industry, and many AI researchers are already engaged in public sector collaborations. Expansion of technical staff would ensure that the framework evolves with the state of the art. Although implementation requires time, the alternative is unregulated proliferation of AI systems that produce long term costs that far exceed

administrative delays. The time cost of building a responsible AI ecosystem is justified by the societal and economic stability it preserves.

A fourth drawback concerns potential firm relocation, reduced market competition, or decreased domestic investment. Critics argue that stringent regulations could encourage firms to shift operations abroad. The rebuttal asserts that large AI firms cannot easily abandon the US market due to its consumer base, skilled workforce, research ecosystem, and strategic importance. A similar issue arose just recently in September 2025, requiring firms to pay \$100,000 for every new H-1B visa filed after the 21st, leading to a speculated dissolution of firms in the US as they move operations elsewhere to take advantage of foreign talent. This targets the same principle of higher short term costs theoretically kicking out firms, however the relocation of computer infrastructure or semiconductor manufacturing requires years or decades and is economically prohibitive, meaning firms would be likely to incur the cost and continue to produce in the US. Furthermore, by compelling all firms to meet consistent standards, the framework reduces the risk of regulatory arbitrage and encourages new entrants who can capitalize on a more level playing field. Long term, the framework strengthens competition by preventing entrenched incumbency and enabling smaller firms to innovate within a regulated, predictable environment.

The fifth and most significant drawback addresses concerns over short term profitability declines and geopolitical risks, particularly the possibility that nations such as China could exploit temporary US transitions to accelerate their own AI ecosystems. An acknowledgement, treaty, or fair trade and competition deal may have to be asserted with the countries before the US can commit to a thorough change in regulatory framework. The overarching principle is that most of the globe relies on the performance of the American debt and equity markets, as well as

the economy that backs the U.S Treasury Bills, which disincentivizes anti-competitive behavior such as hostile takeovers and sponsored relocation on the Chinese side, due to a collapse in the U.S economy that would rock the markets. Such a transition would require the support and cooperation of our fiercest yet most reliant enemies, which would be a significant foreign affairs challenge to overcome.

The rebuttal acknowledges the short term economic risks but argues that the long term benefits of sustainable innovation far outweigh these concerns. In this scenario, a temporary adjustment period, even if it reduces shareholder returns, positions the United States for enduring leadership in safe and effective AI development that would incentivize firms in the long term to bring back innovation into the US. The framework promotes innovations that are manageable, transparent, and socially aligned, while unregulated foreign innovations may generate significant harms that require costly remediation, an attraction that will gain the support of consumers around the globe as this technology continues rapidly developing. Over time, the United States would emerge as a leader in sustainable AI and green energy, reducing both domestic and global risks.

The question remains whether an adequate and tailored deal mimicking an “arms treaty” would actually occur between these two powerhouses, and whether a treaty or deal would be needed for this transition to occur. The argument for a regulatory framework change still stands high as a long-term vision that places the US at the top of the AI regulation food chain would only benefit the long term US innovator and consumer.

The final drawback concerns delays in the release of new technologies. The rebuttal states that such delays are not only acceptable but necessary for preventing harmful innovations that market incentives alone will not constrain. Deliberate, ethical development enhances

consumer trust, reduces long term liability for firms, and ensures that technologies are introduced only when their impacts are well understood. This leads to more stable markets and more consistent technological progress.

Taken together, the drawbacks illustrate the complexity of regulating a transformative technology, yet the corresponding rebuttals demonstrate why a comprehensive framework is justified. A short period of structural adjustment is ultimately a modest cost relative to the long term benefits of stable innovation, reduced environmental harm, increased market competition, and the safeguarding of societal welfare. The framework therefore stands as a balanced and future oriented approach to managing both the risks and opportunities of artificial intelligence in the United States.

Conclusion

It is becoming increasingly clear AI will play a major role moving forward, both boosting productivity and innovation while also posing challenges to the environment, social cohesion and rising geopolitical tensions. Addressing these issues will require a clear approach focused on harnessing the benefits of AI for good while also ensuring costs are understood and allocated towards those responsible and to whom the benefits will accrue. It will be important to measure AI's benefits, costs, and externalities to develop an informed strategy to tackle the challenges it poses.

This year, the Mehrotra Business Institute held their second annual summit that featured a panel discussion on esg, corporate governance, and future regulation required to combat the negative impacts of artificial intelligence. Professor Van Alstyne of Boston University and Jesse Coleman of Veolia North America traded dialogue explaining future frameworks that would combat the negative externalities of artificial intelligence and their platforms. Both emphasized

the importance of an adaptive framework that proactively combatted issues before letting them manifest in society. They both emphasized that rapid integration of artificial intelligence into social, economic, and governmental systems presents the United States with a policy challenge defined by both extraordinary opportunity and significant risk.

As demonstrated throughout this paper, private firms lack adequate incentives to internalize the environmental, informational, and social externalities generated by large scale AI development. At the same time, the positive externalities associated with AI diffusion—particularly across education, public administration, and innovation ecosystems—remain underprovided in a market driven environment. This imbalance creates a clear impetus for a federal regulatory architecture capable of guiding AI development toward socially beneficial outcomes while constraining the harms that emerge from unregulated expansion.

The arguments advanced in this paper illustrate how the proposed framework responds to both dimensions of this policy problem. By incorporating lessons from prior legislation such as the Bayh–Dole Act, the Inflation Reduction Act, and the America Invents Act, the framework aligns historical regulatory successes with contemporary challenges facing the AI ecosystem. The policies recommended—open source incentives, targeted IP reform, pollution permit systems, sustainable energy requirements, reinstatement of algorithmic safeguards, and a centralized adaptive oversight body—collectively aim to reduce environmental degradation, increase innovation spillovers, improve competition, and ensure greater accountability for harms. These measures are supported by empirical evidence documenting the productivity gains from AI, the unequal distribution of its benefits, and the emerging pressures on US energy

infrastructure and democratic institutions. Taken together, the framework offers a balanced approach that both promotes innovation and constrains its unintended consequences.

Evidence drawn from environmental policy, technology governance, and innovation economics suggests that such a framework is not only viable but likely to be effective. Cap-and-trade mechanisms have historically reduced pollution at lower than expected cost. Patent reforms have repeatedly expanded the innovation frontier. Federal incentives have catalyzed private sector investment in new technologies and reshaped markets rapidly and at scale. Early research on AI's environmental footprint indicates that mandatory transparency standards alter firm behavior, while studies of AI's organizational impact reaffirm the need for both safeguards and structured support for adoption. These precedents collectively demonstrate that well designed regulation can steer technological development toward more efficient, equitable, and sustainable outcomes.

The broader significance of this framework lies in its capacity to shape not only the trajectory of US AI development but also the global conversation on safe and competitive innovation. A regulatory structure that balances firm level incentives with societal welfare establishes a model that other nations can adapt, promoting international stability and reducing the risk of divergent and harmful AI practices. Moreover, because the framework embeds adaptive oversight and long term monitoring, it creates an institutional mechanism that can evolve alongside technological progress. As future breakthroughs emerge in multimodal AI, robotics and biotechnology infrastructure, the framework provides the conceptual and administrative foundation for future regulatory decision making.

In sum, the proposed regulatory architecture offers a pathway for the United States to harness AI's transformative potential while minimizing its risks. It reinforces democratic values,

supports sustainable technological progress, and creates a more competitive and equitable AI ecosystem. The framework's lasting contribution may ultimately be its demonstration that innovation and regulation are not opposing forces, but mutually reinforcing components of a stable, forward looking technological society.

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**Common Ownership and Innovation: How Investors' Engagement with Firms Shape
Competition Among Rivals**

Honors Research Capstone SM460

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Abstract

Common ownership and interlocking directors could be reshaping the competitive dynamics of various industries today. When competing firms share investors, through the same individual or firms, there is opportunity to influence strategic outcomes. While existing research largely observes common ownership through a passive lens, there are few studies that examine differences in investor engagement and its impact on innovation and competition. This research paper investigates the impact of passive and active investors in board interlocks on firm innovation and industry-wide competition. Case studies observed in the paper provide insight into the airline and platform technology sectors. They illustrate how passive ownership can concentrate influence and how active investors could shape innovation incentives unevenly. By differentiating between investor types and governance mechanics, this paper reveals how common ownership may generate collaborative innovation, stagnant innovation, and challenging policy treatments of interlocking directors. These findings highlight the need for industry-specific frameworks with consideration of emerging challenges like AI and alternative investment structures that change how industries evolve.

Introduction

In many industries, firms increasingly share common investors with rivals, possibly leading to interlocking directorates. Common ownership occurs when the same individual investor owns stakes in multiple competing firms within the same industry. Interlocking directors is when these individuals or investing firm representatives hold board or executive positions. This matters because it could act as an invisible force that impacts industry consolidation and innovation pressure. There are many competing theoretical views on common ownership and

interlocking directors' impact on market rivalry and strategic coordination, however, existing research is inconclusive. Some argue this fosters collaboration through knowledge exchange, has benefits towards innovation and firm success. Others believe that it reduces competition, suppresses R&D, or leads to tacit collusion. The current literature provides limited evidence on innovation outcomes and lack of differentiation between passive and active investors. To what extent does common ownership create incentives for tacit collusion that suppress innovation, and how does this effect depend on whether common owners are activist investors or passive index funds?

Literature Review

Common ownership refers to when the same individuals or entities own two or more competing firms within the same industry. Similarly, interlocking directors are individuals who hold positions on the boards of directors or serve as officers of two or more companies. Understanding the motivations of investors who simultaneously own stakes in competing firms, also known as common owners, sheds light on how common ownership may reshape market competition and innovation, challenging traditional assumptions of aggressive rivalry.

Prevalence & Nature of Common Ownership

Common ownership is not peripheral; it is structurally embedded in corporate governance structures. The combined individual and investor-level interlocks account for 13.4% of all companies, with notably higher concentrations in high-innovation sectors such as life sciences (30.1%), IT and software (18.9%).¹ In 56.8% of investor-level interlocks the same investor

¹ Mark A. Lemley, "Overlapping Directors as a Competition Problem," *Harvard Law School Forum on Corporate Governance*, 23 Sept. 2025. <https://corpgov.law.harvard.edu/2025/08/29/overlapping-directors-as-a-competition-problem/>

holding shares in both firms highlights the potential for interconnected influence across competing firms in the same industry.² Importantly, Lemley and Loo (2025) observe that interlocking directors often are partners of investment firms who receive financial incentives tied to fund performance, potentially motivating behaviors that undermine competition. This suggests that common owners are not always just capital providers but can be strategic agents capable of influencing direct financial stakes through inter-firm governance.

Gerber (2007) offers a legal economic complementary lens focusing on director interlocks as mechanisms of "legitimacy, cooptation, expertise, and monitoring". Gerber argues that appointing individuals with relations to influential entities signals firm legitimacy to investors, thereby facilitating capital acquisition and corporate growth.³ However, Gerber also critiques the current limitations of competition policy, particularly Section 8 of the Clayton Act, which addresses interlocks among "nearly" competing firms, leaving room for collusive coordination that may dampen competition.⁴ Common ownership can increase the likelihood of interlocking directorates because investors who hold stakes in multiple companies may influence board appointments across those companies. However, not all investors are equally likely to appoint board members. Active investors are highly motivated to influence or appoint board members, while passive investors typically do not actively select or push for specific board members. They tend to vote according to management recommendations and avoid intervening

² Mark A. Lemley, "Overlapping Directors as a Competition Problem."

³ Benjamin Gerber, "Enabling Interlock Benefits While Preventing Anticompetitive Harm: Toward an Optimal Definition of Competitors under Section 8 of the Clayton Act," Yale Law School Legal Scholarship Repository, January 1, 2007. <https://openyls.law.yale.edu/entities/publication/83fac8ce-f68b-490b-9e6b-0bd42d678340>.

⁴ Benjamin Gerber, "Enabling Interlock Benefits While Preventing Anticompetitive Harm: Toward an Optimal Definition of Competitors under Section 8 of the Clayton Act."

directly, even if they own shares in multiple firms.⁵ An example of how active investors influence is “voting on director appointments”, which “provides a direct pathway through which common owners can affect interlocking directorates.”⁶ While common ownership creates the possibility of interlocking directorates, the actual appointment of directors depends largely on the type of investor and how actively they engage with corporate governance. This raises concerns in competition, specifically for firms with common owners in the same industry as, “regulators are scrutinizing common ownership and interlocking directorates more closely because they can pose competition concerns in appointments across portfolio companies.”⁷ Lemley and Loo (2025) also highlighted that anticompetitive risk becomes particularly prevalent when interlocks exist among firms whose products are highly substitutable, as indicated by high cross-elasticity of demand. In other words, consumer choice can easily shift between competing products, thus increasing the likelihood of coordinated conduct. This duality where interlocks can both confer corporate benefits such as expertise while also harboring anticompetitive risks, showcase whether common ownership encourages constructive collaboration or detrimental competition reduction.

Existing research has primarily focused on common ownership in its passive form, such as index funds and institutional investors who refrain from directly influencing corporate decisions. Yet, Lemley and Loo’s observations about investment firms having interlocking directors reveal that active investors, those involved in governance and motivated by

⁵ Azar, C. Schmalz, Tecu, et al, “Anticompetitive Effects of Common Ownership,” *Journal of Finance* 73(4), *S&P Global Market Intelligence*, 13 May 2018, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2427345#.

⁶ *American Bar Association*, “Interlocking Directorates in the Crosshairs of Regulation,” https://www.americanbar.org/groups/antitrust_law/resources/newsletters/interlocking-directorates-crosshairs-regulation-recap/.

⁷ *American Bar Association*, “Interlocking Directorates in the Crosshairs of Regulation.”

performance-based incentives, may exhibit different intentions and impacts. The differences in investor involvement exposes a significant gap in existing studies that this research intends to address. Specifically, it remains uncertain whether common ownership fosters cooperation by enabling knowledge exchange or if it suppresses competition and innovation due to conflict of interest among active investors aiming to maximize aggregate portfolio returns. Thus, this research takes into account the differences in investor attitudes and their roles in corporate governance to better understand how common ownership affects innovation.

Common Ownership Promoting Innovation through Collaboration

A common challenge in innovation is that firms often underinvest in research and development because they are unable to capture the returns from their innovations fully. This occurs due to technological spillovers, where competing firms benefit from the innovation, without bearing the associated costs.^{8 9 10} Anton et al. (2025) propose theoretically that common ownership mitigates conventional innovation underinvestment caused by spillover externalities. In their framework, when firms are owned by common investors, the innovation benefits spillover not only to the innovating firm but also to other firms in the investor's portfolio.¹¹ Ultimately, internalizing the positive externalities of innovation. The impact of common ownership on innovation depends on how closely related the firms are in the technology space, as measured by their patent portfolios. When firms are more technologically similar, there is a

⁸ Patrick Bolton and Christopher Harris, "Strategic Experimentation: A Revision by Patrick Bolton, Christopher Harris," SSRN, April 9, 1997. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1937.

⁹ Charles I. Jones and John C. Williams. "Too Much of a Good Thing? The Economics of Investment in R&D," *Journal of Economic Growth*, March 2000. <https://web.stanford.edu/~chadj/jeg2000.pdf>.

¹⁰ Ashish Arora, Sharon Belenzon, and Lia Sheer, "Knowledge Spillovers and Corporate Investment in Scientific Research," *American Economic Review* 111 (3): 871–98.

¹¹ Miguel Antón, et al, "Innovation: The Bright Side of Common Ownership?" *Management Science*, vol. 71, no. 5, 2025, pp. 3714–33. INFORMS, <https://doi.org/10.1287/mnsc.2024.04363>.

stronger spillover effect, which increases their motivation to innovate because they benefit more from each other's advancements. This suggests that common ownership tends to boost innovation, particularly among groups of firms working in related technological areas. However, Anton et al., also warn that these positive effects occur only if technological spillovers outweigh competitive pressures in the product market. In other words, there needs to be a cautious balance between the incentives to collaborate and the natural competition between firms.

Common Ownership as a Driver of Reduced Competition & Innovation Slowdown

Common ownership among competing firms can dampen competitive dynamics and hinder innovation due to the conflict of interest in pursuing market share gains at the expense of shared profits. When innovation enables a firm to capture market share, typically through new product developments funded by R&D, such changes steal profits from rival firms operating within the same or related product market.¹² This is also known as the “business stealing” effect.¹³ When competing firms have common owners who hold stakes in multiple companies within the same market, the incentive to innovate decreases. This is because any losses experienced by one firm are partially balanced out by gains in another firm owned by the same investors. As a result, common ownership discourages aggressive innovation, as owners prefer to share the market and reduce risks rather than foster intense competition.¹⁴ The extent to which innovation decreases depends on how similar or overlapping the competing firm's product lines are, which is also known as “product market spillovers”.¹⁵ Firms under common ownership with

¹² Miguel Antón et al, “Innovation: The Bright Side of Common Ownership?”

¹³ Miguel Antón et al, “Innovation: The Bright Side of Common Ownership?”

¹⁴ Miguel Antón et al, “Innovation: The Bright Side of Common Ownership?”

¹⁵ Miguel Anton et al, “Common Ownership, Competition, and Top Management Incentives | Journal of Political Economy: Vol 131, No 5.” *Journal of Political Economy*, Chicago Journals, www.journals.uchicago.edu/doi/10.1086/722414.

closely related products tend to innovate less, demonstrating how common ownership can reduce competitive pressures that normally drive innovation.

Donelson et al. (2025) expand on this by examining how interlocking directorates can facilitate reduced rivalry and implicit coordination. Antitrust laws such as Section 8 are designed to prevent such interlocks because they can lead to collusive behavior.¹⁶ The coordination hypothesis, supported by recent research from Gopalan et al. (2024), suggests that interlocks enable anticompetitive practices such as coordinated pricing and market division. Thus, boosting firm profit margins but undermining competitive intensity.¹⁷ For instance, SoftBank's significant stakes in multiple ride-hailing platforms gave it influence over competitive dynamics. By heavily supporting Didi (a Chinese app-based transportation and ride-hailing service) financially, SoftBank effectively reduced the intensity of direct competition by promoting consolidation, where Uber's exit ceded market control to Didi.¹⁸ With fewer competitors in the market, after Uber exit, the incentive to innovate aggressively or compete on price may diminish because Didi faces less immediate competitive pressure.

Governance Style & Investor Engagement as Critical Stakeholders

A critical but less explored aspect is the heterogeneity among common owners, particularly between passive and active investors, who differ in motivation and how they engage with firms' internal management and decisions. Passive investors, such as index funds, generally

¹⁶ Dain C. Donelson, Christian M. Hutzler, and Adrienne Rhodes, "Does Antitrust Enforcement against Interlocking Directorates Impair Corporate Governance?" *Journal of Accounting and Economics*, vol. 2025, 2025, p. 101815. Elsevier, <https://doi.org/10.1016/j.jacceco.2025.101815>.

¹⁷ Dain C. Donelson, Christian M. Hutzler, and Adrienne Rhodes, "Does Antitrust Enforcement against Interlocking Directorates Impair Corporate Governance?"

¹⁸ Softbank funding may spur uber to re-think tough Southeast Asian market | Reuters, Accessed December 8, 2025. <https://www.reuters.com/article/us-uber-southeast-asia/softbank-funding-may-spur-uber-to-re-think-tough-southeast-asian-market-idUSKBN1DL05I/>.

hold stakes in competing firms but aim for steady returns with limited involvement. Their broad crossholdings can unintentionally strengthen common ownership effects by encouraging less competition to keep returns stable.¹⁹ In contrast, active investors typically engage more directly with company management and encourage innovation to drive superior returns and strategic growth of a specific firm, promoting competition even among firms with shared investors. For example, active investors' focus on innovation might conflict with passive investors' incentives, especially when those passive investors are common owners. This dynamic creates a complex interplay where the nature and extent of investor engagement affect firm competition and innovation differently, suggesting that common ownership's effect differs between investor types. While Anton et al. highlight how common ownership can enhance innovation by fostering positive spillovers, they do not fully distinguish between investor types. Donelson et al.'s insights on board interlocks suggest that active, expertise-driven involvement can stimulate innovation, pointing to a relationship between investor activism and governance mechanisms.

Furthermore, Li et al. (2023) show that active investors such as venture capitalists (VC) firms with stakes in competing startups may selectively suppress innovation by withholding further funding from lagging firms, reducing duplicative R&D, and concentrating market power with top-performing startups. This strategy improves innovation efficiency but also reduces rivalry, resulting in social costs such as lower consumer welfare.²⁰ On the other hand, Eldar and Grennan (2025) find that common VC investors can boost innovation through governance networks that facilitate expertise sharing and strategic alliances. Eldar and Grennan (2025) emphasized how distributed, networked governance can foster collaboration without harming

¹⁹ Antón, Miguel, et al. "Innovation: The Bright Side of Common Ownership?"

²⁰ Xuelin Li et al, "Common Ownership and Innovation Efficiency, " *Journal of Financial Economics*, ScienceDirect, 13 Jan. 2023, www.sciencedirect.com/science/article/abs/pii/S0304405X22002483.

competition. These perspectives suggest that governance mechanisms are crucial in determining whether common ownership promotes innovation or reduces competition. While Li et al. question about efficiency gains coming at the expense of market diversity, Eldar and Grennan illustrate how strong governance and active oversight can channel shared ownership toward collaborative innovation and long-term success.

Research Gap & Opportunity

Existing research highlights key theoretical trade-offs and offers some empirical evidence on coordination among firms with common ownership. Unlike prior studies that largely overlook the differences among investors' motivations and decisions, this research focuses on how different investor engagement styles and governance mechanisms, such as board interlocks, interact to influence innovation outcomes. Through comparative analysis of passive and active investors, this research explores how different common ownership structures shape the annoying tension between collaboration and competition within different industries. Understanding the diversity of investor motivations and involvement, this research provides important implications for policymakers, regulators, and market participants dealing with the challenges and opportunities of common ownership and its influence on competition and innovation.

Case studies

Airlines publicly compete fiercely for passengers. There is heavy advertising on routes, well-priced fares, and frequent flyer perks, however, behind the scenes, major passive investors hold sizable stakes across the industry. This could create incentives to dampen head-to-head rivalry. For example, filings and 13F aggregation services reveal that Blackrock and other asset managers hold non-trivial positions across multiple U.S. airlines including United, Delta,

Southwest, and JetBlue.²¹ When a single investor bears gains and losses across competing firms, Anton et al. predicts partial internalization of innovation spillovers and R&D suppressing externalities.²² There is a possibility that investors prefer stable, industry-wide returns over aggressive firm-level competition. Empirically, noticeable observations in the U.S. airline industry reveal that common ownership is associated with measurable increases in prices and less route competition between firms with interlocking directors. Ruiz-Pérez (2019) found common ownership can influence which routes firms enter and how much capacity they supply.²³ This can shape market structure through fewer entrants and less aggressive entry, which then can affect prices indirectly. Critics have noted that it is challenging to identify the magnitude of these effects and to determine whether observed differences can be causally attributed to common ownership. This difficulty largely stems from the complex relationship between common ownership and competitive behavior. The airline case illustrates how passive common owners may reshape what appears to be straightforward rivalry into a more complex competitive environment, raising the question of whether any resulting differences in outcomes can truly be interpreted as the product of a causal relationship.

The Apple-Google director neighborhood case centers on a 2009 U.S. Department of Justice (DoJ) investigation into several technology firms accused of colluding not to poach each other's employees. At the time, Apple and Google were connected by a horizontal interlock. Eric Schmidt simultaneously served on both firms' boards, as did Arthur Levinson, creating a dense

²¹ "Blackrock, Inc, Ownership in Dal / Delta Air Lines, Inc. - 13F, 13D, 13G Filings," fintel.io, Accessed November 18, 2025. <https://fintel.io/so/us/dal/blackrock>.

²² Antón, Miguel, et al. "Innovation: The Bright Side of Common Ownership?"

²³ Alexandro Ruiz-Pérez, "Market Structure and Common Ownership: Evidence from the US Airline Industry," 2019, CEMFI Working Paper.

local network of overlapping directorships among Apple, Google, and other major tech companies, as illustrated in the “director neighborhood” graph for 2008.

Apple–Google director neighborhood, 2008

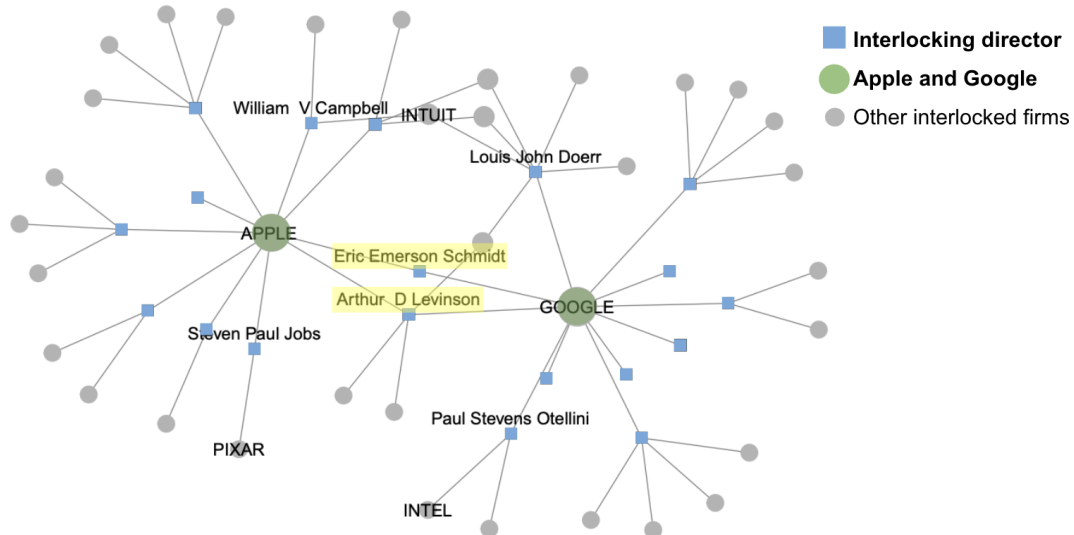


Figure 1.1: Director-firm bipartite network structure in the neighborhood of Apple and Google, 2008.

Circle nodes denote firms, square nodes denote directors, and edges represent board appointments. The neighborhood is confined to a distance of two degrees: Apple and Google, their directors, and all other firms on whose boards the directors hold seats.²⁴

The investigation uncovered email correspondence in which Apple’s Steve Jobs asked Schmidt, in his capacity as Google’s leader and Apple director, to have Google’s recruiting department stop targeting Apple engineers.²⁵ The interlock was pivotal for conveying Apple’s complaint to Google and relaying Google’s internal response back to Apple, thereby helping to enforce the alleged no-poach understanding between the firms. The DoJ sought injunctive relief

²⁴ Roma Poberejsky, Interlocking Directorates, Competition, and Innovation, 5 Aug. 2024, SSRN, <https://ssrn.com/abstract=4944799>.

²⁵ Roma Poberejsky, “Interlocking Directorates, Competition, and Innovation.”

restricting agreements that limit competition, and the subsequent settlement prohibited anticompetitive no-solicitation.²⁶ Shortly thereafter, Schmidt resigned from Apple's board and Levinson resigned from Google's board effectively severing the interlock.

This case highlights a governance mechanism directly relevant to conversations about common ownership, demonstrating how a shared decision-maker can serve as a coordinating agent across rival firms, facilitating noncompetitive outcomes without overt, formal agreements between independent boards. The Apple-Google interlock provides a concrete example of how overlapping control rights can enable tacit coordination and market segmentation, which in this instance was in the labor market. Furthermore, the case study illustrates a micro-level channel through which concentrated control, imparted by common directors or common owners, can dampen competition.

Key Conclusions from the Summit Panel Discussions

Professor Roy Shapira, Associate Professor of Law at Reichman University (IDC) with a distinguished area of expertise in reputation, regulation and corporate governance, Kevin McGovern, President of the New England Chapter of the National Association of Corporate Directors, and Jay Powers, Senior Vice President and Assistant Corporate Secretary and Associate General Counsel at Citizens Bank, had all kindly agreed to participate in a student-moderated discussion to drive the conversation on the evolution of corporate governance supported by their industry-specific insights. The discussion covered governance, institutional investors, and government regulations that apply various pressures to the concept of how corporate governance should operate. In alignment with the prevailing viewpoint on common

²⁶ Roma Poberejsky, "Interlocking Directorates, Competition, and Innovation."

ownership, the expert panelists echo this balancing act that is executing a corporate governance strategy. Common ownership can both facilitate cross-firm collaboration and risk dampening competition and innovation. The balance depends heavily on the quality of governance and the board's sense of accountability.

Discussion began with the shift in corporate governance from a narrow shareholder model to a broader, stakeholder-oriented one. McGovern mentioned that the formal responsibilities of boards, that being providing credible challenge to proposed policy changes, being responsible for strategy and ongoing performance of the company, in addition to the hiring of a CEO and determining their pay and when it is time to let go of them and bring on someone else, all of it fundamentally has not changed. What has changed is who the board is understood to be accountable to. Historically, it had been solely shareholders, but now accountability is owed to a wider set of stakeholders including customers, employees, suppliers, regulators, and the media. Powers reinforced this by describing “stakeholder governance” and transparency as central trends, and it is being asked that boards do not just stop at explaining what decisions they make, but stakeholders are also interested in the how and why that led to a board's decisioning. Shapira pushed this further by reframing governance as consisting of two elements, power and accountability, shifting from a simple vertical chain that linked from managers to the board to shareholders, in the chain of command, to a multidirectional network of accountability. Shapira added, “the companies that were quicker to realize this change in this accountability metrics are the companies that you see score highly in trustworthiness metrics and being more resilient.”

This multidirectional accountability lens helps reinterpret common ownership. Large institutional investors become one powerful node among many, but they operate in an environment where firms also face scrutiny from regulators, employees, communities, and social

media. That suggests common owners may not simply be pushing firms to quietly collude and soften competition. Instead, they are part of a governance ecosystem where overt anti-competitive coordination could be reputationally and legally costly. At the same time, the fact that accountability is no longer purely to firm-specific shareholders but to overlapping institutional owners can push boards toward more similar, “safer” strategies, which might indirectly reduce experimentation and innovation.

In direct connection to common ownership’s role on competition and innovation, Powers delve into how Citizens’ board engages with concentrated institutional ownership. Powers reiterated from the presentations that BlackRock “owns a piece of pretty much everything,” and so in that sense common ownership is quite integrated in many firms across many industries. Nevertheless, Citizens has a dedicated investor relations team that reaches out to its large 3-4% owners and holds regular calls with them to stay proactive about upholding that mutual relationship. Beyond direct investors, proxy advisors like Glass Lewis play an outsized role right now in public companies. Being called on to issue recommendations on CEO compensation and board composition; if Glass Lewis deems a pay package unfavorable, that stance can cascade through the BlackRock’s of the world into a coordinated “no” vote. This scenario illustrates how common ownership might create a horizontal governance force, in which the same institutions and their advisors are pressuring multiple competing firms to adopt similar approaches to executive compensation, organizational structure, and even strategic priorities.

This imparts an ambiguous effect on competition and innovation. With respect to imminent social problems pertaining to public goods, such as greenhouse gas emissions, cybersecurity standards, or AI safety, common owners and proxy advisors might wield the ability to encourage cross-firm collaboration that could benefit corporations’ industry-wide and

reduce wasteful duplication. Conversely, when the same decision makers push competing firms toward similar risk profiles and governance practices, therein lies a risk of homogenization, given that firms are converging on less risky, more incremental innovation paths that satisfy investors' expectations, but fall short of disrupting markets. The panel underscored how embedded board influence from common owners and proxy advisors is to make it plausible that common ownership could dull competitive edge even without explicit collusion.

In addressing a foreseeable concern with common ownership, on the premise that corporations call on industry experts who have gained their expertise through direct involvement with other firms, sometimes competing ones, a question directed to Professor Shapira was, "How can boards ensure that specialist expertise is actually integrated into decisions and not just confined to a committee?" He argued that bringing in experts, whether it is on cyber, climate, or AI related issues, only improves governance if they are integrated into agenda-setting and deliberation, not isolated in a technical silo that others simply defer to. Otherwise, boards fall into authority bias, and Professor Shapira implements the example that if a board member is unfamiliar with AI, they should refrain from moving along with, "I don't know AI, so I'll just go with the AI expert's recommendation." If common owners are brought on because they can offer invaluable industry-specific insight or if they push boards to add certain kinds of experts, this could either enhance thoughtful innovation as long as the experts genuinely enrich collective deliberation or create another form of box-ticking that discourages deeper examination. Professor Shapira emphasized, "you want them to be translators of these complex issues to the entire board, not technicians." Innovation impact of common ownership depends not just on who sits on the board, but on how expertise circulates within the boardroom.

The conversation then transitioned into regulatory scrutiny and government involvement in board oversight. McGovern and Powers had pointed to increased federal intervention, through avenues such as golden shares, revenue-linked stakes, and intensive regulation in sectors like banking. Professor Shapira tied this back to the rise of compliance regimes since the 1990s. Lacking the resources, scope, and feasibility to monitor aspects of every firm in the relevant industries, regulators have effectively delegated policing to firms' internal governance systems. One consequence, as Professor Shapira noted, is a tendency toward "check-the-box" or semantic compliance. Evaluated in the context of the forces that are applying pressure to a firm, regulators, institutional investors, and potentially government stakes all attribute. Accessing the circumstances, convergence on standardized, regulator and investor-approved practices come up as one viable option to achieve equilibrium. That kind of convergence can foster industry-wide collaboration on risk management, but it may also make boards more cautious about disruptive innovations that could attract regulatory or investor backlash.

One more note that can be touched on is McGovern and Powers' discussion of the firm's incorporation choices and choosing among Delaware, and recently, Texas or Nevada. It is apparent that the legal infrastructure around firms is becoming a competitive field. States are competing to be more "corporate-friendly," and boards are factoring in case law and litigation risk when choosing jurisdictions. A consideration for common owners is that a more protective legal environment may make it easier to exert consistent influence across portfolios. If this leads to stronger long-term orientation and better alignment between pay and performance, it could support patient, transformative innovation. But if it mostly protects boards and investors from potential external pressures pitted against the industry, it might further entrench strategies that favor stability over bold, competitive moves.

Implications

The implications of common ownership for innovation and competition are heterogeneous and appear to depend heavily on industry structure and the channels through which owners exert influence. In settings such as venture capital backed industries, common ownership can facilitate network innovation, with shared investors coordinating portfolios, reducing duplicative R&D across commonly owned firms, and, as some studies show, increasing the success rate of those firms, where success is typically measured by the likelihood of acquisition or IPO. These patterns are consistent with the view that, at least in some contexts, common ownership can enhance firm performance and innovative outcomes. Firms would be unlikely to achieve such exits if there were not genuine benefits along this dimension.

By contrast, in the context of large passive institutional investors, the mechanisms are less well understood, and there remains an open question as to how these investors' governance roles in board voting, internal engagement, or deference to management shape competitive behavior and innovative incentives. Further investigation must take place to learn how passive investors actually affect corporate governance and distinguishing positive and negative outcomes of common ownership. Ultimately, it is not common ownership in and of itself but the style and intensity of owner engagement that determines whether innovation thrives or stalls.

Future research

Future research should examine how different forms of common ownership and governance structures shape firm innovation and competitive attitudes. Although existing studies highlight that shared ownership can both internalize technological spillovers and weaken incentives for aggressive competition, past studies have not sufficiently distinguished between passive and active investors. Building on recent findings on interlocking directorates and

investor incentives, future research should investigate how differences in investor objectives translate into different outcomes for commonly owned firms. This includes assessing when board interlocks serve as channels for information sharing and capacity development versus when they operate as mechanisms of implicit coordination that reduce competition. As governance increasingly operates within a broader ecosystem of stakeholder expectations, regulatory scrutiny, and emerging AI-based advisory tools, further research is needed to understand how these pressures may moderate or amplify the influence of common owners in shaping firm behavior and innovation.

Conclusion

The magnitude of common ownership's competitive and innovative effects varies across industry. The most consistent evidence appears in the pharmaceutical industry, where overlapping ownership stakes align most strongly with reduced innovation incentives, slower drug development rivalry, and higher markups. These dynamics raise broader implications and demand for regulations that extend beyond other sectors. For consumers, common ownership may weaken price competition, which ultimately reduces welfare. For potential entrants, common ownership and interlocking directors across incumbents could create subtle but meaningful barriers to entry. This would impact the ability of new firms to compete and make it difficult to navigate ownership structures that may not value disruption.

The literature suffers from data limitations, and some theoretical results are subject to important assumptions that must be empirically validated. There is a need for better causal evidence to connect the impacts of common ownership to innovation and competition, in addition to observations across countries and other specific industries. With the rapid emergence

of artificial intelligence and new investment structures, it may change how common ownership is governed in the future and increase the complexity of new policies. Overall, evidence suggests that common ownership creates a powerful structural force that can meaningfully shape market dynamics, innovation incentives, and competitive outcomes. Recognizing the conditions that enable this force is essential for developing modern policies that protect competition and innovation while preserving the benefits of diversified investments.

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Analyzing the Effects of State Ownership in Green Innovation in China

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1. Introduction

Ownership structure plays an important role in shaping how firms innovate, manage risk, and invest in research and development. In China, where many state-owned enterprises (SOEs), private firms (POEs), and mixed-ownership firms operate side-by-side, these differences create distinct incentive environments. SOEs balance commercial goals with political responsibilities and are often expected to support national strategies. POEs face strong competitive pressure and focus more on profitability and efficiency. Mixed-ownership firms combine features of both systems, bringing together state objectives and private capital in ways that aim to join long-term planning with market discipline.

These differences matter for understanding green innovation. High-quality, long-term innovation, reflected in patents, sustained R&D investment, and ongoing technological development, depends on stable financing and the ability to tolerate uncertain returns. Short-term or efficiency-driven innovation, on the other hand, prioritizes cost control, quick commercialization, and small improvements. Green technologies fall more on the long-term side: they create positive externalities, involve uncertain profitability, and often lead private firms to invest less than what is socially optimal. As a result, ownership structure becomes a key factor in determining whether firms are willing to support long-term innovation rather than pursue quicker financial returns.

China's electric-vehicle (EV) sector provides a clear empirical setting for examining these dynamics. China now accounts for 60–70 percent of global EV sales, dominates the global battery supply chain, and has achieved domestic EV penetration rates far exceeding those in the United States¹. These outcomes reflect not only industrial policy but also differences in firm governance. Tesla represents the archetype of a privately governed firm operating under rapid

¹ International Energy Agency. (2024). *Global EV Outlook 2024: Opportunities in a changing policy landscape*. IEA Publications. <https://www.iea.org/reports/global-ev-outlook-2024>

innovation cycles and strict market incentives. BYD, by contrast, combines private-sector efficiency with early and sustained state support, and firms such as SAIC and CATL illustrate additional mixed or state-guided models. The coexistence of these distinct ownership types within the same sector offers a unique opportunity to assess how ownership structures influence the scale, quality, and efficiency of green innovation.

This paper investigates the following research question: **How does ownership structure shape green innovation outcomes in China versus the US, and why has this been central to China's global leadership in EV technology?** The contribution of this study lies in integrating three strands of research that are often examined separately: (1) the incentives generated by different ownership forms, (2) empirical evidence on green innovation quantity and quality, and (3) firm performance within the EV industry. Bringing these elements together allows for a clearer understanding of the mechanisms, such as financing advantages, long-term orientation, and institutional support, through which ownership structures influence technological development.

The analysis proceeds by first tracing the historical evolution of China's ownership system and outlining the theoretical channels through which SOEs, POEs, and mixed-ownership firms influence innovation incentives. It then reviews empirical evidence on how different ownership structures shape the quantity, quality, and efficiency of green innovation, including the conditions under which state involvement enhances or undermines innovation outcomes. These insights are synthesized into a broader conceptual framework that explains when state participation is likely to be beneficial and when it may introduce inefficiencies. Building on this foundation, the paper examines the EV industry as an applied case, showing how China's hybrid ownership environment that combines state guidance with market-based competition facilitated

leadership in battery technology, infrastructure deployment, and large-scale manufacturing. The paper concludes by reflecting on the policy implications of these findings and outlining avenues for future research.

2. Ownership Structure in China and Theoretical Framework of Ownership

2.1 Historical Evolution of Ownership in China

The evolution of China's ownership system reflects the country's transition from a centrally planned economy to a hybrid "socialist market economy." From 1949 to 1978, nearly all productive assets were state owned, and SOEs functioned as administrative units of central planning rather than profit-seeking firms. With soft budget constraints and limited competition, incentives for technological upgrading or cost efficiency were weak.

Deng Xiaoping's reforms in 1978 initiated a shift toward market-oriented governance. Fiscal decentralization, enterprise reforms, and the emergence of township and village enterprises created space for privately controlled firms. Throughout the 1980s and 1990s, POEs became increasingly significant contributors to output and employment, while SOEs were restructured and subjected to harder budget constraints.

A second transformation occurred in the 2000s, this time driven by WTO accession in 2001, the entry of foreign capital, and the rapid growth of joint ventures. Exposure to global production networks and modern corporate governance accelerated the rise of competitive POEs in electronics, e-commerce, and renewable-energy manufacturing.

Since 2012, China has re-emphasized the guiding role of state capital in industries linked to national security, supply-chain resilience, and long-term technological leadership. This re-centralization does not reverse market reforms, but rather embeds SOEs and state capital as

strategic investors within an increasingly mixed-ownership landscape. Policies such as “state capital as guidance” position SOEs as stabilizers capable of undertaking large-scale, long-horizon projects. This is crucial for sectors such as EVs, batteries, and semiconductors. These historical phases produced China’s contemporary hybrid system in which SOEs, POEs, and mixed-ownership firms coexist and interact, each contributing distinct strengths to national innovation objectives.²

2.2 Theoretical Framework: Ownership Structure, Incentives, and Innovation

To analyze how ownership affects innovation outcomes, specifically for green innovation, this paper draws on several theoretical mechanisms widely identified in the literature and will be greatly expanded in the literature review section.³

Incentive Alignment and Objective Functions:

- SOEs pursue a dual objective function: commercial performance and alignment with state priorities. This expands their willingness to invest in projects with long payback periods or high positive externalities (e.g., emissions-reducing green technologies) that private firms may underprovide.
- POEs face market competition and prioritize efficiency, cost control, and rapid commercialization. Their innovation tends to be more incremental and ROI-driven.
- Mixed-ownership firms combine market discipline with state-backed strategic direction, often yielding a balance between long-term vision and operational efficiency.

Financing Constraints and Access to Capital is a Major Determinant of Innovation Intensity:

² Naughton, B. (2021). *The rise of China’s industrial policy, 1978–2020*. Journal of Chinese Economic and Business Studies, 19(1), 1–18. <https://doi.org/10.1080/14765284.2020.1850508>

³ Li, H., & Liu, Z. (2020). *State ownership, institutional support, and firm innovation: Evidence from China*. Journal of Comparative Economics, 48(3), 567–588. <https://doi.org/10.1016/j.jce.2020.01.004>

- SOEs benefit from preferential access to credit, allowing them to sustain costly R&D with uncertain returns.
- POEs often face tighter financing constraints and thus focus on innovation with clearer commercial viability.
- Mixed firms receive both external financing discipline and state credit support.

Investment Timing (Short-termism vs. Long-term planning) and Risk Preferences:

- SOEs tolerate longer investment strategic planning because the state aims towards long-term societal benefits, reducing pressure for immediate financial returns.
- POEs discount long-term cash flows more heavily, making them less willing to pursue slow-maturing technologies like advanced batteries.
- Mixed firms can pursue long-term projects while retaining some efficiency incentives.

Institutional Support and Coordination Capacity:

- The state can mobilize resources, coordinate supply chains, and create large-scale demand through policies and procurement.
- SOEs and mixed firms act as channels to implement these mission-oriented goals, especially in green sectors where coordination failures are common.

2.3 Comparative Overview of Representative EV Firms

To illustrate how the theoretical mechanisms discussed above appear in practice, this section compares several leading EV and battery firms that represent the full range of ownership structures found in China's electric-vehicle sector. These firms differ not only in ownership form but also in how they access financing, manage innovation, and pursue long-term strategy. Examining these contrasts provides a grounded view of how ownership shapes firms' incentives and capabilities.

Table 1. Ownership Structure and Innovation Characteristics of Representative EV Firms

Firm	Ownership Type	State Influence	Financing Environment	Innovation Pattern	Strategic Implications
SAIC Motor (China)	SOE	High	Direct access to state banks, policy guarantees	Stable, incremental innovation aligned with industrial policy	Large-scale production; lower innovation efficiency
BYD (China)	Mixed (private + state capital)	Medium	Preferential credit + private discipline	Battery chemistry, vertical integration, strong cost reduction	Optimal blend of long-term support + market incentives; rapid global scaling
CATL (China)	Mixed	Medium–High	Policy-driven financing; national strategic backing	Process innovation, battery manufacturing leadership	Enables China’s dominance in the global battery supply chain
NIO (China)	Private (with provincial support)	Medium	Venture funding + targeted local government support	Battery-swap ecosystem, premium EV tech	High innovation quality but financially constrained without state buffering
Tesla (U.S.)	Private	Low	Market-based capital; no state equity	Fast-cycle, disruptive innovation (software, long-range EVs)	High efficiency and technological leadership but limited ability to pursue long-horizon, externality-heavy R&D

The firms in Table 1 illustrate several clear patterns. SAIC, a state-owned enterprise, benefits from reliable financing and strong policy support, which enables large-scale production

and alignment with national industrial goals. However, these advantages come with weaker innovation efficiency and slower technological progress.⁴

BYD and CATL, both mixed-ownership firms, show how moderate state involvement can combine long-term orientation with market discipline. Preferential credit, paired with competitive pressure, allows these firms to lead in battery chemistry, cost reduction, and vertical integration. Their performance reflects the theoretical claim that mixed ownership can balance stability with efficiency. NIO and Tesla represent private models with very different environments. Tesla operates under a fully market-driven structure, which encourages rapid, disruptive innovation and strong software integration but exposes the firm to greater financial volatility. NIO, although private, still relies on targeted provincial support. It produces high-quality innovation but remains more financially constrained than mixed or state-backed firms.⁵

Overall, the comparison shows that ownership structure shapes firms' access to capital, tolerance for long-term risk, and innovation strategy. SOEs excel at scale and stability, private firms excel at speed and efficiency, and mixed-ownership firms often achieve the most balanced performance. This diversity helps explain how China's EV industry has simultaneously achieved rapid scaling, cost competitiveness, and leadership in core green technologies.

⁴ Cao, X., Cumming, D., & Zhou, S. (2020). *State ownership and corporate innovative efficiency*. *Emerging Markets Review*, 44, 100699. <https://doi.org/10.1016/j.ememar.2020.100699>

⁵ Caroline M Betts, Yu Cao. (2025). *How Does State Ownership Affect Firm Innovation? Evidence from Chinese Manufacturing Firms*, *The World Bank Economic Review*, lhaf024, <https://doi.org/10.1093/wber/lhaf024>.

3. Literature Review

Although researchers disagree on how SOE affects green innovation, a consistent theme appears across different empirical literature reviews, all based in China: state ownership promotes green innovation only when supported by capable governance. Ultimately, the findings show a nuanced view where state ownership is neither inherently beneficial or harmful but that the outcome depends on whether state-provided benefits are being properly used. This section of the paper will delve deeper into how state ownership in China promotes firms' ability to produce green innovation in both a quantitative and a qualitative manner, then compare these findings to literature that challenge the role SOEs have on green innovation and finally take a closer look into the amount of state-ownership within privatized firms that lead to the greatest utility in green patent production.

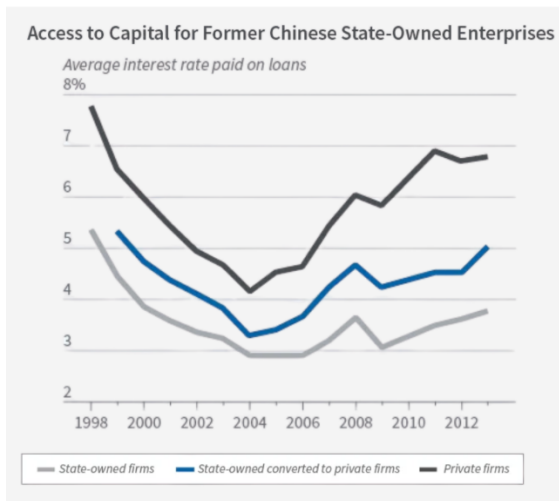


Figure 1. Cost of capital across ownership types, emphasizing the financing benefits of state affiliation.

3.1 Evidence Supporting the View That SOEs Enhance Green Innovation

There are empirical findings that indicate state equity participation increases the quantity of green innovation, particularly when firms operate in regions with strong legal and regulatory institutions. Wang and Jiang (2021) argued that “the facilitating role of state ownership in green innovation is strengthened in regions with advanced legal development for firms with sufficient resources, or

when a board chair possesses functional experience”⁶. Their findings show that state ownership has a positive and statistically significant impact on green patents when firms have the internal capability via governance and external support via state relationships. However, the study also states that while “state ownership promotes green innovation in regions with well-developed legal institutions, ... it suppresses green innovation in areas with poor legal development.” This highlights the importance of institutional quality in shaping outcomes.

Furthermore, Deng et al. (2024) used more than 19,000 firm year observations in China from 2009 to 2021 and implied that a 1 percent increase in SOE equity share raises green patents by approximately 1.05 percent ⁷. This is primarily because state-linked firms enjoy lower borrowing costs than the market rate and get greater access to credit which significantly reduces uncertainty in long-term R&D investments. These conditions are crucial for green innovation, which is known to be capital-intensive and slow to commercialize. This is further emphasized through broader findings from Harrison et al. (2019) stating that China’s former SOEs receive loans at 100-200 basis points lower interest rates than similar private firms showing that greater access to capital is able to spill over into innovation capacity ⁸.

Lastly there is additional support from Zhang et al. (2023) that looks into 12,103 firm year observations in China ⁹. This supporting evidence shows that firms with SOE shareholders produce 10-15 percent more invention-level green patents relative to comparable firms without state shareholders. Invention patents represent high-tech, complex technological breakthroughs, in contrast to utility patents, which reflect incremental modifications to patents that already exist. This indicates that SOE involvement raises not only the quantity but also the quality of green

⁶ Wang, Kui, and Wei Jiang. (2021). *State Ownership and Green Innovation in China: The Contingent Roles of Environmental and Organizational Factors*. Journal of Cleaner Production 314: 128029. <https://doi.org/10.1016/j.jclepro.2021.128029>.

⁷ Deng, Q., Zhang, L., Wang, S., Liao, Y. and Zeng, J. (2025), *State-owned equity participation and corporate green innovation: evidence from Chinese private enterprises*. Asia Pac Econ Lit, 39: 152-171. <https://doi.org/10.1111/apel.12435>.

⁸ Ann Harrison, Marshall Meyer, Peichun Wang, Linda Zhao, and Minyuan Zhao. (2019). *Can a Tiger Change Its Stripes? Reform of Chinese State-Owned Enterprises in the Penumbra of the State*. NBER Working Paper 25475, <https://doi.org/10.3386/w25475>.

⁹ Xu, Jingchang, Huixuan Zhang, and Wuqing Wu. (2023). *One Novel Mixed Ownership Reform and Green Innovation in Private Firms: Evidence from China*. Emerging Markets Review 57: 101076. <https://doi.org/10.1016/j.ememar.2023.101076>.

innovation. Other studies are also able to emphasize this result. For instance, Macheda et al. (2025), examines the contribution of SOEs to China's high-quality economic development (HQED)¹⁰. The study found that SOE investments are 20-30 percent higher than that of private firms towards green innovation and SOE-related innovation produces positive spillovers across provinces. These spillovers appear in the form of greater regional spread of green technologies and improvements in innovation capability once more providing stronger arguments that not only quantity but the quality of green innovation strengthens.

Across these studies, a set of shared factors are able to explain why state ownership can enhance green innovation. First, lower financing costs enable SOE-connected firms to undertake longer-time-frame, higher-risk projects that a fully privatized market might underfund due to short-term decrease in ROI. Second, SOEs provide access to broader resource and political networks including subsidies, land-use approvals, national laboratories, and government research programs that support environmentally related technological development leading to greater quantity and quality in green patents. Finally, SOE members face political pressure to meet environmental targets, which aligns firms' innovation strategies with broader national objectives such as advancing national green policy objectives and strengthening national energy security through investment in alternative energy technologies.

Ultimately, these literatures that are in support of SOEs in promoting green innovation emphasizes that state ownership strengthens green innovation when political objectives and institutional support align to prioritize long-term outcomes over short-term profitability.

¹⁰Macheda, Francesco, and Junxi Liu. (2025). *The Role of State-Owned Enterprises in Promoting High-Quality Economic Development: The Case of China*. World Review of Political Economy 16, no. 1: 26–82. <https://doi.org/10.13169/worldreviewpoliecon.16.1.0026>.

3.2 Evidence Challenging the View That SOEs Enhance Green Innovation

While there is substantial evidence supporting state ownership, SOEs often underperform in green innovation due to bureaucratic inefficiencies and politicized incentives.

Zhou et al. (2017) find a negative association between state ownership and innovation efficiency which is the ratio of patents (innovation output) to R&D spending (input).¹¹ Their findings show that SOEs spend more on R&D but gain less innovation output per unit of expenditure compared to private firms. This indicates that SOEs may be over-investing in green innovation without proportionate returns, and reflects their increased emphasis on political mandates.

Zhang & Yu (2023) argue that sectors with higher SOE concentration display higher energy usage and weaker environmental performance, suggesting that state ownership may hinder firms' adoption of energy-efficient technologies.¹² Their analysis concludes that some SOEs prioritize industrial output, employment, and stability over environmental efficiency, which can delay firms' initiatives for green innovation.

Pan et al. (2022) study firms that underwent privatization and find that both the quantity and quality of innovation increased subsequently even though R&D expenditure levels remained constant.¹³ These results are attributable to improvements in managerial discipline, operational efficiency, and responsiveness to the market. The authors state that private and foreign ownership foster clearer profit incentives and shorter feedback cycles, which translate into higher R&D productivity.

¹¹ Zhou, Kevin Zheng; Gao, Gerald Yong; and Zhao, Hongxin. (2017). *State Ownership and Product Innovation in China: An Integrated View of Institutional and Efficiency Logics*. Administrative Science Quarterly 62, no. 2: 375–404. <https://hub.hku.hk/bitstream/10722/246583/1/Content.pdf>

¹² Zhang, Xiekui, and Baocheng Yu. (2023). *The Impact of Ownership Structure on Technological Innovation and Energy Intensity: Evidence from China*. Sustainability 15, no. 11: 8512. <https://doi.org/10.3390/su15118512>

¹³ Pan, Xia; Cheng, Wenxin; and Gao, Yuning. (2022). *The Impact of Privatization of State-Owned Enterprises on Innovation in China: A Tale of Privatization Degree*. Technovation 118: 102587. <https://doi.org/10.1016/j.technovation.2022.102587>

The critical issue raised by this research is not that SOEs do not innovate, but that they innovate less efficiently than private firms. While SOEs may produce more green patents in absolute terms, the marginal return on R&D investment tends to be lower. Together, these studies demonstrate that SOEs are poorly suited for rapid, market-driven innovative processes that demand strong managerial incentives and disciplined resource allocation.

3.3 The Inverted-U Relationship Between State Ownership and Green Innovation

Zhou et al. (2017) found that the conflicting evidence suggests an inverted-U pattern relationship, where innovation rises with state involvement up to an optimal point (around 30%) and declines thereafter.¹⁴

At low to moderate levels of state ownership (up to 30%), firms receive tangible benefits: improved access to resources, stronger political support, and access to various networks. These mechanisms enhance green innovation in both quantity and quality. Firms also face political pressure to meet environmental targets, which acts as a non-market incentive reinforcing innovation.

However, once state ownership surpasses a critical threshold, the disadvantages begin to take over. Heavy state involvement introduces excessive bureaucracy, weaker competitive pressures, managerial risk aversion, and goal ambiguity. At high state ownership levels, political objectives overtake profit-maximizing ones. Innovation becomes compliance-driven rather than efficiency-driven, lowering productivity.

Under this framework, private and mixed-ownership firms occupy the most effective region of the curve. Moderate state ownership combines the best attributes of SOEs

¹⁴ Zhou, Kevin Zheng; Gao, Gerald Yong; and Zhao, Hongxin. (2017). *State Ownership and Product Innovation in China: An Integrated View of Institutional and Efficiency Logics*. *Administrative Science Quarterly* 62, no. 2: 375–404. <https://hub.hku.hk/bitstream/10722/246583/1/Content.pdf>

(long-termism, resource access, externality capture) with the strengths of private firms (efficiency, competition, managerial discipline).

The inverted-U model thus provides a coherent explanation for why both positive and negative findings coexist in the literature. Green innovation is maximized not at full state ownership, nor at full privatization, but at a hybrid structure that blends state incentives with market constraints.

3.4 Additional Mechanisms Identified in Recent Research

Beyond ownership share, the literature increasingly highlights contextual variables that determine whether state ownership helps or hinders green innovation.

Legal and institutional quality plays a decisive role. Wang & Jiang (2021) show that SOEs outperform private firms in green innovation only in provinces with strong legal environments.¹⁵ In weaker provinces, SOEs' political incentives reduce innovation.

Digital capacity is another important factor. Liu et al. (2024) find that digital transformation like AI adoption, information systems, and data analytics neutralizes the negative effects of state ownership, suggesting that managerial modernization is a critical complement to ownership structure.¹⁶

The *type of green innovation* matters as well. Qu & Pan (2023) show that SOEs disproportionately generate “high generality” innovations in green technologies with broad applicability across industries rather than firm-specific, specialized innovations.¹⁷ This pattern reflects policy priorities: policymakers prefer scalable innovations that improve nationwide environmental outcomes.

¹⁵ Kui Wang, Wei Jiang. (2021). *State ownership and green innovation in China: The contingent roles of environmental and organizational factors*, Journal of Cleaner Production, <https://doi.org/10.1016/j.jclepro.2021.128029>.

¹⁶ Liu, Renhao & Zhang, Beifan & He, Tong & Fan, Youqing & Li, Shuang. (2024). *State Ownership and Green Innovation: The Moderating Role of Digitization*. Journal of Global Information Management. 32, 1-19. <https://doi.org/10.4018/JGIM.347502>.

¹⁷ Qu, G., & Pan, X. (2023). *Not all green innovations are equally green: State ownership, green innovation generality and contingencies*. Business Ethics, the Environment & Responsibility, 32, 1532–1546. <https://doi.org/10.1111/beer.12577>

Political connections also shape behavior. SOEs with merit-based political ties innovate more and create more accessible environmental technologies than those with inherited political ties.

Together, these mechanisms demonstrate that state ownership is not deterministic. Its impact depends on governance quality, institutional context, digital maturity, and political incentive structures.

3.5 Conclusion of Literature Review

The literature reveals complex arguments. State ownership can strongly enhance green innovation through resource access, political incentives, and long-term strategic orientation. However, SOEs often suffer from lower innovation efficiency, bureaucratic rigidity, and weak competitive pressure. The most compelling synthesis is the inverted-U model: moderate state ownership maximizes green innovation, while excessive state control or full privatization produces suboptimal outcomes. Additional mechanisms such as legal quality, digitalization, political ties, and innovation type further shape firm behavior. A significant research gap remains regarding how privatization affects green innovation and through which channels.

4. Case Study of the EV Industry in China Comparison to that of the US

Our group analyzed the electric vehicle (EV) industry to better understand the innovation effects of privatization and state ownership, particularly in an industry that is characterized by green innovation. The main reason we chose to analyze this industry is that it provides a direct comparison between the United States and China, particularly regarding how some of the theoretical mechanisms related to ownership and innovation (institutional support, time horizons, financial constraints, etc.) play out in practice. The US is a tech hub for private enterprises, with players such as Tesla, Ford, and Rivian. These firms would be located very close to 0% state-ownership on the inverted-U. China on the other hand controls the industry with firms that are either state-owned (SAIC), or private but with significant institutional support from the government (BYD, NIO). On the inverted-U, some of these firms would fall at the 30-60% area of state-ownership while others would be 100% state-owned.

It is first important to understand the global landscape of the EV industry itself before exploring the mechanisms by which Chinese and American manufacturers have attained their positions. From both a production capacity and profitability standpoint, the Chinese firms with state-backed operations have dominated their American, privatized counterparts. The International Energy Agency explains that China alone was responsible for manufacturing 70% of the 17.3 million electric vehicles produced globally in 2024¹⁸. Profitability in the EV industry has historically been in the negatives. Only four EV manufacturers achieved a positive operating margin in 2024: Tesla, BYD, Li Auto, and Seres¹⁹. All of these companies with the exception of Tesla are Chinese enterprises. Li Auto is fully state-owned by the Chinese government while Seres and BYD receive significant support from the Chinese government.

¹⁸ International Energy Agency. Global EV Outlook 2025. Paris: International Energy Agency, 2025. <https://www.iea.org/reports/global-ev-outlook-2025>.

¹⁹ Benchmark Mineral Intelligence. "When will the EV market reach profitability?" Benchmark Source. April 9, 2025. <https://source.benchmarkminerals.com/article/when-will-the-ev-market-reach-profitability>.

The case study we examined explains how China was able to become the dominant market in the EV industry despite their relatively late start. At a top level, the case explains that Chinese firms surpassed American and European counterparts through a framework called the *Model of Technology Leapfrogging*²⁰. This framework explains how a country can come to control a technology-intensive industry through interlocking corporate and political interests between the state and the industry's firms. It provides a three-layered timeline to show how infant industries in particular can turn into major international players in terms of market penetration, production efficiency, and innovation. The EV industry is used as an example of a successful application of this model in practice, and also suggests that the inverted-U hypothesis may not fully represent the mechanism used by the Chinese government to get ahead in the EV industry.

The first layer involves the role of the Chinese government. It begins with the central government providing national, overarching development roadmaps for the country's provinces to follow. One such initiative is the *New Electric Vehicles Industry Development Plan (NEVIDI)*, which targets having all public transport and most new vehicle sales be electric by 2035²¹. Provincial/regional governments then incentivize firms in the industry to meet these national goals, supporting them from infancy to when they become established leaders.

Provincial governments provide these incentives through three steps as well. The first step is by providing piloting and demonstration programs that are used to showcase the positive effects of EVs. Vehicles would be displayed by governments in public areas specifically to show their benefits, not necessarily to push for national adoption. That adoption comes rapidly through the provincial governments' second step: subsidies and R&D funding. Consumers would receive

²⁰Pengyu Zhu et al., "China's Model of Technology Leapfrog: A Case Study of Electric Vehicle Policies and the Development of Green Technology," *Renewable and Sustainable Energy Reviews* 226 (2026): 116414, <https://doi.org/10.1016/j.rser.2025.116414>.

²¹ International Energy Agency, "New Energy Vehicle Industry Development Plan (2021-2035)," IEA, last updated May 16, 2023, <https://www.iea.org/policies/13099-new-energy-automobile-industry-development-plan-2021-2035>.

buyer-side subsidies ranging from 35-60,000 yen to promote product demand. Policy was also engineered in such a way that these subsidies would only be provided for EVs that used domestically produced batteries, promoting domestic production. The third step involved phasing out subsidies and instead using regulations to encourage innovation. National standards focused on safety, cycle, life, energy density, and other measures of green technological development required firms to keep innovating.

The second layer of the Leapfrogging Model describes how firms in the industry reacted to government action. Demonstration events incentivized vehicle and battery-manufacturers to pivot towards electric vehicles. These manufacturers were located at all levels of the inverted-U ranging from some state support to full-ownership. The subsequent government subsidies resulted in decreased prices for consumers and costs for producers, propelling growth in the industry. This also reflects theoretical frameworks related to financial constraints; Chinese SOEs have greater access to credit to sustain innovation R&D. Lastly, EV firms continued to innovate due to national standards that targeted better battery cycle life, energy density, and other measures of green innovation.

The final layer of the model explains the effects the top two layers had on the overall market. Due to the subsidies, funding, and restrictions, China became a leader in both innovation and efficient production at scale. This applies particularly to the EV batteries. The country produces these batteries at a higher quality (as measured by green metrics such as energy life, charge-discharge performance, etc), and at a significantly greater scale than anywhere else in the world. This has resulted in both domestic and international market penetration. Chinese firms are on balance more profitable than American or European competition, and they dwarf their western rivals in terms of efficient production scale.

The Leapfrogging Model challenges the inverted-U hypothesis of the relationship between state-ownership and innovation, while also reinforcing it in some ways. It is certainly true that a significant amount of state-ownership may result in less efficient innovation, materializing as issues such as unaligned political goals, risk aversion, or too much bureaucratic oversight on executive boards. These issues however do not materialize in the same way in the Chinese EV industry. The Chinese government provides concrete national goals (EV battery metrics, NEVIDI), ensuring that political goals align with business. National government plans such as NEVIDI touch on frameworks identified in the literature such as incentives alignment, time horizon, and institutional support. Chinese EV firms and the government both want to improve EV production, and the government in particular is willing to internalize costs to support the industry in the long-term with the previously mentioned national economic goals.

Two important distinctions can be made when comparing the United States to China in terms of their approach to growth within the EV industry. The first is that American private firms receive significantly less institutional support. These firms receive less government funding, have more expensive supply chain inputs, and have to contend with other regional policy differences (such as more expensive labor). This has resulted in less profitability for American firms and less international market penetration. Second, the type of innovation the firms produce differ as well. Chinese firms excel in green innovations related to core technologies related to EVs. These include the battery metrics explored earlier, as well as finding ways to efficiently scale the production of these batteries to meet demand. American firms differ in that they tend to produce disruptive innovations and technologies that don't necessarily require the same institutional support or progress towards a national energy goal. These include Tesla's software integration within its cars and long-range EVs.

5. Conclusion

Given the literature into both the positive and negative effects of privatization on green innovation as well as the case study we analyzed, we argue that the main takeaway from our research is that both state-owned or privatized enterprises can promote green innovation. What comes first is that firms receive institutional support from their governments and clear policy guidelines. This can be seen in the Chinese EV industry where both SOEs and NOEs benefit from the overarching policy and economic goals of the Chinese government. Firms at all levels of the inverted-U can innovate.

This takeaway leads to the question as to how these findings apply to US industries. Given the capitalistic, market-driven system the United States operates under, the opportunities for purely state-owned firms or private firms receiving significant institutional support from the government will always be limited. The literature discusses the importance of time horizons in promoting innovation. Chinese EV firms simply have more time due to aligning with long-term economic goals, while American EV firms must compete for advantages in a capitalist market.

A panel discussion with Professors Sarah Armitage, Julie Yen, and David Webber reveal interesting insights as to how this discrepancy can be confronted in the context of innovation. Professor Armitage discusses that competition amongst private firms in the US naturally results in less innovation due to market failures such as knowledge spillover, where firms will be hesitant to invest in R&D due to competing firms being able to transfer the new technologies into their own business for a much cheaper price. Policy instruments such as green banks and technology tech hubs have been introduced by the US government in response to these market failures²². These instruments would place American EV firms in the hypothetical optimal point

²² Sarah C. Armitage, Noël Bakhtian, and Adam B. Jaffe, "Innovation Market Failures and the Design of New Climate Policy Instruments," Working Paper No. 31622 (National Bureau of Economic Research, Cambridge, MA, August 2023), <https://www.nber.org/papers/w31622>.

of state and private cooperation, as described by the inverted-U theory. Future research could aim to see how these instruments compare to the more direct, institutional support the Chinese government provides its private and public firms.

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