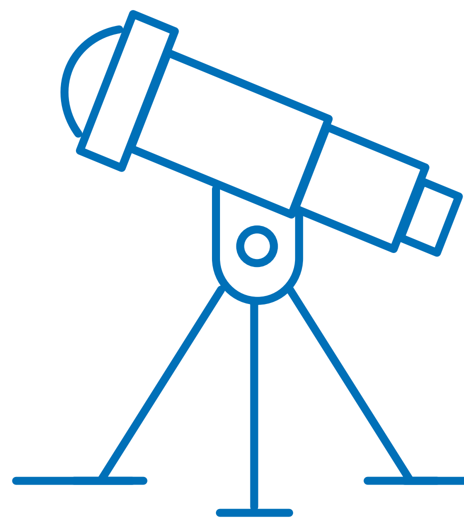
In collaboration with

MSCI Institute

FCLTGLOBAL
FOCUSING CAPITAL ON THE LONG TERM

REPORT

Holding the Long View



BOARD EQUITY OWNERSHIP AND ITS IMPACT ON CORPORATE PERFORMANCE

Mobilizing companies and investors to focus capital on the long term to create lasting value

Millions of people around the world are saving money to meet personal goals—funding a comfortable retirement, saving for someone's education, or buying a home, to name a few.

The funds to support these goals are safeguarded by institutional investors—pension funds, sovereign wealth funds, insurers, and asset managers—who invest in companies for the prospect of growth and security. These savers, their communities, and the institutions that support them make up the global investment value chain, and each benefit from long-term decisions in different ways.

Data shows that long-term-oriented investors deliver superior performance, and long-term-oriented companies outperform in terms of revenue, earnings, and job creation. But despite overwhelming evidence of the superiority of long-term investments, short-term pressures are hard to avoid. A majority of corporate executives agree that longer time horizons for business decisions would improve performance, and yet half say they would delay value-creating projects if it would mean missing quarterly earnings targets.

Today, the balance remains skewed toward short-term financial targets at the expense of long-term value creation.

FCLTGlobal mobilizes companies and investors to focus capital on the long term to create lasting value. We are a non-profit organization bringing together leading global companies and institutional investors. We pursue our mission by developing research-backed strategies that enhance long-term value creation for savers and communities.

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EXECUTIVE SUMMARY

Boards with higher and more durable equity ownership are associated with stronger long-term shareholder returns, risk-adjusted returns (alpha), and differences in investment behavior, specifically higher R&D intensity based on FCLTGlobal analysis, in collaboration with MSCI Institute and leveraging data from MSCI Solutions, of 2,137 companies in the MSCI All Country World Index (ACWI) from 2020 to 2025.[a]

A sustained five percent average annual increase in independent director equity ownership over a five-year period is associated with:

- **Total shareholder return (TSR): 35–40 percentage points higher cumulative 5-year TSR. Annually, a 1 percent increase in equity ownership led to ~8 percent increase in TSR.**
- **Risk-adjusted returns (alpha): Approximately 50 percentage points higher cumulative 5-year excess returns relative to a locally relevant equity market benchmark. Annually, a 1 percent increase in equity ownership led to an ~11 percent increase in alpha.**
- **R&D intensity: Roughly 3 percent higher aggregate R&D spend relative to revenue.**
- **Volatility: When independent directors held more equity than executives over a 5-year period, volatility was reduced by an average of 50.9 percent.**

These relationships are particularly pronounced for independent directors and where board ownership is meaningful relative to executive ownership. The inverse was also found to be true. Directionality tests indicated that reduced director holdings across a five-year period correlated with a decrease in TSR and risk-adjusted returns.

For companies where independent directors decreased their holdings across the five-year period:

- **TSR was reduced by an average of 9.7 percent.**
- **Risk-adjusted returns were reduced by 11 percent.**

These findings reinforce a simple but often underappreciated insight: alongside other incentives, ownership can also play a meaningful role in shaping board behavior. When directors have a stake in long-term outcomes, boards appear better positioned to support durable strategy, disciplined capital allocation, and sustained investment.

Yet despite this evidence, board ownership remains uneven across public markets and is often designed in ways that limit its effectiveness. Short-term pressures, governance norms, independence concerns, and symbolic ownership practices frequently prevent boards from realizing the potential benefits suggested by the data.

This paper examines what the evidence shows about board equity ownership and long-term outcomes, why ownership is unevenly adopted, and how boards and investors can design ownership structures that reinforce a long-term ownership mindset.

FCLTGlobal's Research on Long-term Governance and Incentives

This study builds on FCLTGlobal's research on long-term alignment between boards, executives, and investors.

- *CEO Shareholder: Straightforward Rewards for Long-term Performance* Explores how equity ownership and extended holding periods can strengthen accountability and long-term value creation at the executive level.
- *The Board Playbook: Winning Strategies for Long-Term Value Creation* Outlines practical steps boards can take to embed long-term thinking into oversight, incentives, and decision-making.

Together, these publications establish the foundation for this paper, extending the ownership lens from management to directors and examining how board equity can anchor long-term decision-making.

[a] Throughout this paper, 'alpha' or 'risk-adjusted returns' refer to excess return compared to a benchmark index (FactSet). FactSet has an alpha value for each company, calculated based on a company-specific index (P_Alpha_Pr) (P_Local_Index).

BOARD OWNERSHIP ADDS LONG-TERM VALUE

This joint analysis by FCLTGlobal and MSCI Institute finds that board equity ownership is associated with long-term value creation across global public markets. Companies in which directors hold higher and more durable equity stakes exhibit stronger long-term outcomes across several dimensions that matter to investors, boards, and other stakeholders.

Higher board ownership is associated with stronger five-year shareholder returns, improved risk-adjusted performance, lower volatility, and greater investment in innovation. These relationships are most pronounced where ownership is sustained over time, held by independent directors, and meaningful relative to executive ownership.

Taken together, these findings suggest that board ownership can shape board behavior and decision-making over long horizons.

What Does "Meaningful" Equity Ownership Mean?

Throughout this paper, "meaningful" ownership refers to equity exposure that is:

1. Substantial in scale relative to directors' responsibilities and compensation
2. Sustained over time
3. Not easily reduced or unwound

What the Analysis Shows

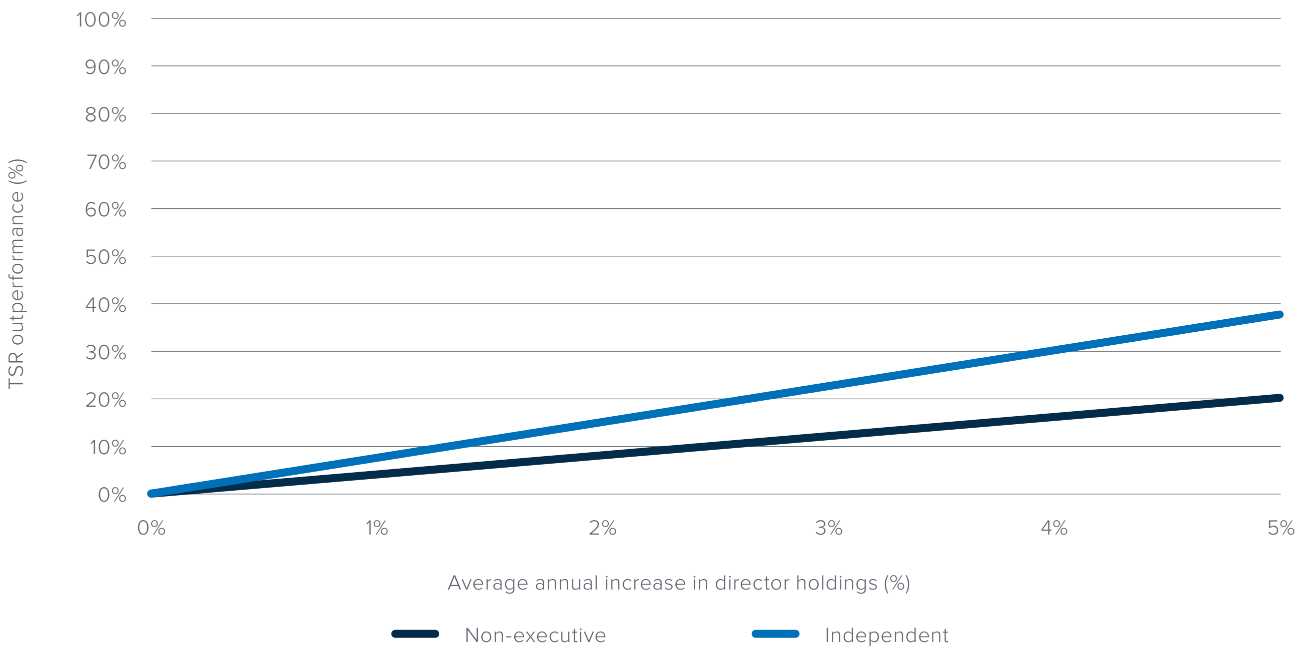
The analysis evaluates the relationship between board equity ownership and long-term outcomes across a broad universe of global public companies. The results indicate that:

1. **Durable board equity ownership is linked to significantly stronger long-term returns.** Companies in which director ownership increases and is sustained over time deliver approximately 35-40 percentage points higher TSR and 50 percentage points higher cumulative 5-year risk-adjusted returns. These relationships persist even after controlling for sector, geography, firm size, and ownership structure.
2. **Declines in director ownership are associated with weaker long-term performance.** TSR declined by an average of 9.7 percent, and alpha were reduced by 11 percent for companies where independent directors decreased their holdings across the 5-year period. Boards in which director ownership falls over time tend to show weaker subsequent outcomes, suggesting that sustained ownership, rather than one-time grants or static holdings, is more closely linked to long-term performance.
3. **Greater director ownership relative to executives is associated with lower volatility.** Volatility was reduced by 50.9 percent on average when independent directors held more equity than executives during a 5-year period. The strongest relationships appear when directors, particularly independent directors, hold meaningful equity stakes relative to executives, indicating that balanced ownership may strengthen the board's capacity for effective oversight.
4. **Higher independent director ownership is associated with greater investment in innovation.** A sustained 5 percent increase in independent director equity ownership is associated with ~3 percent more aggregate R&D spend relative to revenue. This pattern suggests that board ownership may influence corporate behavior and long-term investment decisions, not only financial returns.

Director Definitions, Explained

- Independent Director: A non-executive director who does not have any material relationship with the company, its management, or is not a significant shareholder.
- Non-executive Director: A board member who is not part of the company's executive management team and does not hold an executive role within the company but is not necessarily independent.
- Named Executive Officers: A board member who is part of the company's executive management team and holds an executive role within the company.

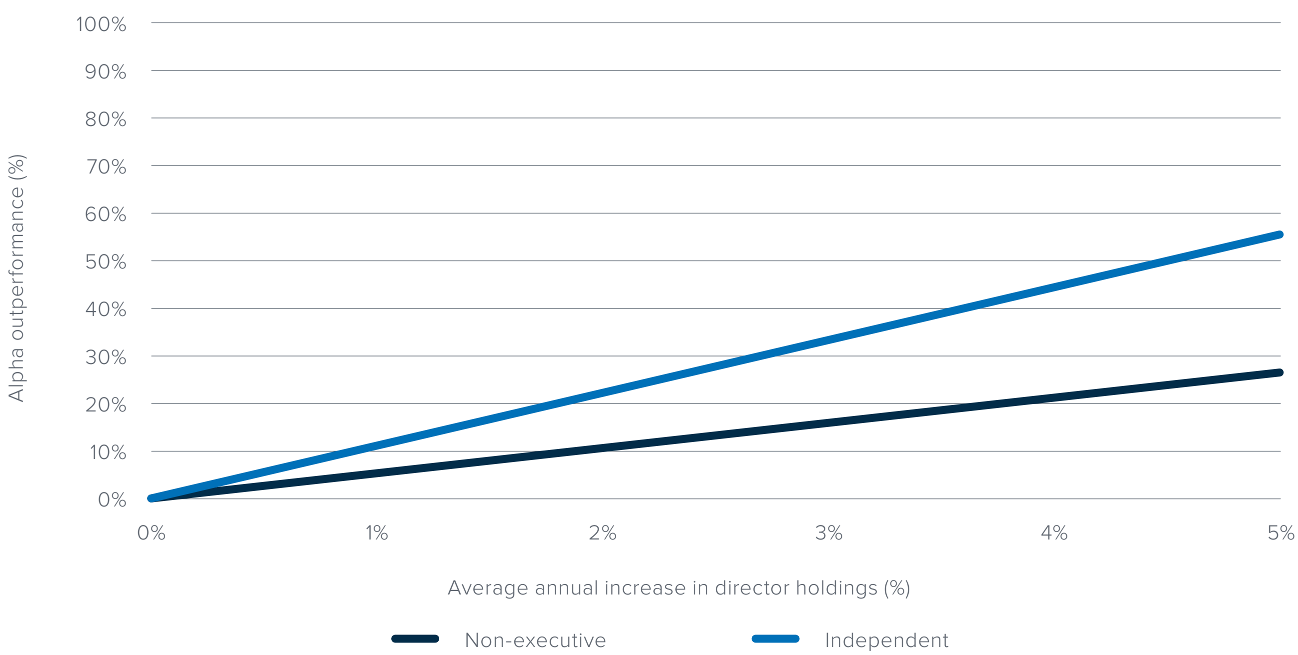
Figure 1a: Companies with increasing director equity holdings outperformed on 5-year TSR



Data as of November 4, 2025. 5-year TSR analysis is based on a universe of 2,137 companies that were continuous constituents of the MSCI ACWI Index between 2020 and 2025. Full variable definitions and model specifications are provided in Appendix 1. Outperformance factor was approximately 4.1% and 7.6% per 1% average annual increase in holdings for non-executive and independent directors, respectively. Holdings growth chart capped by the maximum 5-year average growth value observed for independent directors (4.38%). Correlation does not imply causation.

Source: MSCI Sustainability & Climate Research, FactSet.

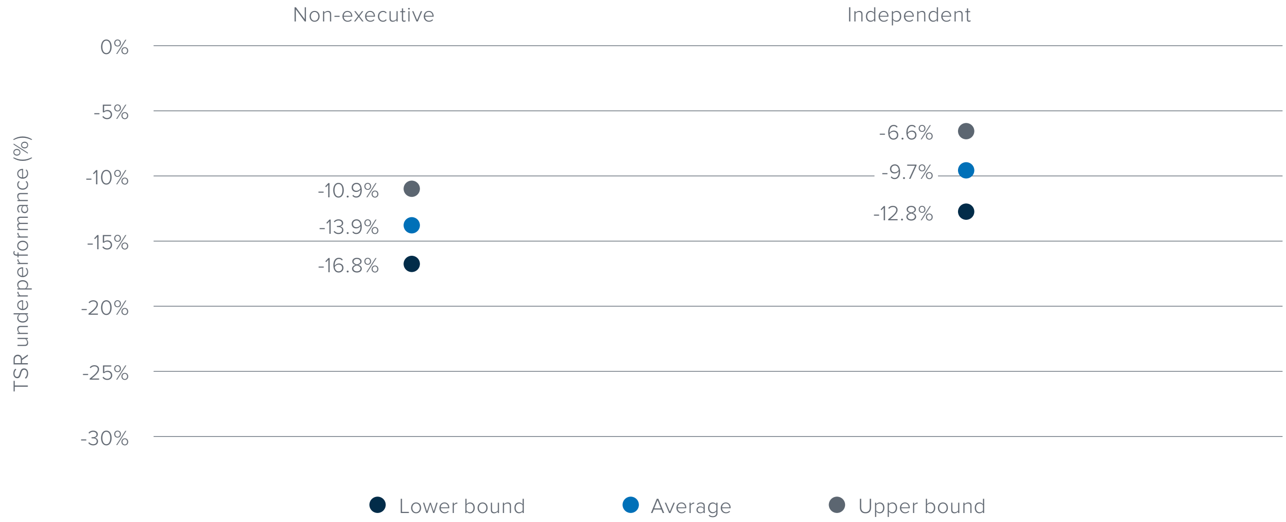
Figure 1b: Companies with increasing director equity holdings outperformed on 5-year risk-adjusted returns



Data as of November 4, 2025. 5-year risk-adjusted returns (alpha) analysis is based on a universe of 2,137 companies that were continuous constituents of the MSCI ACWI Index between 2020 and 2025. Full variable definitions and model specifications are provided in Appendix 1. Outperformance factor was approximately 5.3% and 11.1% per 1% average annual increase in holdings for non-executive and independent directors, respectively. Holdings growth chart capped by the maximum 5-year average growth value observed for independent directors (4.38%). Correlation does not imply causation.

Source: MSCI Sustainability & Climate Research, FactSet.

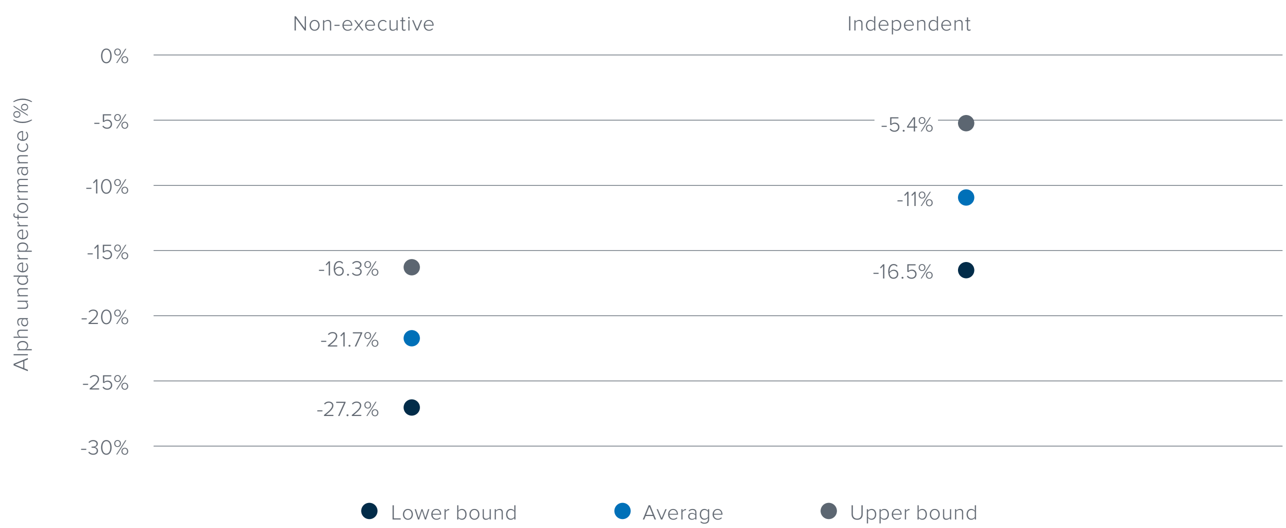
Figure 2a: Companies with decreasing director equity holdings underperformed on average 5-year TSR



Data as of November 4, 2025. 5-year TSR analysis is based on a universe of 2,137 companies that were continuous constituents of the MSCI ACWI Index between 2020 and 2025. Full variable definitions and model specifications are provided in Appendix 1. The reduced holdings indicator is a binary factor, whereby the 5-year average percentage change in non-executive and independent director ownership is below 0. Lower and upper bounds are defined by +/- one standard error (non-executive = 2.99%; independent = 3.06%). Correlation does not imply causation.

Source: MSCI Sustainability & Climate Research, FactSet.

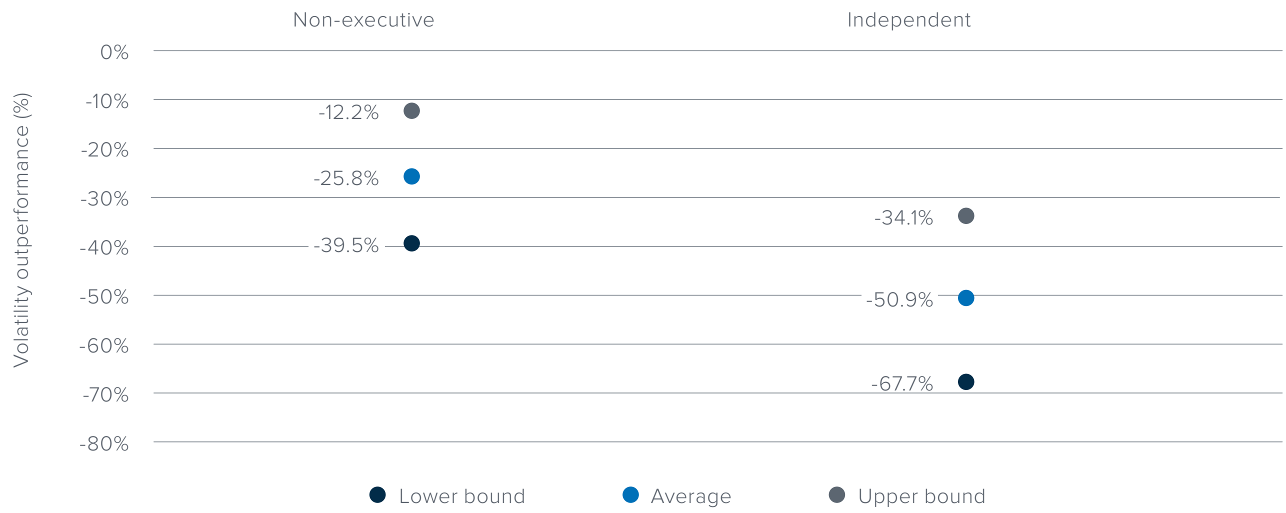
Figure 2b: Companies with decreasing director equity holdings underperformed on average 5-year risk-adjusted returns



Data as of November 4, 2025. 5-year risk-adjusted returns (alpha) analysis is based on a universe of 2,137 companies that were continuous constituents of the MSCI ACWI Index between 2020 and 2025. Full variable definitions and model specifications are provided in Appendix 1. The reduced holdings indicator is a binary factor, whereby the 5-year average percentage change in non-executive and independent director ownership is below 0. Lower and upper bounds are defined by +/- one standard error (non-executive = 5.44%; independent = 5.58%). Correlation does not imply causation.

Source: MSCI Sustainability & Climate Research, FactSet.

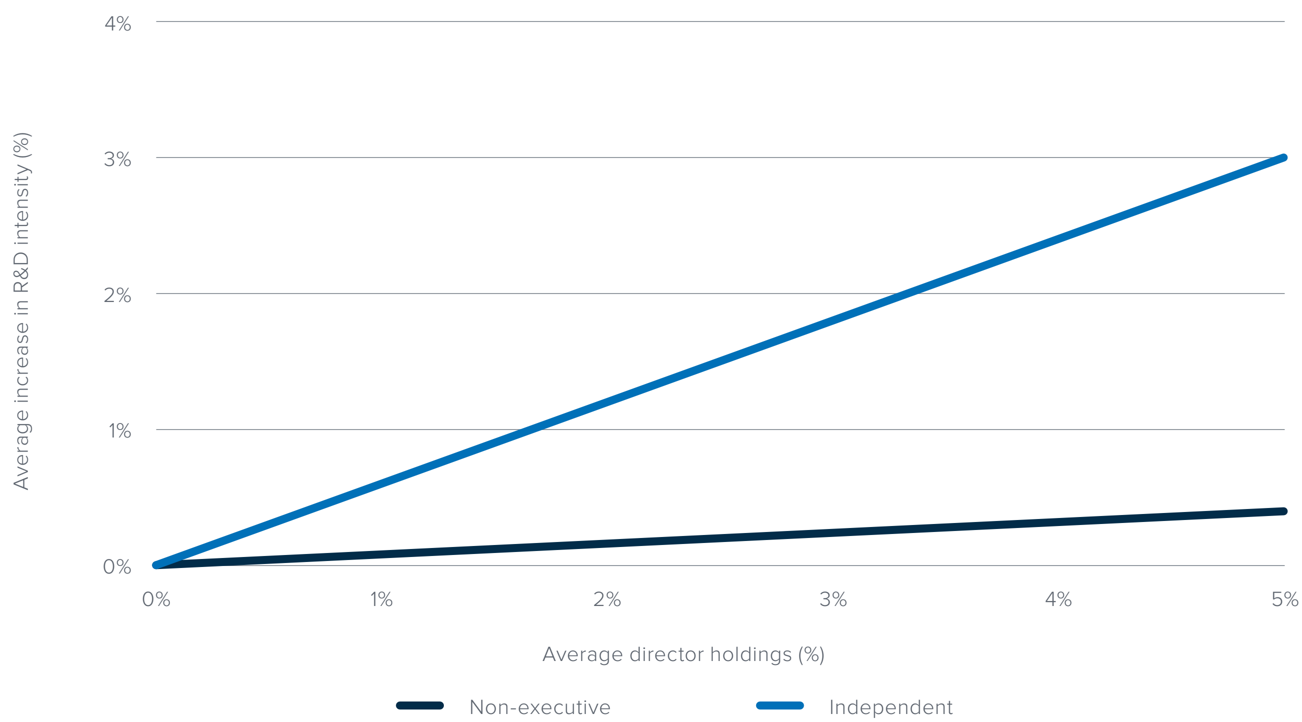
Figure 3: Companies where directors hold more equity than executives were less volatile on average over 5 years



Data as of November 4, 2025. 5-year volatility analysis is based on a universe of 2,137 companies that were continuous constituents of the MSCI ACWI Index between 2020 and 2025. Full variable definitions and model specifications are provided in Appendix 1. The relative ownership indicator is a binary variable, where total equity ownership held by directors exceeds that held by executives within the same company. Lower and upper bounds are defined by +/- one standard error (non-executive = 13.62%; independent = 16.83%). Correlation does not imply causation.

Source: MSCI Sustainability & Climate Research, FactSet.

Figure 4: Companies with higher director equity holdings are associated with higher 5-year R&D intensity



Data as of November 4, 2025. 5-year R&D intensity analysis is based on a universe of 2,137 companies that were continuous constituents of the MSCI ACWI Index between 2020 and 2025. Full variable definitions and model specifications are provided in Appendix 1. R&D intensity was found to rise by 0.1%and 0.6% per 1% increase in holdings for non-executive and independent directors across the period, respectively. Holdings chart capped at the 99th percentile of observed average independent director holdings, and for consistency with prior charts. Correlation does not imply causation.

Source: MSCI Sustainability & Climate Research, FactSet.

What the Results Imply

Taken together, the results suggest that board ownership is most closely associated with long-term outcomes when it is sustained over time, rather than granted on a one-off or easily reversible basis. Patterns in the data indicate that increases in board ownership are associated with stronger outcomes over the same five-year period, while declining ownership is associated with weaker outcomes, underscoring the importance of durability and continued exposure.

The findings also highlight the role of independent directors and the balance of ownership between boards and executives. Performance relationships are strongest where independent directors hold meaningful equity stakes and where board ownership is comparable to or exceeds that of executives. This suggests that ownership may be particularly relevant for board oversight and risk governance.

In addition, the association between independent director ownership and higher investment in innovation points to a potential link between board ownership and corporate behavior. Beyond financial returns, ownership appears to be connected to how boards support long-term investment decisions and strategic posture.

Despite these implications, structured and durable board ownership remains uncommon across public markets. As the next section explores, a combination of short-term pressure, governance norms, incentive design, and investor dynamics has limited the extent to which the evidence on board ownership has translated into practice.

Independent Directors and Long-Term Outcomes

Independent directors play a central role in oversight, challenge, and long-term strategy. The evidence shows that ownership held by independent directors is particularly associated with stronger long-term performance, lower volatility, and greater investment in innovation.

WHY EVIDENCE HAS NOT TRANSLATED INTO PRACTICE

A long-term orientation is widely recognized as a driver of sustained corporate performance.[1] Prior research shows that companies focused on long-term value creation grew revenue 47 percent faster and earnings 36 percent faster than short-term peers over a 14-year period.[2]

Boards should be natural champions of this long-term perspective: as stewards of strategy, risk, and capital allocation, directors play a central role in shaping how companies balance near-term pressures against long-term value creation.

Yet evidence linking board ownership to long-term outcomes has not translated into consistent practice.

Short-Term Pressure and Boards

Boards operate in an environment shaped by quarterly reporting cycles, activist scrutiny, and market volatility. These pressures can narrow decision horizons, even when boards recognize the importance of long-term orientation.

Boards do not only experience short-term pressure — they can also reinforce it. Survey evidence shows that three in four directors say market demands have compromised their company's strategic focus, and management teams cite boards themselves as a direct source of short-term pressure.[3] In this context, incentives that provide limited long-term exposure may weaken the board's ability to counterbalance near-term demands.

Incentive Design and Limited Long-Term Exposure

One key contributing factor may be the limited extent to which director incentives are aligned with long-term performance. Across global markets, independent directors typically receive fixed cash fees and modest equity awards, often with limited or no holding requirements, with the U.S. as a notable exception.[4] In many jurisdictions, relatively low levels of director compensation also limit the scale of equity ownership that can reasonably be expected, making it difficult for boards to establish stakes that create meaningful financial exposure. While practices vary by jurisdiction, many directors hold only small or easily liquidated stakes, providing limited personal exposure to the long-term consequences of board decisions and corporate performance.

Global data reflects this pattern. **Nearly one-fifth of companies in the MSCI ACWI had zero director ownership**, and 94 percent of companies did not have a formal equity ownership policy for directors, underscoring how unevenly adopted long-term board ownership remains across public markets.[5]

Figure 5: Board Incentives and Norms Vary Across Markets[6]

Country	Approach
Brazil	Cash pay dominates; roughly 15% of companies offer variable components such as equity.
France	Cash pay dominates; governance codes recommend that directors purchase shares.
Germany	Fixed fees are most common; equity grants are rare.
Japan	About 12% of large companies award equity to outside directors.
Sweden	A mix of cash and equity, with strong encouragement for directors to purchase shares.
United Kingdom	Mostly fixed fees; around 29% of listed companies use equity pay, often at symbolic levels; recent changes underway.
United States	Base (cash) and equity; over 90% of S&P companies grant equity to directors.

These differences in incentive structures reflect broader governance norms across markets, including varying expectations around director independence and the role of equity ownership in board compensation.

Regulatory and Governance Norms

In many markets, regulatory frameworks and governance codes emphasize director independence and have historically approached equity-based compensation with caution. These norms are well-intentioned, reflecting concerns about conflicts of interest, entrenchment, and the integrity of board oversight.

Recent developments suggest these views are evolving. For example, updated UK guidance clarifies that share-based remuneration for non-executive directors may be appropriate where it supports long-term alignment, provided independence is preserved, and conflicts are carefully managed.[7]

Even so, in practice, these norms can still constrain boards' ability to adopt ownership structures that provide meaningful long-term exposure. In some jurisdictions, directors who hold significant equity stakes may face heightened scrutiny or risk being reclassified as non-independent, discouraging ownership even where it could strengthen alignment with long-term value creation. Proxy advisor policies and investor voting guidelines can also reinforce these norms, as boards often seek to avoid governance structures that may trigger negative recommendations or heightened scrutiny during proxy reviews.

Director Risk Appetite and Investor Buy-In

Both personal and external constraints shape board ownership decisions.

From a director's perspective, equity ownership introduces concentration risk that some directors may be unwilling or unable to bear. From an investor perspective, new or expanded ownership structures may face skepticism, particularly where proxy advisor policies or voting guidelines prioritize formal independence over long-term exposure.[8]

Without clear investor buy-in and shared understanding, boards may default to familiar incentive structures, even where evidence suggests that alternative ownership designs could better support long-term outcomes.

HOW BOARD OWNERSHIP CAN ALIGN WITH LONG-TERM VALUE CREATION

The evidence shows that board ownership is associated with long-term value creation. It also shows why ownership, in practice, has often failed to deliver that alignment. Ownership does not work automatically. Its impact depends on how it is designed, sustained, and understood within the broader governance system.

This section examines how board ownership can align with long-term value creation by identifying common pitfalls and the conditions under which ownership reinforces, rather than undermines, effective board oversight.

Common Pitfalls of Board Ownership

Drawing on the empirical analysis in this study, complemented by interviews with subject matter experts, discussions with FCLTGlobal members, and insights from practitioner forums, two pitfalls consistently emerge as the most consequential:

1. **Symbolic ownership**
2. **Insufficient duration of exposure**

The most common pitfall is symbolic ownership. Directors may receive equity, but hold stakes that are too small, too liquid, or too easily reduced to meaningfully influence behavior. In many cases, equity ownership guidelines are calibrated at levels that fail to create material exposure, particularly relative to directors' overall compensation and responsibilities. When combined with flexible selling provisions, ownership exists largely in form rather than substance, signaling alignment without creating sustained exposure to long-term outcomes. As a result, its ability to shape board deliberations, risk tolerance, or strategic resolve is limited.

Closely related is the issue of duration. Ownership that can be reduced or eliminated once minimum guidelines are met weakens the link between board decisions and long-term consequences. Where directors are free to sell shares after short holding periods, equity exposure may heighten attention to near-term share price movements rather than reinforce long-term performance. Across interviews and practitioner forums, short or easily reversible holding periods emerged as one of the most common reasons board ownership failed to influence behavior in practice.

At the other extreme, overexposure can also distort decision-making. Excessive personal financial concentration may introduce risk aversion, particularly during periods of volatility or strategic transition, when oversight and judgment are most critical. While less frequently observed than symbolic ownership or short duration, this risk underscores the importance of balance in ownership design.

Taken together, these dynamics help explain why board ownership, despite its association with long-term outcomes, has not consistently translated into durable alignment across public markets. Where ownership is symbolic or short-lived, its governance impact is limited, regardless of intent.

Guardrails That Support Alignment

The same evidence and practitioner insights that highlight the risks of symbolic or short-lived ownership also point to concrete design features that appear more consistent with long-term alignment.

1. Meaningful and sustained equity ownership, typically reflected in holding periods of 5 years or more
2. Ownership aligned with the full arc of board service, including expectations that extend through tenure and, in some cases, beyond departure
3. Meaningful ownership held by independent directors, supporting effective oversight and long-term perspective relative to executive ownership
4. Ownership that is broadly understood and accepted by long-term investors, reinforcing good judgment without undermining independence

First, alignment is reinforced when ownership provides meaningful and sustained exposure over time. In practice, this has most often meant holding periods that extend for at least five years, rather than ownership that can be accumulated and unwound over shorter horizons. Longer holding periods strengthen the connection between board decisions and the long-term outcomes those decisions are intended to influence.

Second, alignment is supported when ownership expectations are tied to the full arc of board service. Holding expectations that extend through board tenure, and in some cases for a period following departure, reinforce continuity. Post-departure holding reduces incentives to prioritize short-term outcomes near the end of a director's term. It helps ensure that decisions taken late in tenure remain aligned with long-term value creation.

Third, alignment benefits from balance across the governance system. Ownership appears most relevant for oversight when directors — particularly independent directors — hold meaningful stakes relative to executives. This balance supports the board's ability to challenge management, oversee risk, and maintain a long-term perspective.

Finally, alignment depends on legitimacy and trust. Ownership is more likely to support effective governance when it is broadly understood and accepted by long-term investors and other stakeholders as reinforcing rather than compromising independence. Where ownership is perceived as credible and appropriately bounded, it can strengthen accountability and oversight without raising concerns about conflicts or entrenchment.

Taken together, these guardrails suggest that board ownership aligns with long-term value creation when it is durable in duration, sustained through service, balanced relative to executive ownership, and supported by legitimacy and trust within the governance system.

The table below summarizes common ways in which board ownership can fall short of its intended purpose, alongside design features that appear more consistent with long-term alignment.[b]

Figure 6: Pitfalls and Guardrails in Board Ownership Design

Instead of...	Consider...	Why it matters
Small, symbolic equity stakes with flexible exit provisions	Equity stakes that are meaningful in scale and held for at least 5 years	Meaningful, sustained exposure reinforces long-term and reduces the risk that ownership remains symbolic
Equity that can be sold once the minimum ownership guidelines are met	Ownership aligned with the full arc of board service, including expectations that may extend beyond departure	Durability reinforces long-term decision-making and reduces short-term incentives late in tenure
Board ownership that is concentrated primarily with executives	Meaningful ownership held by independent directors, relative to executive ownership	Ownership balance supports effective oversight, challenge, and risk governance
Ownership structures that raise independence concerns	Ownership that is appropriately bounded and broadly accepted by long-term investors	Legitimacy and trust shape whether ownership strengthens governance or creates friction

[b] These distinctions are recurring patterns observed across markets and governance contexts, informed by the empirical findings in this study and reinforced through discussions with subject matter experts, FCLTGlobal member interviews, and practitioner forums.

CONCLUSION

Board ownership is associated with stronger long-term outcomes when it is meaningful, sustained, and embedded within effective governance. The evidence suggests that ownership can shape board behavior, not only incentives, when directors share material exposure to the long-term consequences of their decisions. At the same time, ownership remains unevenly adopted and often designed in ways that limit its impact. The frameworks in this paper provide a structured way for boards and investors to examine how equity ownership fits within their governance context and long-term objectives, as a design choice that reflects how boards steward value over time.

TOOLKITS

The following toolkits translate these considerations into practical governance frameworks that boards and investors can use to examine how equity ownership fits within long-term oversight.

Board Ownership Design Checklist

For boards and compensation committees to assess whether board ownership provides durable, meaningful exposure aligned with long-term value creation.

Board Conversation Guide: Linking Ownership to Strategy

Guidance for board-level discussions on how equity ownership reinforces long-term decision-making, strategy, and oversight.

Investor Questionnaire on Board Ownership

Questions for investors on board equity ownership as a governance mechanism.

TOOLKIT 1: BOARD OWNERSHIP DESIGN CHECKLIST

Purpose

This toolkit will help boards and compensation committees assess whether board ownership provides durable, meaningful exposure aligned with long-term value creation.

- [ ] Do directors hold equity for **at least 5 years**, rather than over short or easily reversible periods?
- [ ] Is ownership expected to be **sustained through the full arc of board service**?
- [ ] Are there expectations or norms that discourage reducing ownership near the end of a director's tenure?
- [ ] Do **independent directors** hold meaningful equity relative to executive ownership?
- [ ] Is board ownership assessed in relation to directors' oversight responsibilities and overall compensation, rather than set at nominal or symbolic levels?
- [ ] Does the ownership structure avoid purely symbolic thresholds that can be met and unwound quickly?
- [ ] Is ownership exposure calibrated to reinforce long-term judgment without creating excessive risk aversion?
- [ ] Has the committee reviewed whether ownership design continues to align with the company's long-term strategy and investment horizon?

TOOLKIT 2: BOARD CONVERSATION GUIDE: LINKING OWNERSHIP TO STRATEGY

Purpose

This toolkit is meant to support board-level discussion on how equity ownership reinforces long-term decision-making, strategy, and oversight.

Ownership and long-term purpose

- How does board ownership reinforce the company's long-term purpose and strategic priorities?
- Over what time horizon do the board's most consequential decisions play out, and does current ownership exposure reflect that horizon?
- How does director ownership shape the board's approach to capital allocation, risk, and long-term investment?

Ownership and oversight

- In what ways does sustained ownership influence how directors engage in oversight and challenge management?
- Does the board view ownership as reinforcing long-term responsibilities rather than as a financial incentive?
- How does ownership affect continuity of judgment during periods of strategic transition or market volatility?

Ownership over time

- Does the expected duration of ownership align with the full arc of board service?
- How does the board think about ownership near the end of a director's tenure?
- Are there moments when ownership expectations should be revisited as strategy or risk profile evolves?

Ownership and legitimacy

- How does the board assess whether ownership is understood and accepted by long-term investors?

TOOLKIT 3: INVESTOR QUESTIONNAIRE OF BOARD OWNERSHIP

Purpose

This toolkit is meant to provide questions for long-term investors on board equity ownership as a governance mechanism.

Strategic alignment

- How does board ownership reinforce the company's long-term strategy and investment horizon?
- In what ways does sustained ownership support the board's role in long-term oversight?

Duration and exposure

- How long are directors expected to hold equity, and how does that duration relate to board tenure?
- How does the board approach ownership near the end of a director's service?

Balance and oversight

- How does board ownership compare to executive ownership?
- How does ownership support the board's ability to challenge management and oversee risk?

Independence and legitimacy

- How does the board ensure ownership strengthens long-term decision-making without compromising independence?
- What signals help investors assess whether ownership is substantive rather than symbolic?

Long-term partnership

- How can boards and long-term investors maintain a shared understanding of ownership as a governance design choice?
- When strategy or risk profile changes, how should ownership expectations be revisited?

APPENDIX: METHODOLOGY

MSCI's analysis evaluates whether board equity ownership, and changes in these holdings over time, are associated with long-term outcomes using a multivariate regression framework. This approach is designed to focus on contemporaneous relationships between director ownership and firm performance over a five-year horizon, reflecting the degree to which this economic alignment supports strategic decision-making and value creation outcomes as they unfold in real time.

The analysis is conducted at the firm level using a global sample of MSCI ACWI constituents and evaluates multiple ownership dimensions, including absolute ownership levels (i.e., ownership as a proportion of an issuer's outstanding equity), ownership growth and decline, and relative ownership between different classifications of directors and executives. Regression specifications control for firm size, ownership structure, market development, and sector effects to isolate the association between director ownership characteristics and long-term performance, risk, and capital allocation decisions. As with all observational analyses, results reflect estimated associations rather than causal relationships.

Sample and scope

- The analysis uses a global sample of companies drawn from the MSCI All Country World Index (ACWI). To ensure consistency between ownership measures and long-term outcomes, the sample is restricted to 2,137 firms that were continuous constituents of the MSCI ACWI over the full 5-year observation period from 2020 through 2025. This continuity requirement allows director ownership characteristics and performance outcomes to be evaluated over a common horizon but also implies that the results are conditional on firm survival over the period.

Director ownership is evaluated at the company level and categorizations include independent directors, non-executive directors, and named executive officers. Ownership stakes are aggregated within each of these director categories for each firm, enabling comparisons across director groups and relative to executive ownership. Director classifications are based on MSCI independence definitions and are applied consistently across markets to support comparability in a global sample.

- Independent Director: A non-executive director who does not have any material relationship with company, its management, or is not a significant shareholder.
- Non-executive Director: A board member who is not part of the company's executive management team and does not hold an executive role within the company but is not necessarily independent.
- Named Executive Officers: A board member who is part of the company's executive management team and holds an executive role within the company.

The study evaluates long-term performance, risk, and capital allocation outcomes measured over the same fixed five-year period. While most outcome variables are available for the full sample, measures of internal capital allocation, including R&D intensity, are available for a smaller subset of firms due to differences in disclosure and financial reporting practices across regions and sectors. As a result, sample sizes vary across regression specifications, as reported in figure 7.

Ownership measures

- Director equity ownership is measured at the firm level and aggregated within director categories, as described above. For each company, total equity ownership is calculated separately for independent directors, non-executive directors, and named executive officers. This approach captures the collective economic exposure of each director group to firm value, rather than focusing on the holdings of individual directors.

Several ownership dimensions are examined to reflect different aspects of director alignment. Absolute ownership levels measure the total equity held by directors within each category as a percentage of total shares outstanding for the issuer on whose board they serve and capture the extent of long-term financial exposure to firm outcomes. Ownership changes over time are measured as net changes in aggregate ownership over the five-year period and are intended to reflect whether directors are increasing or reducing their economic stake as strategic decisions and outcomes unfold.

To assess asymmetric effects, indicator variables are used to identify firms in which aggregate director ownership declines over the period. These measures distinguish between firms where director ownership is increasing or stable and those where ownership is falling, allowing the analysis to test whether reductions in ownership are associated with weaker long-term outcomes.

The analysis also considers the presence of formal director equity ownership policies, defined as firm-level policies that explicitly require minimum equity ownership by directors. Performance outcomes of policies were significant and positive (26.6 percent and 57.9 percent higher five-year TSR and risk-adjusted returns respectively). However, due to the small sample size (only six percent of companies had a formal director equity ownership policy), we elected to exclude this from the key findings. Finally, relative ownership measures compare aggregate independent and non-executive director ownership with those of executives to assess how differences in economic exposure between boards and management are associated with oversight incentives, strategic decision-making, and firm risk characteristics.

Outcome measures

- Multiple long-term outcome measures capturing firm performance, risk, and internal capital allocation were used. All outcome variables are measured over a fixed 5-year period from 2020 through 2025 to align with the ownership measures.

Long-term performance is assessed using five-year total shareholder return (TSR) and firm-level risk-adjusted returns in excess of the benchmark (alpha). TSR reflects cumulative shareholder returns over the period and is expressed in logarithmic form in the regression models to account for skewness and facilitate interpretation. Reported coefficients are transformed into percentage terms for presentation.

Risk characteristics are captured using five-year return volatility, measured as the variability of equity returns over the observation period. This measure reflects the stability of long-term shareholder outcomes and provides insight into whether ownership alignment is associated with differences in firm-level risk.

Internal capital allocation is proxied using R&D intensity, measured as aggregated research and development expenditure relative to firm revenue across the period. R&D intensity reflects a firm's commitment to long-term investment in innovation and productive capacity and is commonly used as an indicator of long-term strategic orientation. Due to variation in disclosure practices, R&D data is available for a subset of firms, resulting in a smaller sample for these specifications.

Analytical approach

- The analysis employs a multivariate regression framework to examine the association between director equity ownership characteristics and long-term firm outcomes. All regressions are estimated at the firm level, with outcome variables measured over a fixed 5-year period from 2020 through 2025. Independent variables vary by specification and include measures of absolute ownership levels, ownership changes, ownership declines, and relative ownership between directors and executives.

Regression specifications include a consistent set of control variables to account for firm characteristics and structural differences that may influence both ownership and outcomes. These controls include firm size, measured as the logarithm of market capitalization; ownership structure; market development; and sector fixed effects. Ownership structure is defined using MSCI's three-dimensional ownership framework under the "level of control" dimension, which classifies firms based on the voting power of the largest shareholder. Firms are categorized as controlled when the largest shareholder, or group, holds 30 percent or more of voting rights; principal when the largest shareholder, or group, holds between 10 percent and 30 percent; and widely held when no shareholder, or group, holds more than 10 percent of voting rights.

To explore directionality and mitigate concerns that performance outcomes drive changes in ownership rather than the reverse, additional specifications test the relationship between ownership measures and outcomes using alternative ownership definitions and indicators of ownership declines. These tests evaluate whether observed associations are robust to different representations of ownership dynamics and help distinguish increases in ownership from reductions in economic exposure over the period.

Robustness checks are conducted using alternative model specifications, including variations in ownership measures, outcome variables, and functional forms. In particular, non-linear specifications were evaluated to test whether the relationships between director equity ownership and firm outcomes exhibit threshold or diminishing-return effects; these specifications did not yield robust or consistent results and are therefore not discussed further. Additional performance and capital efficiency measures were also evaluated but did not exhibit consistent or robust relationships and are therefore not reported. Across specifications, results are interpreted as estimated associations rather than evidence of causal effects.

Figure 7: Summary Regression Results

Figure	Companies (N)	Outcome	Independent Variable	β*	p-value	R^2	F-stat
1a	2092	5-year TSR	Avg. non-executive ownership growth	4.02	0.014	0.144	23.33
1a	2092	5-year TSR	Avg. independent ownership growth	7.29	0.042	0.143	23.20
1b	2079	5-year risk-adjusted returns (alpha)	Avg. non-executive ownership growth	5.27	0.075	0.108	16.67
1b	2079	5-year risk-adjusted returns (alpha)	Avg. independent ownership growth	11.05	0.088	0.108	16.65
2a	2092	5-year TSR	Non-executive ownership falling	-0.14	< 0.001	0.151	24.53
2a	2092	5-year TSR	Independent ownership falling	-0.97	0.001	0.146	23.63
2b	2079	5-year risk-adjusted returns (alpha)	Non-executive ownership falling	-0.22	< 0.001	0.114	17.62
2b	2079	5-year risk-adjusted returns (alpha)	Independent ownership falling	-0.11	0.049	0.108	16.72
3	2092	Volatility	Non-executive > executive holdings	-0.26	0.058	0.222	39.49
3	2092	Volatility	Independent > executive holdings	-0.51	0.002	0.224	39.97
4	1141	R&D intensity	Avg. non-executive ownership holdings	0.08	0.048	0.323	35.74
4	1141	R&D intensity	Avg. independent ownership holdings	0.60	< 0.001	0.329	36.79

All regressions use the same set of control variables, including firm size (log market capitalization), ownership structure, market development, and sector fixed effects. Independent variables vary by specification and are defined in Appendix 1. Reported coefficients reflect estimated associations. Correlation does not imply causation. Source: MSCI Sustainability & Climate Research. *Regression models used the natural logarithm of 5-year total shareholder return. For ease of interpretation, coefficients reported in charts are transformed back into percentage terms. As a result, chart slopes reflect the implied percentage change in TSR associated with changes in the independent variable, while β coefficients in the regression table above correspond to log-scaled estimates.

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