CFO Incentives in the Age of Artificial Intelligence

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Abstract

Despite growing theoretical and empirical work on the effects of artificial intelligence (AI) investment on firm outcomes, little is known about its implications for executive compensation design. Motivated by recent organizational changes, including Coca-Cola's reassignment of digital responsibilities from its CFO to a newly created Chief Digital Officer, this study examines the relation between firms' AI investments and executive compensation incentives, with a particular focus on CFOs. Using a human-capital-based measure of AI investment, we find evidence consistent with a strategic responsibility hypothesis: greater AI investment is associated with higher cash intensity in CFO compensation, measured as the proportion of total pay delivered in cash, reflecting boards' use of cash to signal and reward expanded strategic responsibilities and to foster greater collaboration and mutual oversight between CFOs and their C-suite counterparts. In contrast, we find no evidence that AI investment is associated with changes in option-based or equity-based compensation for CFOs. Moreover, we do not observe consistent effects of AI investment on CEO compensation incentives. Taken together, these findings suggest that AI is reshaping executive roles and compensation structures in ways that differ systematically across the C-suite.

JEL classification:

Keywords: Artificial Intelligence; Executive compensation; CFO

1. Introduction

We investigate whether firms' AI investments influence the compensation structures of the C-suite, with a particular focus on CFOs. A growing body of literature examines the impact of AI investments on corporate investment opportunities, firm and economic growth, workforce composition, and audit processes (e.g., Babina et al., 2023, 2024; Fedyk et al., 2022; Rock, 2019). Little is known, however, about whether CFOs' pay structures have been modified to align with firms' AI investments. We aim to fill this gap.

We focus on CFOs because, among senior executives other than CEOs, they bear the greatest responsibility for core investment and financing policies, including AI-related investment decisions (Malmendier et al., 2022). CFOs are legally accountable for the integrity of a firm's financial statements and the timely disclosure of information to stakeholders, and they play a pivotal role in shaping the strategic decisions that determine a company's long-term trajectory. AI amplifies this responsibility considerably. As a prediction technology, AI enables firms to learn faster and more effectively from vast quantities of data, fundamentally enhancing the quality and speed of business decision-making. In the AI era, data is no longer merely a historical record but an operational input that fuels real-time decisions, with consequences measured in seconds rather than quarterly reporting cycles (Deloitte, 2026). This shift is transforming the role of finance professionals: CFOs are increasingly expected to evaluate technology investments, guide long-term financial strategy, and navigate the organisational complexity that AI adoption entails. Once focused primarily on stewardship and reporting, today's finance leaders sit at the centre of strategy, technology, talent, and transformation (Brooks, 2026). The cross-functional nature of AI-driven change further reinforces this evolution, as it necessitates joint ownership across the C-suite and embeds collaboration between CFOs and other executives as a structural feature of modern organisations (Lamarre et al., 2023).

Recent corporate experience illustrates these dynamics concretely. At The Coca-Cola Company, a reorganisation removed digital and technology responsibilities from the CFO and established a new Chief Digital Officer role — a change that highlights how AI adoption reshapes executive functions and makes it increasingly difficult to concentrate digital oversight solely within traditional finance leadership (Birchall, 2026). Rather than diminishing the CFO's importance, however, such restructuring signals an evolution toward higher-order strategic responsibilities, encompassing capital allocation, risk management, and the governance of technology investments, while simultaneously deepening the interdependence between the

CFO and other members of the C-suite. This pattern is not isolated: nearly 90% of CFOs report being more involved in digital transformation and risk management than they were just a few years ago, and finance executives are now routinely expected to guide operational decisions and strategic planning rather than focusing solely on reporting and compliance (Imbert, 2025). Together, these developments reflect a broader structural shift in which cross-functional coordination between the CFO and their C-suite counterparts is becoming an organisational norm rather than an exception.

Given the documented effects of AI investments on CFOs' roles, it is natural to expect that compensation arrangements have been adapted to reflect these new responsibilities. However, the precise direction of this adjustment is theoretically ambiguous. On the one hand, AI is standard in settings with slow-moving processes like technological change and the full operational benefits of AI investments may take time to accrue (Basnet, et al., 2025). AI investments accumulate gradually over time and generate effects that may not be immediate (Babina et al., 2024). CFOs might need stronger incentives in the form of equity-based incentives given the higher probability the manager associates with a successful outcome in the longer term. Equity-based pay is typically unvested for a period of time, and researchers have shown that extended vesting periods are useful for retaining executives (Gao, Luo, and Tang, 2015). We refer to this as long-term incentive hypothesis. It is also possible that because AI outcomes are uncertain and AI investments introduce heightened execution and evaluation risk (Huwyler, 2025), firms may offer stronger equity-based incentives to compensate CFOs for bearing this uncertainty (Neyland, 2020). We call this risk incentive hypothesis.

However, despite the rapid growth in AI investments in recent years, such investments still constitute a relatively small fraction of firms' total capital expenditures. For many firms, AI-related spending remains in an exploratory or early adoption stage rather than a core component of their investment activities. For instance, from a study conducted by OECD, the Boston Consulting Group (BCG) and INSEAD Business School (2025), it shows that a large share of firms devotes 0–10% of their total R&D spending to AI-related research and development. A recent CEO survey indicates around 80% of CEOs report allocating around 5% of their capital budgets to AI, implying that AI still represents a relatively small share of total corporate investment (Paradis, 2026). Consequently, the economic magnitude of AI investments may be too limited to meaningfully influence CFOs' compensation structures. Given the relatively modest scale of AI investments, it may be difficult to identify empirically any systematic association between firms' AI investments and CFOs' equity-based incentives at the current stage of AI adoption.

What we cannot deny is that in an efficient contracting framework (e.g., Gabaix and Landier, 2008), executives are worth what they are paid. As previous examples show that strategic decision authority increases the marginal contribution of CFOs to firm development and responsibilities redistribution encourages cooperations between CFOs and other executives. Accordingly, CFOs' compensation levels should accordingly reflect expanded strategic managerial responsibilities that integrate financial expertise with technological understanding. Salary is generally understood as providing fixed compensation for holding the managerial position and fulfilling ongoing responsibilities; it reflects the scope of the job, managerial authority, and accountability rather than serving as a direct performance incentive (Murphy, 1999). Annual bonuses are commonly tied to short-term performance measures such as accounting outcomes. Relative to equity-based incentives generated by stock options and ownership, incentives generated by cash compensation are more modest in magnitude (Baker, Jensen, and Murphy, 1988; Cheng, Hong, and Scheinkman, 2015). Nevertheless, cash-based compensation provides a more direct and flexible reward for expanded job responsibilities and effort. Additionally, cash-based compensation plays an important role in facilitating cooperation among executives (Che and Yoo, 2001; Guay, et al., 2019). The recent evidence highlights that cash-based compensation plays an important communication role, as the board's choice of performance measures signals to external stakeholders the firm's commitment to specific strategic objectives, while also helping to align and coordinate the behaviour of executives within the organisation (Bushman, 2021). On this basis, we expect that firms' AI investments positively influence CFOs' cash-based compensation due to the strategic and coordination responsibilities. We call this strategic responsibility hypothesis.

To examine the relationship between firms' AI investments and CFO incentive compensation, and to differentiate among our three hypotheses: the long-term incentive, risk incentive, and strategic responsibility hypotheses, we conduct a series of empirical tests. We measure AI investment using the novel AI human capital measure proposed by Babina et al. (2024), which draws on data from Cognism Inc. and spans 2010 to 2020 across a broad cross-section of U.S. firms. CFO compensation incentives are constructed using ExecuComp data. Our results are consistent with the strategic responsibility hypothesis, but not with the long-term incentive or risk incentive hypotheses. Specifically, greater AI investment is associated with higher CFO cash intensity, the proportion of total compensation derived from cash, while we find no evidence that AI investments are associated with changes in CFOs' option or equity intensity.

We further examine whether AI investments influence CEO compensation incentives. Because CEOs' responsibilities are primarily centered on overall strategic direction, resource allocation, and long-term firm performance (Hambrick, 2007), there are theoretical grounds for expecting a different pattern. AI has advanced rapidly, driven by new machine learning techniques and the availability of large-scale datasets, and this momentum is widely expected to continue (e.g., Neapolitan and Jiang, 2018; Russell, 2019). Yet however transformative these developments may prove, they are unlikely to fundamentally alter CEOs' core responsibilities. Moreover, as noted above, AI investments currently represent a relatively small share of total firm investment. For these reasons, we expect AI investment to have limited bearing on CEO compensation incentives. Consistent with this prediction, we find no systematic evidence that firms' AI investments influence CEO compensation structure.

A further consideration is that the gender gap in AI perceptions holds across nearly all regions, sectors, and occupations. Survey evidence indicates that women report lower confidence in their ability to use AI tools effectively. Women also tend to work in different types of firms, jobs, and occupations than men and may therefore be less exposed to this technology. Beyond differences in awareness, stereotypes and status differences can also lead women to be less likely to use new technology even when presented with the opportunity. Women are about 20% less likely than men to directly engage with this new technology (Otis, et al., 2024). An empirical question therefore arises as to whether gender moderates the relation between AI investment and CFOs' incentive structures. One might expect, for instance, that cash intensity would be lower for female CFOs than their male counterparts, if female CFOs are less confident in assuming the strategic responsibilities associated with AI development. However, at the executive level, where skill and education are similar (Francis, et al., 2023), we may not see the gender-based pay gap in this case. Consistent with our expectation, CFO gender has no significant impact on the relation between AI investments and cash intensity.

We further examine whether firm characteristics moderate the relation between AI investment and CFO compensation incentives. Prior research suggests that AI adoption is more pronounced in larger firms and in those with greater cash holdings (Babina et al., 2024). Additionally, because AI investments tend to accumulate gradually and their effects may materialize with a lag, older firms, benefiting from more extensive operations and larger accumulated datasets, may be better positioned to develop and deploy AI technologies (Fedyk et al., 2022). Motivated by these considerations, we predict that the relation between AI investment and CFO compensation incentives will be stronger in larger, older, and cash-rich firms. The data, however, do not support this prediction. One possible explanation is that the compensation effects of AI investment are not concentrated among particular firm types, but instead reflect broader organizational and technological forces. This interpretation aligns with the view that AI functions as a general-purpose technology, one that diffuses widely across firms and industries rather than taking root in any specific segment (Goldfarb et al., 2023).

Taken together, our results show that AI investments positively influence CFOs' cash intensity and have no significant impact on equity or option intensities. These findings are consistent with the view that AI is transforming the tasks and skills required of CFOs toward more strategic leadership roles and fostering greater collaboration across the C-suite. Moreover, because AI-related spending currently constitutes a limited share of total firm investment, it is optimal to compensate CFOs for expanded responsibilities primarily through cash-based pay rather than equity incentives. Our study offers novel insights into the literature on the adoption and economic impact of AI (Rock, 2019; Babina et al., 2023, 2024; Fedyk et al., 2022) by providing the first systematic evidence that AI investment redefines CFOs' job scope and, accordingly, influences their incentive structures. Furthermore, while most compensation studies focus on CEOs as the dominant decision-makers in the firm, our results highlight the important and strategically evolving role of CFOs, consistent with Francis et al. (2023), who document that CFOs hold a strategic position within firms and exert meaningful influence over investment decisions and financial development.

Our results also contribute to the literature on the determinants of executive compensation structure (Cheng et al., 2015; Humphery-Jenner et al., 2016; Neyland, 2020; Buchanan et al., 2021; Islam et al., 2022; Galariotis et al., 2023). We extend this line of research by introducing a technological dimension, specifically, the adoption of AI, that has the potential to be especially disruptive to how executive responsibilities are defined and rewarded. This perspective complements the broader literature on how new technologies shape executive compensation and is consistent with evidence that boards periodically recalibrate incentive structures to keep them aligned with managerial responsibilities, firm strategy, and performance objectives (Jensen and Murphy, 1990). Our findings carry important implications for an era defined by data and digital transformation. They suggest that firms are no longer deploying AI merely to improve operational efficiency; rather, AI adoption is prompting a fundamental reconsideration of how technology-related responsibilities are distributed across the C-suite, and how executives should be incentivized accordingly. In documenting this shift, our results offer concrete evidence that AI-driven change is reshaping not only firm operations, but corporate governance structures more broadly.

The remainder of our paper is organized as follows. In Section 2 we discuss the data, and in Section 3 we present the empirical analyses. In Section 4 we report robustness tests and we conclude in Section 5.

2. Data and methodology

2.1. Sample and data

We examine the relation between firms' AI investments and compensation structure over the 2010 to 2020 period. We obtain CFO compensation data from ExecuComp and merge these data with the Center for Research in Securities Prices (CRSP) and Compustat datasets to obtain financial and accounting variables. To identify a CFO, we follow Francis, et al. (2023) to manually scan the executive title and search for "Chief Finance Officer," "CFO," and "Chief Financial Officer." We also rely on the indicator variable "cfoann" to identify the current CFO, which Execucomp started providing after 2006.

The overall CFO sample contains 7,833 CFO-year observations, and the CEO sample contains 10,030 CEO-year observations. The dependent variables (i.e., the compensation structure variables) are measured in year t. For independent variable firms' AI investments, following Fedyk et al. (2022), we measure it as the change in the share of AI employees over the past three years (ΔAI (−3, 0) (%)). This method takes account that AI investments accumulate gradually over time and generate effects that may not be immediate. Based on the evidence in Babina et al. (2020), the benefits of AI investments tend to accrue after two years. Correspondingly, our main specification aggregates the independent variable across a three-year time period[1]. To mitigate outlier concerns, we winsorize all continuous variables, except for those normalized using natural logarithm, at the 1% level in both tails.

2.2. Measures of CFO and CEO compensation structure

Following Humphery-Jenner et al. (2016), we construct three primary dependent variables: option intensity, equity intensity, and cash intensity. Option intensity is defined as the proportion of total annual CEO compensation attributable to option grants. Option values

[1] In additional analyses, we confirm that our results are robust to alternative specifications.

are obtained from ExecuComp and are based on the grant-date fair value. Equity intensity is measured as the proportion of total compensation derived from equity-based awards, including both stock and option grants. Cash intensity captures the proportion of total compensation paid in cash. Total compensation is defined as TDC1 from ExecuComp, which represents the total annual compensation received by an executive. Specifically, TDC1 includes salary, bonus, the fair value of stock and option awards, and deferred compensation. Importantly, this measure excludes changes in the value of previously granted stock and option holdings.

2.3. Measures of firms' AI investments

Given that AI relies primarily on human rather than physical capital, we adopt the human capital-based measure of AI investment developed by Babina et al. (2024). This measure captures the relative intensity of AI investment across firms by identifying employees engaged in AI related activities. The underlying data come from Cognism, a provider of employment profiles primarily used for lead generation and client relationship management.[2] Each employment record includes start and end dates, job title, company name, and job description, with individuals also able to list patents, awards, and publications. Cognism further enriches the data using machine learning and natural language processing techniques, normalizing job titles, associating employees with functional divisions within firms, and extracting education records.

To construct the AI measure, Babina et al. (2024) begin with a set of 67 keywords representing the skills with the highest AI relatedness scores based on job postings data (see their Online Appendix Table A1), and match these terms to employees in the Cognism resume data. An employee is classified as AI related if their job role, description, patents, publications, or awards contain any of these terms. The firm level measure is then computed as the share of AI related employees among all employees at a given firm in a given year, restricted to U.S. based employees given our focus on U.S. listed firms.

An important advantage of this approach is that it does not rely on mandated financial disclosures such as R&D expenditures, which encompass a wide range of research and development activities beyond AI and therefore serve as a noisy proxy for AI investment specifically. The human capital-based measure avoids this limitation by directly targeting AI

[2] Cognism sources its resume data from a variety of channels, including publicly available online profiles, recruiting agencies, third party resume aggregators, human resources databases, and direct user contributions. As described in detail in Fedyk and Hodson (2023), the data cover approximately 64% of the U.S. workforce as of 2018 and offer a broadly representative breakdown across industries, though they slightly over-represent high skilled employees.

related activities. A further advantage is that the measure captures AI involvement through multiple dimensions of an employee's profile, including job roles, descriptions, patents, publications, and awards, rather than relying solely on stated skills. Relatedly, by grounding the classification in actual job roles and descriptions within each firm, the measure identifies employees who are genuinely engaged in AI related activities, rather than those who merely possess AI related skills without actively applying them in their current position. This reduces the risk of misclassification that could arise from skill-based proxies alone. Together, these features make the measure a novel and flexible proxy for AI investment that is well suited for large scale empirical analysis.

2.4. Other variables

We construct a set of standard control variables that are known to be determinants of executive compensation incentives (Humphery-Jenner et al.,2016 and Francis, et al.,2023). They include *Firm size* as the logarithm of total assets, *Leverage*, as total debt divided by total assets, *Tobin's Q* as the market value of equity plus the book value of total debt, divided by the sum of book value of equity and debt, *HHI* as the Herfindahl-Hirschman index, calculated as the sum of squared market shares of all firms in a given Fama-French 48 industries. Market shares are computed based on firms' sales from Compustat, *Research and development* as the R&D expense divided by total assets, *PPE* as firm's property, plant and equipment scaled by the total assets, *Free cash flow* as the firm's free cash flows divided by its market value, *ROA* as the net income scaled by total assets, *Firm age* as the time between year *t* and the year in which the firm is first recorded in the CRSP stock database.

To control the executive characteristics, we include *Age* as the CFO's age, *Ownership* as the CFO's stock ownership divided by the number of shares outstanding in the firm, *Tenure* as the number of years since the CFO joined the company (Joined_Co) or first appeared in Execucom, *Vega/Delta* as the ratio of CFO vega to delta. As for the corporate governance variables, our measures include *Board size,* which is defined as the number of directors on the board, *%Independent*, as the ratio of the number of independent directors to board size. A comprehensive list of variables, definitions, and sources is provided in the Appendix.

Table 1 provides summary statistics for key variables used in our analysis. In CFO (CEO) sample, the mean and median percentage of AI employees are 0.08% (0.09%) and 0.00% (0.00%) respectively. While the share of AI workers is low in absolute terms, in terms of the technological and innovative nature of their work, AI workers are most similar to inventors, who represent around 0.13%– 0.24% of the U.S. workforce but have a disproportionate impact on firm operations (Babina et al. 2021). Furthermore, the share of AI employees (AI %) and the change in the share of AI employees over the past three years (ΔAI (−3, 0) (%)) show considerable cross-sectional variation. For example, the mean of ΔAI (−3, 0) (%) is 0.02% with a standard deviation of 0.23 in CFO sample. This allows for a meaningful cross-sectional analysis of the impact of the change in the share of AI workers on CFO compensation incentives.

In terms of compensation variables, clear differences emerge between CFOs and CEOs. CEOs receive a larger share of compensation in equity, with a mean equity intensity of 0.552 compared to 0.466 for CFOs. In contrast, CFOs rely more heavily on cash compensation, with a mean cash intensity of 0.304 versus 0.212 for CEOs. Option-based compensation is lower on average for CFOs (0.120) than for CEOs (0.145), and the median option intensity is zero for CFOs, indicating that a substantial fraction of CFOs receive no option-based pay. Overall, these patterns suggest that CEO compensation is more equity-oriented, whereas CFO compensation places relatively greater weight on cash components. Executive characteristics, however, differ more noticeably. CEOs are older on average (57.1 years) than CFOs (53.3 years) and have longer tenure (8.2 years versus 7.1 years). CEO ownership is substantially higher and more dispersed, with a mean of 1.328 compared to 0.197 for CFOs, reflecting greater equity stakes among CEOs. In contrast, CFOs exhibit slightly higher incentive sensitivity as measured by Vega/Delta (0.359 versus 0.319). Firm and board characteristics are largely comparable across the two samples.

[Please Insert Table 1 About Here]

3. Empirical results

3.1. Descriptive statistics

We begin by examining the time-series properties of our human-capital-based measure of AI investment and its distribution across industries. This analysis serves two purposes: first, it validates that our measure exhibits intuitive patterns over time and across sectors; and second, it demonstrates the substantial cross-sectional variation necessary to identify the relation between AI investment and executive compensation incentives.

Figure 1 documents the time-series evolution of AI employment over the sample period. The fraction of employees classified as AI-related increases markedly between 2010 and 2018, rising more than fivefold and closely mirroring the evidence reported in Babina et al. (2024). The share of AI workers grows from 0.03% in 2010 to a peak of 0.14% in 2018, with particularly rapid acceleration between 2014 and 2018. This upward trend moderates slightly in the final years of the sample, declining to 0.13% in 2019 and 0.11% in 2020, most likely reflecting disruptions associated with the COVID-19 pandemic.[3]

Crucially, the growth in AI employment is highly heterogeneous across firms, providing the cross-sectional variation that our empirical strategy requires. While the median firm experiences essentially no change in its share of AI workers — for both the CFO and CEO samples — the upper tail of the distribution exhibits substantial increases. At the 90th percentile, the share of AI workers rises by 0.22% in the CFO sample and 0.24% in the CEO sample, increasing further to 0.45% (0.48%) at the 95th percentile and 1.44% (1.46%) at the 99th percentile. This dispersion underscores the uneven pace of AI adoption across firms and reinforces the relevance of a cross-sectional empirical approach.

To contextualise these magnitudes, we note that while AI-skilled workers constitute a small fraction of total employment, their economic importance is likely disproportionate to their numbers. The rapid growth in demand for AI expertise, combined with the exceptionally high compensation commanded by leading AI researchers — often reaching millions of dollars (Gofman and Jin, 2024) — places these workers alongside other specialised, high-skill occupations. A useful parallel is the population of patent inventors, who represent a similarly small share of the workforce, approximately 0.13–0.24%, yet play an outsized role in driving innovation. In this respect, AI workers resemble other compact but economically consequential groups, including top executives and patent inventors, whose influence on firm outcomes and compensation structures far exceeds their numerical share of employment (Graham et al., 2012; Chkir et al., 2024).

[Please Insert Figure 1 About Here]

Figure 2 presents the cross-industry distribution of AI employment, reporting the average share of AI workers across 2-digit NAICS sectors and comparing the early period (2010–2013) with the later period (2014–2020). As expected, the Information sector exhibits the highest concentration of AI workers, with its share rising from 0.13% to 0.36% across the

[3] An additional explanation for the decline between 2019 and 2020 is that the data snapshot is drawn from July 2021, and résumé updating by workers tends to lag behind actual employment changes (Babina et al., 2024). Our findings remain unchanged when the sample is restricted to end in 2018.

two periods. Notably, however, the growth in AI employment is not confined to this sector. Nearly all industries experience meaningful increases, consistent with the characterisation of AI as a general-purpose technology whose diffusion extends well beyond its sector of origin (Goldfarb et al., 2023). This broad-based adoption across diverse economic activities highlights a key advantage of our human-capital-based measure: unlike narrower proxies, it captures variation in AI investment across a wide range of industries, making it well suited to studying the economy-wide implications of AI adoption.

[Please Insert Figure 2 About Here]

Figure 3 illustrates the dynamic evolution of compensation intensity for the CFO and CEO samples over the sample period. For CFOs, reported in Panel A, the composition of total pay exhibits a gradual shift toward equity over 2010–2020. Equity intensity rises steadily from the low 40% range to just above 50% by the end of the period, while option-based compensation declines most sharply, falling from the mid-teens to below 10%, consistent with the well-documented reduction in option use following the adoption of FAS 123R, which requires firms to recognise option-based compensation at fair value rather than intrinsic value, thereby raising its accounting cost (Hayes et al., 2012; Skantz, 2012). Cash intensity, while declining modestly in the early years, stabilises around 2014 and remains relatively flat thereafter, and is notably higher for CFOs than for CEOs throughout the period.

For CEOs, reported in Panel B, a similar but more pronounced shift toward equity-based pay is observed. Equity intensity begins at approximately 50% in 2010 and rises steadily to exceed 60% by 2020. Cash intensity is consistently lower than in the CFO sample and declines gradually throughout the period, without the stabilisation observed among CFOs. Option intensity also falls markedly, from approximately 20% to around 10%, mirroring the broader post–FAS 123R contraction in option-based pay.

Taken together, Figure 3 reveals a clear and persistent pattern: cash compensation plays a more prominent role in CFO pay than in CEO pay. This difference is consistent with the distinct organisational role that CFOs occupy. Unlike CEOs, who bear ultimate responsibility for firm strategy and are rewarded primarily for long-run value creation, CFOs function as key intermediaries across business units, overseeing capital allocation, financial reporting, and risk management in ways that require sustained coordination with other members of the senior leadership team (Zorn, 2004; Hambrick, 2007). Because these contributions are often difficult to attribute to individual performance, cash-based compensation, which is less contingent on stock price movements and more responsive to short- and medium-term outcomes, may be better suited to incentivising the collaborative, process-oriented nature of the CFO role (Graham, Harvey, and Rajgopal, 2005).

This interpretation is consistent with the view that cash-based incentives facilitate cooperation among members of the executive team. When executives must work interdependently, as is particularly true of CFOs, whose decisions touch virtually every function of the firm, equity-heavy pay packages can create misaligned incentives by tying rewards too closely to aggregate firm performance rather than to individual cooperative effort. Cash compensation, by contrast, can be more precisely calibrated to reflect the CFO's specific contributions to cross-functional coordination and organisational effectiveness. More broadly, the board's choice of performance measures serves not only to signal strategic priorities to external stakeholders, but also to coordinate and align managerial behaviour within the organisation, a function that the informational content of cash compensation is particularly well suited to fulfil (Che and Yoo, 2001; Guay et al., 2019; Bushman, 2021).

[Please Insert Figure 3 About Here]

3.2. AI investments and executive compensation incentives

We use regression analysis to formally test the association between compensation incentives and changes in the total share of AI workers over the course of the prior three-year period ($\Delta AI(-3,0)_{i,t}$) using the following model:

$$\textit{Compensation intensity}_{i,t} = \alpha + \beta_1 * \Delta AI\,(-3,0)_{i,t} + \beta_2 * \textit{Firm Characteristics}_{i\,t} + \beta_3 * \textit{CFO Characteristics}_{i,t} + \beta_4 * \textit{Board Characteristics}_{i,t} + \gamma * \textit{Firm Dummies} + \delta * \textit{Year Dummies} + \varepsilon_{i,t} \quad (1)$$

where *i* indexes CFOs and *t* indexes years. The variable *ΔAI (−3,0)* is the main variable of interest. A positive (negative) and significant β_1 coefficient indicates that corresponding compensation intensity increases (decreases) with recent investments in AI. *Firm characteristics*, *CFO characteristics* and *Board Characteristics* are vectors of time-varying firm, CFO and board control variables, respectively. We cluster stand errors at the firm level.

Table 2 reports results for three measures of compensation intensity. Column 1 looks at *Option intensity*; Column 2 considers *Equity intensity*; Column 3 investigates *Cash intensity*.

The coefficient on *ΔAI (−3,0)* is positive and statistically significant exclusively for cash intensity; no significant effects are found for option or equity intensity. These findings are robust to the inclusion of firm, CFO, and board characteristics, as well as firm and year fixed effects. Firm fixed effects absorb time-invariant heterogeneity across firms, while year fixed effects control for common time trends in compensation policy, together ensuring that identification is drawn from cross-sectional variation in AI investment within the sample.

The estimated effect is also economically meaningful. A one-unit increase in a firm's share of AI employees over the prior three years is associated with a 0.022 increase in cash intensity, representing approximately 7.2% of the sample mean, a magnitude that is non-trivial given the modest average levels of AI employment documented in Section 3. These results are strongly consistent with the strategic responsibility hypothesis and suggest that cash-based compensation serves two distinct but complementary roles in this context. First, it provides fixed remuneration that reflects the scope and authority of the CFO role rather than firm performance and therefore carries limited incentive effects in the conventional sense (Murphy, 1999). Second, it serves a communicative function: the board's choice of performance measures signals strategic priorities to external stakeholders while simultaneously helping to coordinate and align CFO behaviour within the organisation (Che and Yoo, 2001; Guay et al., 2019; Bushman, 2021).

The coefficients on control variables are broadly consistent with prior literature (e.g., Hayes et al., 2012; Humphery-Jenner et al., 2016). Larger firms tend to exhibit higher option and equity intensity and lower cash intensity. Firms with greater financial leverage rely more heavily on cash-based compensation, likely reflecting the risk-shifting concerns associated with equity incentives in highly levered settings. Growth firms, as proxied by Tobin's Q, R&D expenditure, and PP&E, display higher option and equity intensity and lower cash intensity, consistent with the view that equity-based pay is better suited to aligning managerial incentives with long-run value creation. Firms with greater free cash flows similarly tend to place greater weight on option and equity compensation and less on cash-based pay.

[Please Insert Table 2 About Here]

We next turn to the CEO sample. CEOs bear ultimate responsibility for setting overall strategic direction, allocating resources, and sustaining long-run firm performance (Hambrick, 2007), a role whose core demands are unlikely to be fundamentally reshaped by AI investment. Although AI has advanced rapidly and is expected to continue expanding in scope (Neapolitan and Jiang, 2018; Russell, 2019), it remains one of many competing priorities within the broader strategic agenda of the CEO and currently represents a relatively modest share of total firm investment. Accordingly, we would expect AI adoption to exert little systematic influence on CEO compensation incentives. Consistent with this reasoning, Table 3 finds no significant association between AI investment and CEO compensation intensity across any of the three measures examined. This null result stands in sharp contrast to the positive and significant effect documented for CFOs, reinforcing the interpretation that the compensation response to AI investment is specific to executives whose operational responsibilities are most directly and immediately implicated by its adoption.

[Please Insert Table 3 About Here]

3.3. The impact of CFO's gender and firm characteristics

We begin by examining whether CFO gender moderates the relation between AI investment and compensation structure. Prior evidence suggests that women report lower confidence in using AI tools and are less likely to engage directly with emerging technologies, potentially reflecting differences in exposure as well as persistent stereotypes and status dynamics (Otis et al., 2024). This raises the possibility that female CFOs assume less strategic responsibility for AI initiatives and, consequently, receive lower cash-based compensation intensity. At the executive level, however, where education, experience, and skill are more closely comparable, such gender-based differences may be limited (Francis et al., 2023).

To investigate this, we construct a female CFO indicator variable equal to one if the CFO is female and zero otherwise, and interact it with our measure of AI investment. As reported in Panel A of Table 4, we find no significant moderating effect of CFO gender on the relation between AI investment and cash compensation intensity. This is consistent with the view that, among senior executives, incentive design is driven primarily by firm-level investment decisions rather than the personal characteristics of individual managers, and that gender does not systematically shape this relation.

We next consider whether firm characteristics moderate the relation between AI investment and CFO compensation incentives. One view holds that the compensation implications of AI adoption should be more pronounced in larger, more resource-rich firms that are better positioned to invest in and extract value from new technologies (Babina et al., 2024). An alternative view, rooted in the general-purpose technology literature, suggests that AI diffuses broadly across firm types, implying that its effects on compensation should not be systematically concentrated among particular categories of firms (Goldfarb et al., 2023). To examine this, we interact our AI investment measure with three firm-level characteristics: size, proxied by total assets; age, measured by years since founding; and financial flexibility, captured by free cash flow scaled by market value.

Panel B of Table 4 reports the results, with option intensity, equity intensity, and cash intensity as dependent variables in columns 1–3, 4–6, and 7–9, respectively. None of the interaction terms is statistically significant, indicating that the positive effect of AI investment on CFO cash intensity is not meaningfully moderated by firm size, age, or free cash flow. This finding is consistent with the characterisation of AI as a general-purpose technology whose adoption and organisational implications are not confined to particular firm types but instead diffuse broadly across industries and institutional settings (Goldfarb et al., 2023). Accordingly, the impact of AI investment on compensation incentives appears to be pervasive rather than contingent on firm-level characteristics.

[Please Insert Table 4 About Here]

4. Robustness test

We subject our baseline findings to a battery of robustness tests, the results of which are reported in Table 5. We begin by addressing the possibility that the full operational benefits of AI adoption materialise only gradually, particularly in slow-moving technological environments. To this end, we re-estimate our model using two- and four-year horizons in place of the baseline three-year window. While the two-year horizon produces somewhat attenuated estimates, our findings hold consistently across both alternatives. We further assess whether our results are sensitive to how AI investment is operationalised, replacing the three-year change in AI employment with its contemporaneous level. The baseline results are robust to this substitution, confirming that the positive association between AI investment and CFO cash intensity holds irrespective of whether AI adoption is captured as a stock or a flow, as reported in Panel A of Table 5.

We next address concerns arising from dynamic contracting theory, which predicts that prior-period compensation shapes subsequent pay outcomes (Edmans et al., 2012). Panel B of Table 5 shows that controlling for lagged CFO compensation leaves our baseline estimates materially unchanged. Critically, AI investment retains a positive and significant association with cash intensity even after conditioning on lagged cash intensity, suggesting that AI adoption is linked not merely to the level, but to the *growth*, of cash-based pay overtime.

Our third robustness test addresses the possibility that the results are concentrated among technology firms — entities for which AI represents a core business activity rather than an operational tool. Since our interest lies in the broad-based *adoption* of AI technologies rather than their *development*, we exclude firms in NAICS sectors 51 ("Information") and 54 ("Professional, Scientific, and Technical Services"), following Babina et al. (2024). As reported in Panel C of Table 5, the positive and significant effect of AI investment on cash intensity persists in this restricted sample. Fourth, to guard against the possibility that our estimates reflect unobservable executive-level heterogeneity, we augment the model with executive fixed effects in place of firm fixed effects, following Javakhadze and Shelton (2022).[4] Panel D of Table 5 confirms that the coefficient on AI investment remains positive and statistically significant, indicating that the association between AI adoption and CFO cash intensity is not an artefact of time-invariant executive characteristics.

Finally, we exploit the pronounced upward trend in AI employment documented in Figure 1, where the share of AI workers nearly quadrupled from 0.04% in 2010 to 0.15% in 2018, to conduct a sub-period analysis. If AI investment genuinely shapes compensation structures, its influence should intensify as AI adoption becomes more widespread. Panel E of Table 5 reports estimate for two sub-periods, 2010–2013 and 2014–2017, and we find precisely this pattern: the effect of AI investment on cash intensity is markedly stronger in the later sub-period.

[Please Insert Table 5 About Here]

5. Conclusion

This study provides the first comprehensive empirical evidence on AI human capital investment and its implications for CFO compensation incentives. We apply a novel firm level measure of AI investment based on resume data from Cognism, which reflects actual workforce composition and enables analysis across a wide range of industries. Our data reveal a strong upward trend in AI talent from 2010 to 2018, followed by a modest decline in 2019 to 2020, with growth evident across nearly all industries, consistent with the view that AI is a general-purpose technology.

Motivated by recent organizational shifts, including Coca-Cola's decision to transfer digital and technology responsibilities from the CFO to a newly created Chief Digital Officer

[4] Our main results also hold when controlling for 2-digit NAICS industry and year fixed effects.

role in response to rapid advances in AI, we examine whether AI investment affects CFO compensation incentives. We find that AI investment is positively associated with the cash component of CFO compensation, while having no significant effect on equity or option-based incentives. These findings are robust to alternative measures of AI investment, controls for lagged compensation, and the inclusion of executive fixed effects.

Taken together, our findings illuminate how AI is reshaping corporate governance and executive pay. As AI becomes more central to firm operations, it appears to foster greater collaboration between CFOs and other members of the C-suite. In this environment, CFO compensation shifts toward greater reliance on cash-based pay, with no corresponding change in equity or option incentives. This pattern highlights the dual function of cash compensation: it provides fixed remuneration tied to job scope and managerial authority, with limited bearing on firm performance, and therefore carries limited incentive effects; at the same time, it serves a signalling role, through which the board's choice of compensation structure communicates strategic priorities to external stakeholders while helping to align CFO behaviour with broader firm objectives.

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Appendix

Variable	Variable Description
Compensation variables	
Option intensity	The proportion of total annual CEO compensation that comes from option grants. This is the value of annual option awards (“option_awards_fv”) scaled by the amount of total annual compensation (ExecuComp: “tdc1”).
Equity intensity	The proportion of total annual CEO compensation that comes from option grants and stocks. This is the value of annual option awards (ExecuComp: “option_awards_fv”) plus the value of annual stock grants (ExecuComp: “stock_awards_fv”) scaled by the amount of total annual compensation (ExecuComp: “tdc1”).
Cash intensity	The proportion of total annual executive compensation that comes from cash. This is the amount of annual cash (ExecuComp: “total_curr”) scaled by total annual compensation (ExecuComp: “tdc1”)
Main independent variables of interest	
ΔAI (−3, 0) (%)	Change in the percentage of the workforce that has AI skills at an audit firm from year t=−3 to t=0. The percentage of the workforce with AI skills in year t is computed as the total number of AI workers in year t scaled by the total workforce.
AI (%)	The percentage of the workforce with AI skills in year t is computed as the total number of AI workers in year t scaled by the total workforce.
Firm characteristics variables	
Firm size	The natural logarithm of a firm’s total assets (“log(at)”).
Leverage	Book value of long-term and short-term debt divided by book value of total assets (“(dltt+dlc)/at”).
Tobin’s Q	The firm’s market-to-book, defined in CRSP/Compustat codes as “(prcc_f∗csho+lt)/(ceq+lt)”.
HHI	Herfindahl-Hirschman index, calculated as the sum of squared market shares of all firms in a given Fama-French 48 industries. Market shares are computed based on firms’ sales from Compustat.
Research and development	It is a dummy variable equal to 1 if a firm reports positive research and development (R&D) expenditure (“(xrd)”), and 0 if R&D expenditure is zero or not reported.
PPE	The firm’s property, plant and equipment scaled by the total assets (“(ppegt/at)”).
Free cash flow	The firm’s free cash flows divided by its market value (“(oancf-capx)/(prcc_f∗csho)”).
ROA	The firm’s return on assets, defined as the net income scaled by total assets (in Compustat codes: “ni/at”).
Firm age	The time between year *t* and the year in which the firm is first recorded in the CRSP stock database.
Executive characteristics variables	
Age	Executive age reported in ExecuComp.
Tenure	The number of years since the CFO joined the company (Joined_Co) or first appeared in Execucom.
Ownership	The executive’s stock ownership divided by the number of shares outstanding in the firm.
Vega/Delta	The ratio of Vega to Delta. Vega is the change in the dollar value of the CEO wealth for a one percentage change in the annualized standard deviation of stock returns at the end of the fiscal year. The variable is created using data from ExecuComp. Delta is the change in the dollar value of the CEO wealth for a one percentage point change in stock price at the end of the fiscal year. The variable is created using data from ExecuComp.
Board characteristics variables	
Board size	The number of directors on the board.
%Independent	The ratio of the number of independent directors to board size.

Figure 1. Time Series of AI Investments. This figure shows the time series of AI investments for U.S. public firms in our sample. AI investment is measured as the fraction of all employees in a given year who are classified as holding AI-related positions in the Cognism resume data from 2010 to 2020.

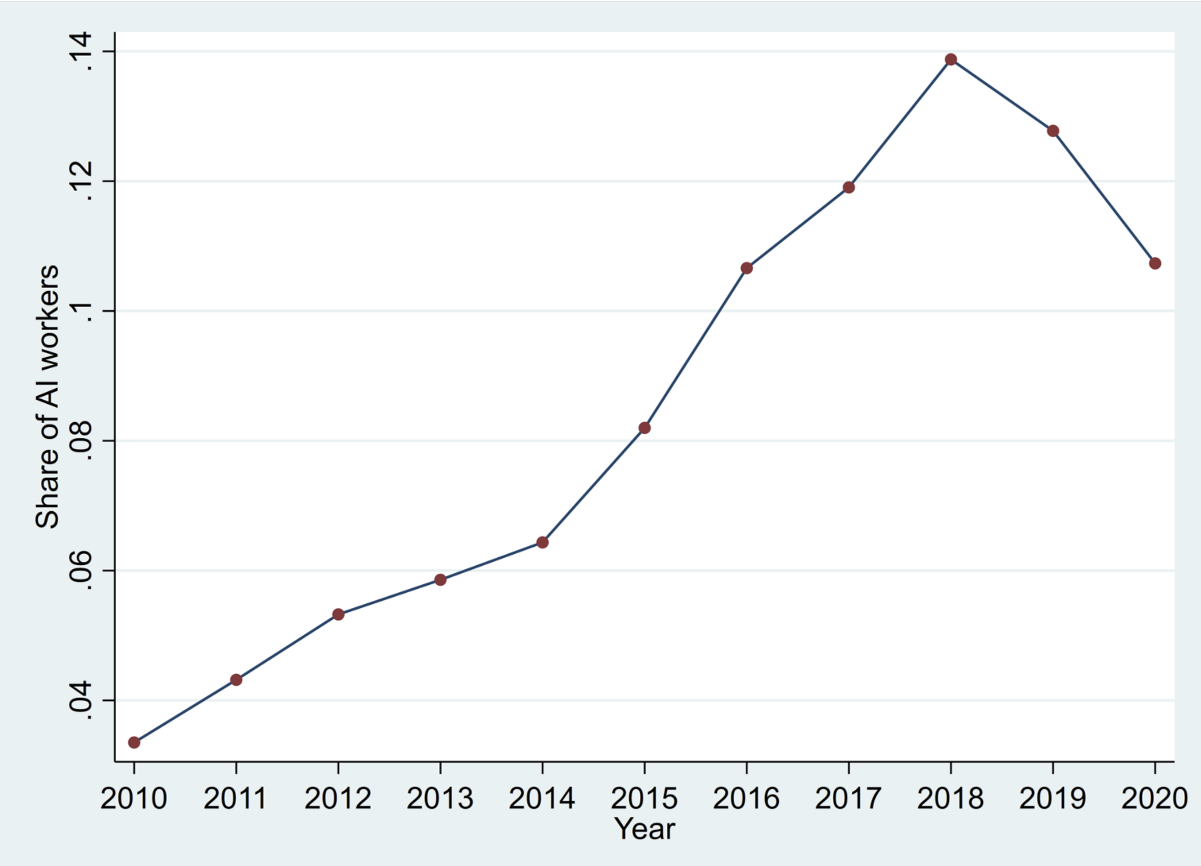


Figure 2. AI Investments by Industry Sector. This figure presents the average share of AI jobs at the industry level, based on the sample of U.S. public firms. For each sector (based on 2-digit NAICS industry codes), we compute the fraction of AI-related employees in the Cognism resume data. The statistics are computed for firms in each industry sector across two subperiods:2010–2013 and 2014–2020.

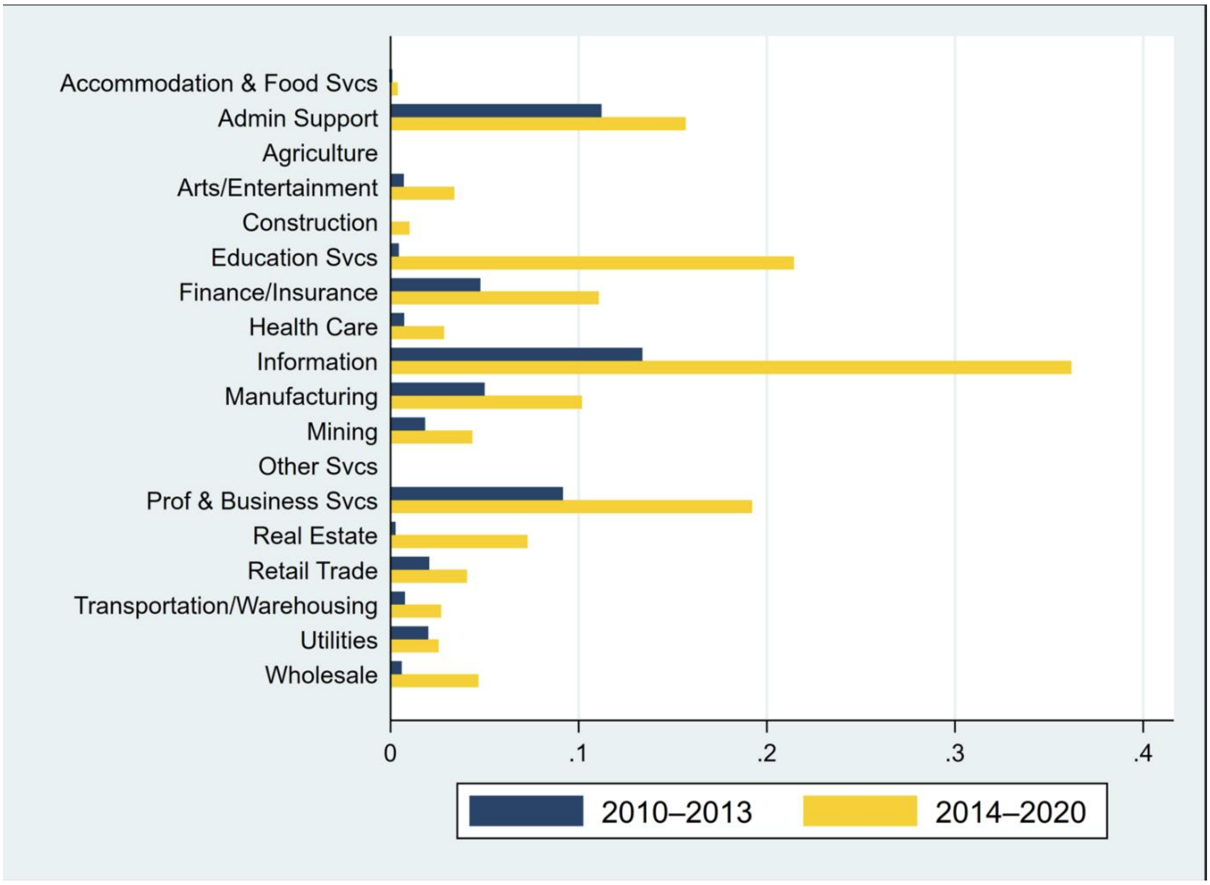
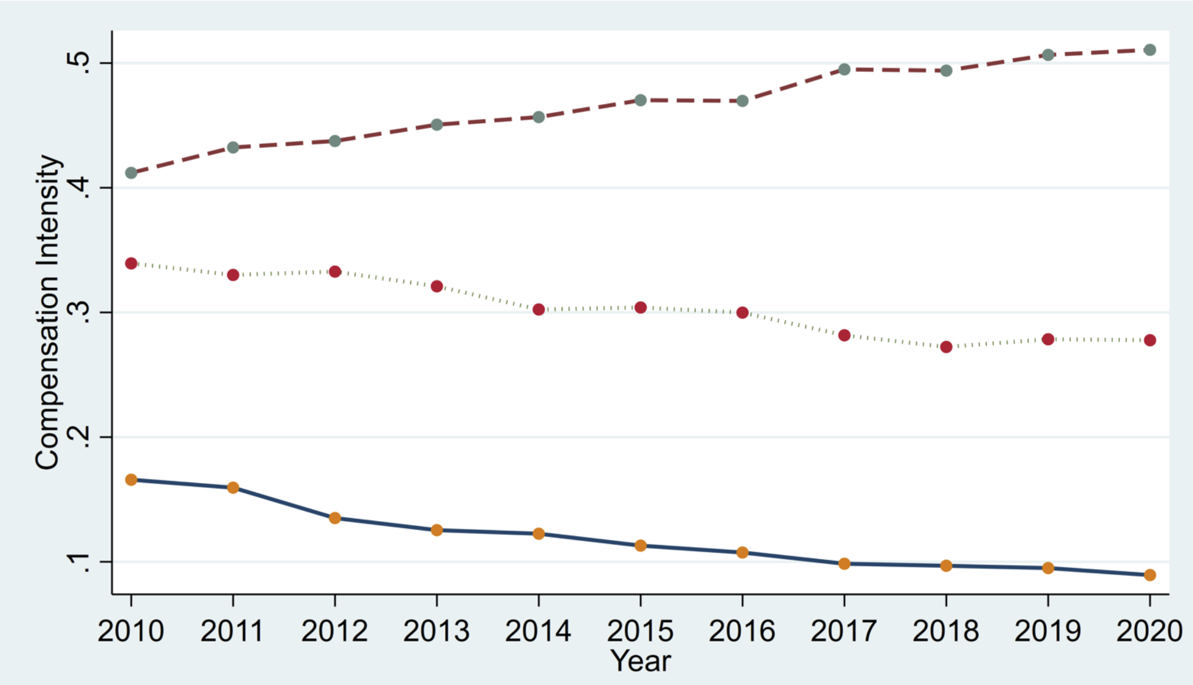
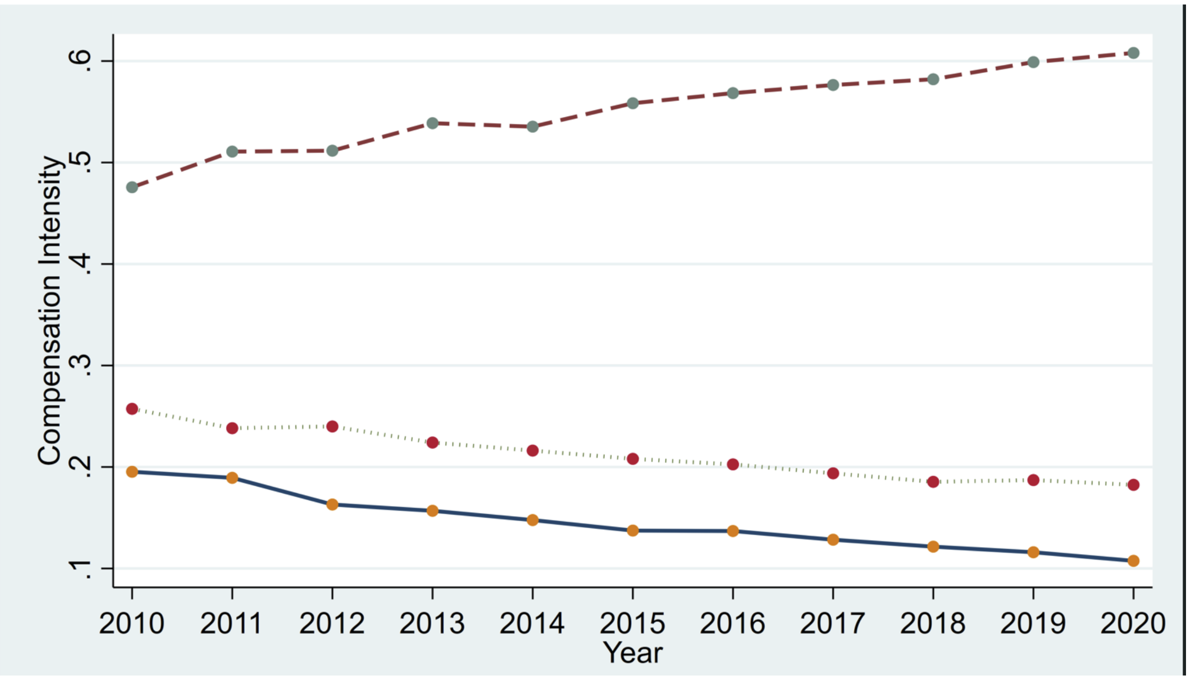


Figure 3. Time Series of CFO and CEO's compensation intensity. This figure presents the time series of compensation intensity for CFOs (Panel A) and CEOs (Panel B) over the period 2010 to 2020. In each panel, equity intensity is defined as the proportion of total compensation derived from equity-based awards, including stock and option grants, and is shown by the dashed line. Cash intensity, measured as the proportion of total compensation paid in cash, is indicated by the dotted line. Option intensity, defined as the proportion of total compensation attributable to option grants, is represented by the solid line.



(A) CFOs



(B) CEOs

Table 1. Summary statistics. This table presents summary statistics for CFO and CEO groups over the period 2010–2020, including compensation variables, AI variables, firm, executive and board characteristics. Summary statistics are presented where AI data is available from Babina et al. (2024), where data is available to compute compensation incentives, where accounting data is available in Compustat and CRSP, where board data is from Institutional Shareholder Services (ISS, formerly RiskMetrics). All variable definitions are provided in the Appendix.

	CFO					CEO				
	Mean	Std Dev	p25	p50	p75	Mean	Std Dev	p25	p50	p75
Compensation variables										
Option intensity	0.120	0.161	0.000	0.000	0.198	0.145	0.189	0.000	0.033	0.247
Equity intensity	0.466	0.204	0.349	0.485	0.606	0.552	0.220	0.445	0.595	0.704
Cash intensity	0.304	0.182	0.184	0.258	0.366	0.212	0.173	0.108	0.159	0.243
AI variables										
AI (%)	0.082	0.255	0.000	0.000	0.025	0.087	0.266	0.000	0.000	0.032
ΔAI (−3, 0) (%)	0.023	0.230	0.000	0.000	0.000	0.026	0.240	0.000	0.000	0.000
Firm characteristics										
Firm size	8.141	1.627	6.950	7.975	9.144	8.224	1.633	7.040	8.069	9.248
Leverage	0.243	0.187	0.087	0.232	0.357	0.254	0.190	0.102	0.243	0.368
Tobin's Q	2.109	1.375	1.247	1.673	2.437	2.122	1.392	1.246	1.678	2.444
HHI	0.082	0.065	0.041	0.064	0.093	0.082	0.064	0.041	0.063	0.093
Research and development	0.574	0.495	0.000	1.000	1.000	0.580	0.494	0.000	1.000	1.000
PPE	0.498	0.411	0.173	0.357	0.767	0.502	0.418	0.171	0.359	0.779
Free cash flow	0.044	0.078	0.021	0.045	0.073	0.044	0.080	0.021	0.046	0.073
ROA	0.054	0.075	0.024	0.053	0.089	0.053	0.076	0.023	0.052	0.089
Firm age	32.332	17.978	18.000	26.000	47.000	32.566	18.318	18.000	26.000	48.000
Executive characteristics										
Age	53.323	6.061	49.000	53.000	57.000	57.071	6.430	53.000	57.000	61.000
Ownership	0.197	0.900	0.024	0.068	0.169	1.328	2.935	0.105	0.313	0.960
Tenure	7.149	4.361	4.000	6.000	9.000	8.199	6.813	3.000	6.000	11.000
Vega/Delta	0.359	0.378	0.000	0.269	0.576	0.319	0.366	0.001	0.206	0.507
Board characteristics										
Board size	9.259	2.029	8.000	9.000	11.000	9.329	2.043	8.000	9.000	11.000
%Independent	0.800	0.105	0.750	0.833	0.889	0.806	0.102	0.750	0.833	0.889

Table 2. CFO compensation incentives and AI. This table reports the results from regressing the CFO compensation incentives on the change in the share of AI workforce over the course of the prior three-year period ($\Delta AI(-3,0)_{i,t}$). The dependent variable is Option intensity, Equity intensity and Cash intensity in columns 1, 2, and 3, respectively. All variables are defined in Appendix A. We winsorize all continuous control variables at the 1st and 99th percentiles. The OLS regression is estimated with firm and year fixed affects. Standard errors are clustered by firm. ***, **, and * signify statistical significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)
	Option intensity	Equity intensity	Cash intensity
ΔAI (−3, 0) (%)	-0.003	-0.001	0.022***
	(0.700)	(0.892)	(0.002)
Firm size	0.011	0.053***	-0.047***
	(0.213)	(0.000)	(0.000)
Leverage	-0.027	-0.093***	0.080***
	(0.269)	(0.001)	(0.001)
Tobin's Q	0.012***	0.010***	-0.014***
	(0.000)	(0.000)	(0.000)
HHI	0.148	0.151	0.031
	(0.177)	(0.183)	(0.773)
Research and development	-0.002	-0.015	0.008
	(0.824)	(0.540)	(0.810)
PPE	-0.044*	-0.010	-0.013
	(0.083)	(0.725)	(0.662)
Free cash flow	-0.098***	-0.142***	0.025
	(0.000)	(0.000)	(0.329)
ROA	-0.031	-0.182***	-0.097***
	(0.320)	(0.000)	(0.005)
Firm age	-0.002	-0.006	0.004
	(0.833)	(0.860)	(0.844)
Age	-0.001	-0.001	0.001
	(0.380)	(0.246)	(0.276)
Ownership	-0.009	-0.005	0.012*
	(0.166)	(0.555)	(0.055)
Tenure	0.001	-0.000	-0.001
	(0.461)	(0.617)	(0.253)
Vega/Delta	0.081***	0.043***	0.008
	(0.000)	(0.000)	(0.311)
Board size	-0.000	-0.001	0.003
	(0.932)	(0.814)	(0.157)
%Independent	0.022	0.040	-0.056
	(0.554)	(0.334)	(0.120)
Firm fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Observations	7629	7629	7629
Adjusted R-squared	0.637	0.580	0.671

Table 3. CEO compensation incentives and AI. This table reports the results from regressing the CEO compensation incentives on the change in the share of AI workforce over the course of the prior three-year period ($\Delta AI(-3,0)_{i,t}$). The dependent variable is Option intensity, Equity intensity and Cash intensity in columns 1, 2, and 3, respectively. All variables are defined in Appendix A. We winsorize all continuous control variables at the 1st and 99th percentiles. The OLS regression is estimated with firm and year fixed affects. Standard errors are clustered by firm. ***, **, and * signify statistical significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)
	Option intensity	Equity intensity	Cash intensity
ΔAI (−3, 0) (%)	-0.007	0.012	0.002
	(0.600)	(0.343)	(0.759)
Control variables as in Table 2	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Observations	9877	9877	9877
Adjusted R-squared	0.616	0.558	0.661

Table 4. The impact of CFO's gender and firm characteristics on CFO compensation incentives and AI. This table reports the results from regressing the CFO compensation incentives on the change in the share of AI workforce over the course of the prior three-year period (ΔAI $(-3,0)_{i,t}$) by considering CFOs' gender and firm characteristics. In Panel A, we construct a female CFO indicator that equals one if the CFO is female and zero otherwise and interact it with our measure of AI investment. The dependent variable is Option intensity, Equity intensity and Cash intensity in columns 1, 2, and 3, respectively. In Panel B, we interact AI investment with firm size, firm age, and free cash flow, respectively. The dependent variables are option intensity, equity intensity, and cash intensity, reported in columns 1–3, 4–6, and 7–9, respectively. Variables are defined in Appendix A. We winsorize all continuous control variables at the 1st and 99th percentiles. The OLS regression is estimated with firm and year fixed affects. Standard errors are clustered by firm. ***, **, and * signify statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A	(1)	(2)	(3)
	Option intensity	Equity intensity	Cash intensity
ΔAI (−3, 0) (%)	-0.004	-0.004	0.025***
	(0.722)	(0.722)	(0.001)
Female	0.005	-0.013	0.022
	(0.730)	(0.379)	(0.125)
ΔAI (−3, 0) (%) * Female	0.005	0.014	-0.016
	(0.850)	(0.594)	(0.465)
Control variables as in Table 2	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Observations	7629	7629	7629
Adjusted R-squared	0.637	0.580	0.672

Panel B	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Option intensity			Equity intensity			Cash intensity		
ΔAI (−3, 0) (%)	0.007	0.009	-0.014	0.005	-0.036*	-0.047	0.021*	0.028*	0.079*
	(0.587)	(0.562)	(0.739)	(0.700)	(0.060)	(0.412)	(0.081)	(0.083)	(0.072)
ΔAI (−3, 0) (%) * Firm size	0.001			0.006			-0.007		
	(0.777)			(0.423)			(0.170)		
Firm size	0.011			0.053***			-0.047***		
	(0.216)			(0.000)			(0.000)		
ΔAI (−3, 0) (%) * Firm age		-0.000			0.001**			-0.000	
		(0.301)			(0.015)			(0.651)	
Firm age		-0.002			-0.006			0.004	
		(0.837)			(0.857)			(0.844)	
ΔAI (−3, 0) (%) * Free cash flow			-0.180			-0.122			0.014
			(0.229)			(0.552)			(0.934)
Free cash flow			-0.097***			-0.141***			0.025
			(0.000)			(0.000)			(0.334)
Control variables as in Table 2	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	7629	7629	7629	7629	7629	7629	7629	7629	7629
Adjusted R-squared	0.637	0.637	0.637	0.580	0.581	0.580	0.671	0.671	0.672

Table 5. Robustness tests. This table reports the robustness results for CFO compensation incentives and AI. In Panel A, we regress the CFO compensation incentives on the change in the share of AI workforce over the course of the prior two-year period (ΔAI $(-2,0)_{i,t}$), the prior four-year period (ΔAI $(-4,0)_{i,t}$) and the contemporaneous AI investment level, respectively. The dependent variables are option intensity, equity intensity, and cash intensity, reported in columns 1–3, 4–6, and 7–9, respectively. In Panel B, we control for lagged CFO compensation incentives. In Panel C, we exclude firms in two 2-digit NAICS sectors: 51 ("Information") and 54 ("Professional, Scientific, and Technical Services"). In Panel D, we control for the executive fixed effects. From Panels B to D, the dependent variable is Option intensity, Equity intensity and Cash intensity in columns 1, 2, and 3, respectively. In Panel E, we estimate model (1) separately for two subperiods: 2010–2013 and 2014–2017. Columns (1)– (3) report results for the 2010–2013 period, while columns (4)– (6) report results for 2014–2017. The dependent variables are option intensity in columns (1) and (4), equity intensity in columns (2) and (5), and cash intensity in columns (3) and (6). All variables are defined in Appendix A. We winsorize all continuous control variables at the 1^{st} and 99th percentiles. The OLS regression is estimated with firm and year fixed affects, excepts for Panel D. Standard errors are clustered by firm. ***, **, and * signify statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Option intensity			Equity intensity			Cash intensity		
ΔAI (−4, 0) (%)	0.003			-0.003			0.025***		
	(0.766)			(0.756)			(0.001)		
ΔAI (−2, 0) (%)		-0.002			0.004			0.015	
		(0.746)			(0.719)			(0.112)	
AI (%)			-0.012			0.007			0.021*
			(0.400)			(0.568)			(0.080)
Control variables as in Table 2	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	6378	7607	7629	6378	7607	7629	6378	7607	7629
Adjusted R-squared	0.651	0.637	0.637	0.585	0.580	0.580	0.686	0.671	0.671

Panel B	(1)	(2)	(3)
	Option intensity	Equity intensity	Cash intensity
ΔAI (−3, 0) (%)	-0.010	0.000	0.019**
	(0.107)	(0.972)	(0.026)
Lagged option intensity	0.256***		
	(0.000)		
Lagged equity intensity		-0.024	
		(0.546)	
Lagged cash intensity			0.058
			(0.241)
Control variables as in Table 2	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Observations	5414	5414	5414
Adjusted R-squared	0.692	0.603	0.706

Panel C	(1)	(2)	(3)
	Option intensity	Equity intensity	Cash intensity
ΔAI (−3, 0) (%)	-0.004	-0.003	0.022**
	(0.597)	(0.740)	(0.011)
Control variables as in Table 2	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Observations	6722	6722	6722
Adjusted R-squared	0.651	0.584	0.686

Panel D	(1)	(2)	(3)
	Option intensity	Equity intensity	Cash intensity
ΔAI (−3, 0) (%)	0.000	0.001	0.020**
	(1.000)	(0.929)	(0.011)
Control variables as in Table 2	Yes	Yes	Yes
Executive fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Observations	7282	7282	7282
Adjusted R-squared	0.679	0.606	0.705

Panel E	(1)	(2)	(3)	(4)	(5)	(6)
	Option intensity	Equity intensity	Cash intensity	Option intensity	Equity intensity	Cash intensity
	2010-2013			2014-2017		
ΔAI (−3, 0) (%)	-0.014	-0.025	0.025	0.003	-0.022**	0.026**
	(0.510)	(0.393)	(0.143)	(0.855)	(0.039)	(0.022)
Control variables as in Table 2	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2738	2738	2738	2471	2471	2471
Adjusted R-squared	0.704	0.610	0.708	0.737	0.675	0.796