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CHRO Compensation and Strategic Human Capital Management

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Abstract

Human capital is increasingly a key determinant of productivity, yet little is known about how firms manage it. Using proprietary survey data on Chief Human Resources Officer (CHRO) compensation for a broad sample of U.S. public firms, we examine whether the compensation of the CHRO relative to that of the CEO is informative about the organizational importance firms assign to human capital management (HCM). We show that higher CHRO pay ratios are associated with more active workforce reshaping, stronger workforce-quality measures, and higher employee sentiment. Firms with higher CHRO pay ratios also exhibit greater accumulation of intellectual capital, which subsequently predicts abnormal stock returns. Collectively, our findings suggest that how firms compensate the CHRO is informative about their HCM.

Keywords: Executive compensation, Human capital management, Intellectual capital, Intangible assets, Chief Human Resources Officer (CHRO), Intangible assets
JEL Classification: J24; J31; M12; M52; O31

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CHRO Compensation and Strategic Human Capital Management

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Abstract

Human capital is increasingly a key determinant of productivity, yet little is known about how firms manage it. Using proprietary survey data on Chief Human Resources Officer (CHRO) compensation for a broad sample of U.S. public firms, we examine whether the compensation of the CHRO relative to that of the CEO is informative about the organizational importance firms assign to human capital management (HCM). We show that higher CHRO pay ratios are associated with more active workforce reshaping, stronger workforce-quality measures, and higher employee sentiment. Firms with higher CHRO pay ratios also exhibit greater accumulation of intellectual capital, which subsequently predicts abnormal stock returns. Collectively, our findings suggest that how firms compensate the CHRO is informative about their HCM.

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1. Introduction

The rapid evolution towards a knowledge economy has accelerated firms' reliance on human capital and, to win the "war for talent," firms now invest substantial resources in human capital management (HCM) strategies and programs. Accordingly, a critical development has been the increase in authority and responsibilities granted to firms' top human resource professionals (e.g., Hamilton, Larcker, Miles, and Tayan, 2019).[1] However, despite their growing importance, little is known about how firms differ in the role assigned to their top human resource executives, or, more broadly, in how HCM is organized, partly because relevant information is rarely disclosed (e.g., Banks, Brest, Coates, Davis, Grundfest, Honigsberg, Jackson, Rajgopal, Rouen, and Taylor, 2022).

This study sheds light on variation in HCM by examining the compensation of Chief Human Resource Officers (CHROs), the senior executives responsible for overseeing human capital strategies. Leveraging proprietary survey data on CHRO compensation across a broad sample of U.S. public firms, we examine the compensation allocated to CHROs relative to CEOs (i.e., the "CHRO pay ratio"). We interpret this ratio as informative about the organizational importance firms assign to the CHRO and HCM. We find that higher CHRO pay ratios are associated with various measures of improved human capital management. We also demonstrate that these changes appear to have important value implications, as these human capital outcomes predict firms' future intellectual capital and, in turn, stock-price

[1] For much of the 20th century, HR managers focused primarily on administrative duties and labor compliance (Pophal, 2023). By the 1990s, firms increasingly viewed workforce quality as a competitive advantage, popularized by McKinsey in its famous article "War for Talent" (Keller and Meaney, 2017). In response, some firms have significantly expanded the responsibilities of their top HR executive to include strategic initiatives such as workforce planning, talent acquisition and development, compensation and benefits, culture, and employee engagement (e.g., Wright, Schepker, Nyberg, Steinbach, and Yadav, 2024; Batish, Chen, Colombo, Klewin, Shimizu, and Shin, 2024; Charan, Barton, and Carey, 2015).

performance. Although our findings are descriptive, they suggest the top HR professional's compensation is closely linked to firms' human capital strategies and, subsequently, firm value.

While virtually all large firms designate a senior HR executive, the authority granted to such leaders can vary substantially across organizations (e.g., Menz, 2012). At one extreme, many CHROs are confidants of the CEO and trusted advisors to the board, suggesting that, in some firms, the CHRO occupies a highly influential position at the center of senior decision-making (e.g., Korn Ferry, 2020; Heidrick & Struggles, 2026). At the same time, a significant fraction of CHROs do not attend most board meetings, and many top executives continue to view the CHRO role as primarily operational or administrative (Charan et al., 2015; The Conference Board, 2025). These relationships and power dynamics are largely unobservable, as are the resources dedicated to human capital management within firms.

Our focus on CHRO compensation is motivated by prior evidence that links executive compensation to firm-level performance. Under efficient contracting, firms that prioritize HCM would structure CHRO compensation to attract and incentivize more qualified CHROs (e.g., Krueger and Summers, 1988; Dal Bo, Finan, and Rossi, 2013). Furthermore, and more central to our interpretation, what a firm pays its CHRO relative to its CEO may reflect the resources dedicated to HCM and the authority granted to the CHRO. Accordingly, better-incentivized CHROs may be associated with stronger human capital outcomes and, ultimately, better firm performance.

Despite this intuitive link, it is not clear ex ante that higher CHRO compensation should be positively associated with firm outcomes. Extensive research indicates that executive pay may not always reflect value creation but can stem from managerial power, rent extraction, or

rewards for luck (e.g., Bertrand and Mullainathan, 2001; Bebchuk and Fried, 2006). Consistent with this view, prior evidence on the relation between compensation and performance is mixed (e.g., Core, Holthausen, and Larcker, 1999; Bebchuk, Cremers, and Peyer, 2011). This ambiguity may be particularly relevant for HR executives, as the HR function is often viewed as peripheral to core operating decisions (Hammonds, 2005; Cappelli, 2015), highlighting that CHRO pay may not map cleanly onto the role's strategic importance. Therefore, whether CHRO pay is associated with stronger human capital outcomes is an empirical question.

To explore this question, we first examine the relationship between CHRO pay and future firm-level measures of human capital management. Consistent with more active human capital management in firms that pay CHROs more, we find that higher CHRO pay ratios are associated with increased employee turnover, even after controlling for industry and time-varying firm characteristics. This association is strongest among employees in revenue-generating functions, suggesting that CHROs play an active role in managing critical talent pipelines.

While increased turnover could indicate deteriorating employee morale and a loss of knowledge capital, we provide evidence to the contrary. We find that CHRO pay ratios are positively associated with measures of workforce quality. Specifically, firms with higher CHRO pay ratios are better able to attract employees from competitors and candidates with stronger educational credentials. At the same time, departing employees tend to accept lower compensation at their subsequent jobs. These findings suggest that workforce changes at firms with higher CHRO pay ratios are consistent with improvements in employee talent rather than a loss of it.

Beyond workforce composition, we show that higher CHRO pay ratios are associated

with improved employee sentiment. Specifically, using Glassdoor ratings, we find strong positive associations between the CHRO pay ratio and future employee sentiment related to career opportunities, compensation and benefits, workplace culture, work-life balance, and mentorship. These associations underscore the potential role of CHROs in human capital management, extending beyond changes in workforce composition. These findings are particularly notable, as employee satisfaction is a critical dimension of human capital management practices that influences firm performance (e.g., Edmans, 2011; Green, Huang, Wen, and Zhou, 2019; Graham, Grennan, Harvey, and Rajgopal, 2022).

While our findings suggest that firms with higher CHRO pay ratios are more active in attracting, developing, and motivating talent, a natural question is whether these efforts ultimately translate into improved firm performance. To address this issue, we turn to intellectual capital, a primary output of firms' workforce. We first document a direct association between the CHRO pay ratio and intellectual capital, measured using patent output and value, new product launches, and knowledge capital. We then show that turnover, workforce quality, and employee sentiment are themselves positively associated with these intellectual capital measures, and that the intellectual capital measures are subsequently associated with higher abnormal returns. Together with path analyses, these results suggest that relative CHRO compensation is linked to firms' intellectual capital creation in part through workforce changes, which, in turn, is associated with improved stock market performance.

We provide several additional analyses to probe our interpretation of the CHRO pay ratio and to consider alternative explanations for our findings. First, we show that the CHRO pay ratio has incremental predictive power beyond other measures and dimensions of

human capital (e.g., HR team size and pay, Peters and Taylor (2017)'s organizational capital measure) and that its associations with turnover, workforce quality, and aggregate intellectual capital persist after controlling for labor-market competition and R&D intensity. Second, using detailed employee-level data linked to patent output, we show that firms with higher CHRO pay ratios tend to recruit more productive employees, who continue to generate more intellectual capital for the firm in subsequent years. Because this analysis links individual hiring decisions directly to subsequent productivity, it is difficult to attribute these patterns solely to pre-existing firm characteristics. Finally, we show that the CHRO pay ratio is especially informative when human capital is more consequential. Its associations with human capital outcomes are stronger in firms where human capital is more central to value creation, and higher CHRO pay ratios are also associated with smaller declines in employee sentiment following severe employment-related controversies.

Our paper relates to several strands of literature. First, our study contributes to research on the role of C-suite executives and the design of their compensation contracts in shaping corporate outcomes. A broad literature in accounting, economics, and finance has focused primarily on CEOs and directors, leaving comparatively little attention to other senior executives.[2] This focus has been partly data-driven, as U.S. disclosure requirements only mandate compensation reporting for the five highest-paid executives and the board directors.

[2]Most of this work focuses on CEOs and directors, linking their compensation to various firm outcomes, including financial performance (e.g., Core et al., 1999; Larcker, Richardson, and Tuna, 2007; Edmans, Gosling, and Jenter, 2023), risk-taking (e.g., Guay, 1999; Rajgopal and Shevlin, 2002; Park and Vrettos, 2015), other organizational practices (e.g., Healy, 1985; Bertrand and Schoar, 2003; Armstrong, Larcker, Ormazabal, and Taylor, 2013; Chi, Huang, and Sanchez, 2017), and innovation (e.g., Xue, 2007; Baranchuk, Kieschnick, and Moussawi, 2014; Mao and Zhang, 2018). A significantly smaller literature considers other executives, such as CFOs (e.g., Indjejikian and Matějka, 2009; Jiang, Petroni, and Wang, 2010; Feng, Ge, Luo, and Shevlin, 2011). For reviews, see Bushman and Smith (2001), Core, Guay, and Larcker (2003), and Edmans, Gabaix, and Jenter (2017).

As a result, the role of other senior executives has been more difficult to study. By using proprietary survey data, we overcome this limitation for CHROs and document that their relative compensation is systematically related to firms' human capital outcomes.[3]

Second, we contribute to the extensive literature on firms' human capital and its impact on firm operations. One line of research examines how specific dimensions of firms' human capital relate to firm outcomes, such as hiring employees with particular expertise (e.g., DeFond, Hann, and Hu, 2005; Drymiotes and Sivaramakrishnan, 2021; Armstrong, Kepler, Larcker, and Shi, 2024), the provision of equity-based incentives to rank-and-file employees (e.g., Ittner, Lambert, and Larcker, 2003; Chang, Fu, Low, and Zhang, 2015; Call, Kedia, and Rajgopal, 2016), or overall levels of employee satisfaction (e.g., Edmans, 2011; Huang, Li, and Markov, 2020; Mkrtchyan, Sandvik, and Xu, 2024). Another line explores how various corporate events or processes impact labor practices (e.g., Dube and Zhu, 2021; Choi, Pacelli, Rennekamp, and Tomar, 2023; deHaan, Li, and Zhou, 2023; Sran, 2025). Our study adds to this literature by documenting that firms allocating greater relative compensation to the executive responsible for HCM differ systematically in their workforce outcomes and intellectual-capital creation. These findings suggest that relative CHRO compensation is informative about firms' HCM-related organizational priorities that are difficult to observe using existing public data.

Finally, our paper contributes to the broader literature emphasizing both the rising importance of intangible assets (e.g., Srivastava, 2014; Green, Louis, and Sani, 2022; Barth,

[3]Empirical work on CHROs largely relies on small practitioner surveys and case studies. Prior studies document limited but increasing trends in diversity (HRO Today, 2024), skill requirements (Forrest, Kreit, Murphy, Mahto, Weisz, and Britton, 2025), board appointments (Batish et al., 2024), and the share of external hires (Wright et al., 2024). Surveys also suggest that CEOs and CHROs view the role as central in developing talent and firm culture (e.g., Hamilton et al., 2019). However, a key limitation of this literature is its reliance on self-reported perceptions, which may be positively biased.

Li, and McClure, 2023) and the challenges inherent in measuring them (e.g., see Glaeser and Lang, 2024 for a review). As the economy has shifted toward the new economy, intangibles have become key to understanding firm productivity and output (e.g., Peters and Taylor, 2017; Lev, 2019; Kepler, McClure, and Stewart, 2025). At the same time, the limited recognition and disclosure of these assets increases the uncertainty of their value (e.g., Kothari, Laguerre, Leone, and Simon, 2002; Bell, Landsman, Miller, and Yeh, 2002; Shi, 2003). Among these assets, human-capital-based investments are increasingly viewed as a central form of intangible capital (e.g., Babenko and Sen, 2016; Sun and Xiaolan, 2019; Ewens, Peters, and Wang, 2025), yet their contribution to firm value remains inherently difficult to quantify (Jones, 2014). Using proprietary CHRO compensation data, we examine a difficult-to-observe dimension of firms' approach to HCM: the relative compensation allocated to the executive responsible for overseeing the function. We show that this allocation is associated with improved workforce outcomes and intellectual-capital creation. Together, these findings point to relative CHRO compensation as a new lens on how firms position HCM and how those organizational priorities relate to economically important outcomes.

2. Data

2.1. CHRO pay ratio data

Our CHRO compensation data come from Equilar, a leading provider of executive compensation intelligence. Equilar draws the data from two sources: proxy disclosures and proprietary surveys. When the CHRO is a named executive officer (NEO) and among the top five highest-paid employees, Equilar extracts detailed compensation information directly from

proxy filings.[4] This coverage is supplemented with data from a series of highly structured annual compensation surveys of executives from over 1,400 current and formerly public firms. Equilar identifies CHROs in these surveys by performing a comprehensive keyword search of job titles. We tabulate the common job titles and their distributions in Appendix A.

We focus on CHRO compensation relative to CEO compensation to benchmark the compensation allocated to the CHRO within the firm's senior executive team. By focusing on relative rather than absolute pay, this measure accounts for firm-specific characteristics that affect compensation within the firm's executive team. Our benchmarking to CEO pay mirrors practice, as the CEO's compensation is commonly used as the primary benchmark for determining other executives' pay (e.g., Bowers and Whittlesey, 2010; Canavan, 2024; Hodgson, 2025).

Prior empirical studies also support our choice to benchmark to CEO compensation. Bebchuk et al. (2011) studies CEO pay relative to the compensation of the other top five executives, interpreting the ratio as a measure of the CEO's relative importance, an approach conceptually similar to ours. In addition, a growing number of studies focus on recent amendments to the SEC's Regulation S-K, which require firms to disclose the ratio of the median employee pay to the CEO's (e.g., Pan, Pikulina, Siegel, and Wang, 2022; Chang, Dambra, Schonberger, and Suk, 2023; LaViers, Sandvik, and Xu, 2024). Together, the prevailing practice and empirical literature reinforce the idea that CEO compensation serves as a meaningful internal benchmark.

We compute the CHRO-to-CEO pay ratio ($CHRO\ Pay\ Ratio_{i,t}$) as the ratio of the

[4] Unlike ExecuComp and ISS, which focus on roughly the S&P 1500, Equilar collects proxy data across the entire universe of U.S. public companies, covering approximately 4,000–5,000 filings per year. Whereas this provides substantially broader coverage, relatively few firms report CHROs as NEOs, limiting the number of proxy statements that contain CHRO compensation data.

CHRO's total direct compensation to the CEO's. Following Bebchuk et al. (2011), "total direct compensation" for both executives includes salary, bonus, stock, options, and performance-based awards. Our primary measure is the decile rank of the CHRO-to-CEO compensation ratio, which accounts for the substantial skew induced by firms with one-dollar CEOs.[5]

The CHRO-to-CEO pay ratio captures the compensation firms allocate to their executive responsible for HCM relative to the CEO, but it need not correspond one-for-one with a firm's overall investment in HCM. Consistent with our interpretation, higher relative CHRO compensation may reflect greater scope and authority of the role, more resources and stronger incentives attached to managing human capital, and the experience and capabilities of the executive a firm seeks to attract. However, external labor-market conditions may also affect the pay required to fill the position. At the same time, firms may prioritize human capital through channels not reflected in CHRO compensation, including line-manager authority and decentralized talent practices. We therefore interpret the pay ratio as informative about the relative organizational importance assigned to the CHRO and HCM, rather than as a measure of any single CHRO attribute or of firm-wide HCM commitment.

2.2. Descriptive statistics on CHROs and their pay

We begin with descriptive evidence on the growth of CHROs to highlight their growing prominence in corporations.[6] Figure 1, Panel A shows a steady rise in the number of

[5]Table IA-1 shows that our findings are robust to alternative specifications of the CHRO-to-CEO pay ratio, including the untransformed ratio, its logarithm, versions excluding ratios above one, and within-year decile ranks. The results are also robust to scaling CHRO pay by the highest-paid non-CEO NEO, average NEO pay, or the highest-paid NEO. Across these three benchmarks and three HCM outcomes, all nine coefficients are positive and eight are statistically significant; the only insignificant coefficient is for *Sentiment PCA* when CHRO pay is scaled by the highest-paid non-CEO NEO. When CHRO and CEO pay enter the specification jointly, CHRO pay remains positive and statistically significant for all three HCM outcomes.

[6]Because not all public firms respond to Equilar's surveys, we use Revelio Labs' profile-level data to supplement our sample, and apply the same keyword-based algorithm as Equilar to estimate the total number of firms with CHROs.

Compustat-CRSP firms with CHROs, from 580 in 2014 to 1,295 in 2023 (a 123% increase), consistent with anecdotal evidence of their growing prominence in organizations. A similar pattern is observed among large firms: the share of S&P 500 firms with a CHRO increases from approximately 50% to nearly 75% over our sample period (untabulated). Firms with CHRO compensation data from Equilar show a similar pattern, with the number increasing from 218 in 2014 to 365 in 2023. Despite this growth, CHROs are rarely designated as NEOs, as we find that only 15.6% of firms with CHROs report them in proxy filings. This lack of disclosure highlights the value of our proprietary data, which allows us to study whether differences in CHRO compensation relative to CEO compensation are informative about the importance firms assign to HCM.

The increase in CHRO prevalence becomes more pronounced after 2017 and again during 2020–2021, periods of heightened public attention to workplace culture, sexual harassment, racial inequality, and other HCM-related risks. One possibility is that some firms appointed CHROs partly in response to this scrutiny or to signal greater attention to HCM issues. Although the aggregate trends do not identify firms' appointment motives, such appointments could increase the prevalence of the title without producing corresponding changes in the scope, authority, or resources attached to the role.

In Panel B of Figure 1, we present the industry distribution of firms with CHROs at the beginning and end of our sample period. CHRO adoption has increased across all industries, with the largest absolute increases in human-capital-intensive sectors such as business equipment and healthcare. The increases across industries reflect the broad diffusion of the CHRO role across the economy.

Within the sample of firms with CHRO pay ratio data, we find considerable cross-sectional

variation in the pay ratio. As shown in Figure 2, Panel A, the median CHRO pay ratio is approximately 0.2, meaning that the median CHRO earns 20% of the CEO's compensation. The distribution is right-skewed, with a mean of 0.29, indicating that some firms award their CHROs with substantially higher pay. Panel B shows that the distribution has remained relatively stable and dispersed over the sample period.

These patterns motivate our focus on relative CHRO compensation among firms that have a CHRO. As the title becomes more common, CHRO presence captures adoption of the position but may combine roles that differ substantially in their scope, seniority, authority, and resources. Such differences may be reflected in relative CHRO compensation, making the pay ratio potentially informative about cross-firm differences in the organizational importance assigned to the CHRO and HCM.

Panel A of Table 1 reports how the pay of CHROs varies across industries. CHROs receive higher compensation in new economy sectors—particularly in business equipment—where human capital is often central to value creation. By contrast, traditional sectors, such as manufacturing, consumer durables, utilities, and chemicals, have lower CHRO pay ratios consistent with the idea that human capital plays a less central role in these industries.

In Panel B of Table 1, we report the summary statistics of the pay ratio and total compensation for CHROs. We find that the average total compensation is roughly $3 million.[7] Consistent with NEOs being the highest-paid executives, CHROs who are also NEOs earn an average of $3.3 million, compared with $2.8 million for the survey sample non-NEOs. Like the pay ratio in Figure 2, this panel shows considerable heterogeneity in CHRO

[7]This number is comparable to statistics in industry reports. For example, HRO Today (2024) reports an average total compensation of $2.7 million for CHROs in Fortune 1000 firms in 2024.

compensation, with an interquartile range of \$1.0 to \$2.7 million. This dispersion suggests that even among firms with a CHRO, compensation levels differ substantially—differences that may lead to meaningful differences in firms' human capital management by affecting both the quality of talent attracted and the effort exerted.

2.3. Sample and summary statistics

To construct our sample, we assemble a firm-year panel of all CRSP-Compustat firms and then intersect it with the CHRO compensation data. Our sample begins in 2014, coinciding with the first year covered by Equilar's survey, and ends in 2023, the last year of the sample provided. To examine how investment in CHROs relates to firm outcomes, we further merge this panel dataset with other datasets capturing various dimensions of corporate behavior, including workforce dynamics, innovation, and intangible investment.

We use data from Revelio Labs for firm-level hiring and firing activity as well as employee sentiment. We incorporate measures of corporate innovation from Kogan, Papanikolaou, Seru, and Stoffman (2017), new product launches from the Capital IQ Key Developments database, knowledge capital estimates from Peters and Taylor (2017), and employee controversies from RepRisk. Because each of these data sources has slightly different coverage, sample sizes vary across our analyses. All continuous variables are winsorized at the 1st and 99th percentiles to reduce the influence of outliers. Appendix B provides definitions of variables and their corresponding data sources.

Panel A of Table 2 presents summary statistics that characterize the workforce dynamics, employee sentiment, and innovative activity of our sample firms with a CHRO. On average, annual employee turnover is approximately 17%, with inflows slightly exceeding outflows,

which reflects overall firm growth during our sample period. Roughly 25% of new hires come from competitors, suggesting significant employee intra-industry mobility. Employee satisfaction, measured on a five-point scale, averages around 3.5, suggesting moderate but not exceptional employee satisfaction. Average knowledge capital is approximately $14 million, although this amount is highly skewed and concentrated among a subset of firms.

Because not all firms respond to Equilar's survey and, among those that do, only a subset have CHROs, it is important to understand how our sample compares with the broader Compustat-CRSP universe. Columns (1) and (2) of Table 2 Panel B present this comparison, showing that our sample firms tend to be larger, more leveraged, more profitable, and more growth-oriented. Columns (3) and (4) further distinguish between firms with CHROs who are NEOs and those who are not. While both subsamples have similar growth and book-to-market ratios, firms where the CHRO is not an NEO tend to be larger and more profitable. This likely reflects that in large firms, compensation for other executives can displace CHROs from the top five highest-paid executives. Overall, this panel highlights that our main sample is not a random subset of public firms. Rather, it tilts toward firms where human capital is more likely to be central to value creation.[8]

2.4. Determinants of CHRO pay ratio

Our interpretation of the pay ratio measure presumes that CHRO compensation reflects the priority firms place on human capital management. Many factors could drive this

[8]Our analysis is subject to two sources of selection: (1) only a subset of firms appoint a CHRO, and (2) among firms with CHROs, we observe compensation only when CHRO pay is publicly disclosed or the firm participates in Equilar's compensation survey. To the extent that factors associated with either source of selection correlate with our outcome variables, our results may not generalize to the broader population of firms. Table IA-2 shows that our findings are robust to inverse probability weighting based on observable firm characteristics and industry and year fixed effects, suggesting that observable sample selection characteristics do not materially bias our findings.

relationship, ranging from firms' ability to attract more talented CHROs to the resources and decision-making authority they provide. If this logic holds, CHRO compensation should vary systematically with firm- and CHRO-level characteristics associated with the scope and authority of the role.

In Table 3, we model *CHRO Pay Ratio* as a function of firm characteristics, CHRO attributes, and HR team structure. Larger firms exhibit lower pay ratios, potentially because CEO compensation in such firms includes more equity. In contrast, firms with greater market power or new-economy profiles show higher ratios, consistent with CHROs being more valuable in organizations where human capital management and talent acquisition matter more to firm value.

Turning to CHRO characteristics, experience—especially within the same firm—is strongly associated with higher compensation. Meanwhile, CHRO *Prestige* (based on Revelio's education- and experience-based index) adds little incremental explanatory power when direct experience is included, suggesting that more detailed experience subsumes this index-based measure. These findings highlight that higher-paid CHROs tend to have more relevant experience.

Finally, we show that firms with larger HR teams tend to pay CHROs more, consistent with the idea that CHROs receive higher compensation when they are provided more resources and support within their organizations. At the same time, CHRO pay ratios do not correlate with average HR-staff pay, indicating that the ratio is not simply a reflection of broader HR compensation structures. Overall, these patterns suggest that relative CHRO compensation reflects several related dimensions of HCM, including firms' demand for high-quality human capital management, the resources and support provided to the HR function, and the

experience and capabilities CHROs bring to the role.[9]

3. Empirical design

Our empirical framework associates firm-level outcomes with variation in CHRO relative compensation. Following prior studies in the executive compensation literature, we estimate panel regressions of future outcomes on current compensation, including fixed effects and time-varying controls (e.g., Core et al., 1999; Coles, Daniel, and Naveen, 2006; Bebchuk et al., 2011). Specifically, we estimate the following model:

$$y_{i,t+1} = \alpha + \beta \times CHRO\ Pay\ Ratio_{i,t} + X_{i,t}\gamma + \delta_j + \eta_t + \varepsilon_{i,t}, \tag{1}$$

where $y_{i,t+1}$ captures outcomes such as hiring and corporate culture for firm i in year $t+1$. As we measure pay ratio in year t and outcomes in year $t+1$, the specification reduces the likelihood that contemporaneous shocks jointly determine both variables. Our main variable of interest is *CHRO Pay Ratio*$_{i,t}$, the decile rank of the ratio of CHRO to CEO total direct compensation.

As the CHRO pay ratio is based on executives' relative compensation, it accounts for firm-specific characteristics that affect executive compensation proportionally across the senior team (e.g., Bebchuk et al., 2011). However, we also include time-varying firm characteristics,

[9] One possibility is that the CHRO-to-CEO pay ratio reflects gender-related compensation differences. Using the name-based classification described in Figure IA-1, supplemented with Revelio Labs profiles for missing CHRO identities, we find that approximately 60 percent of identified CHROs are female. This figure shows the male and female pay-ratio distributions overlap substantially. Table IA-3 shows that the coefficient on *Female CHRO* is negative but statistically insignificant both in a univariate specification and after including the firm characteristics and fixed effects used in Table 3. This table shows that gender alone explains little pay-ratio variation, suggesting that CHRO gender does not appear to account for meaningful variation in the CHRO-to-CEO pay ratio.

$X_{i,t}$, intended to mitigate the concern that the estimated associations reflect evolving firm attributes that jointly influence compensation and future outcomes. These controls include firm size, return on assets, book-to-market, leverage, and asset growth.

The controls are motivated by standard determinants of executive compensation in the literature, which may jointly shape firms' compensation policies, including relative pay allocations, as well as future outcomes. For instance, size helps to control for the fact that larger firms with more complex operations require higher-ability managers and pay correspondingly higher wages (e.g., Gabaix and Landier, 2008), while return on assets captures contemporaneous accounting performance, which standard agency models predict should enter the level of compensation (e.g., Core et al., 1999). We also include price-cost margin to control for product market competition (e.g., Karuna, 2007; Autor, Dorn, Katz, Patterson, and Reenen, 2020), which shapes both the intensity of managerial incentives (Karuna, 2007) and the firm's human capital strategy (Barney, 1991).

In addition to time-varying controls, we include industry and year fixed effects, following prior studies in the executive compensation literature (e.g., Chi et al., 2017; Bloomfield, Gipper, Kepler, and Tsui, 2021; Cohen, Kadach, Ormazabal, and Reichelstein, 2023).[10] Industry fixed effects (two-digit SIC) absorb latent confounding factors common to all firms in a given industry that may influence the level of CHRO compensation. For example, firms in a new economy industry might offer higher CHRO pay relative to the CEO because

[10] As Table IA-4 shows, we do not use firm fixed effects because more than half of our sample firms have just one or two years with non-missing pay ratio data per firm (Panel A), and most of the variation in CHRO pay is across firms rather than within firms (Panel B), limiting the identifying variation available in fixed effects models (e.g., Breuer and deHaan, 2024). Fixed effects would therefore rely on a small number of potentially noisy within-firm pay-ratio changes that may be less informative about persistent differences in the organizational importance of HCM. Table IA-4 shows that results are similar with industry-year fixed effects.

human capital is a more important resource in that industry. Year fixed effects control for time-varying trends that may affect relative CHRO pay or the outcome variables, such as employee labor market conditions.

Together, these controls help isolate the within-industry, cross-firm association between the CHRO pay ratio and firm outcomes, conditional on observable firm characteristics. Our main and supporting analyses use this framework to characterize the documented associations, while the appointment-based analyses reported in the Internet Appendix provide supplemental event-based evidence. However, while these controls address potential confounding from observable firm heterogeneity, they do not rule out the possibility that unobserved factors within firms jointly influence compensation and outcomes. Accordingly, we do not interpret our estimates as causal effects. Throughout the study, we cluster our standard errors by firm to account for within-firm correlations.[11]

4. CHRO pay and human capital management

4.1. Employee turnover

We begin our analysis of human capital management outcomes by examining employee turnover. A key role of the CHRO is to manage complex personnel matters and engage in "talent curation," replacing underperformers while strengthening the talent pipeline (Cox,

[11] We cluster standard errors by firm because observations from the same firm may exhibit residual dependence over time. As Abadie, Athey, Imbens, and Wooldridge (2023) emphasize, clustering should occur at the level of treatment assignment, and in our setting CHRO pay is a firm-level contracting outcome. Table IA-5 reports alternative inferences based on standard errors clustered by two-digit SIC industry, allowing for residual dependence across firms within the same industry. For the HCM summary measures in Section 4, the inferences for *Workforce Quality PCA* and *Sentiment PCA* remain similar, while the positive estimate for *Turnover PCA* is no longer statistically significant.

2024).[12] This focus is particularly important in roles central to the business, where talent management is essential to firm strategy (e.g., Lepak and Snell, 1999; Collings and Mellahi, 2009). Accordingly, we expect a positive association between CHRO pay ratio and measures of employee hiring and firing, and especially among employees in roles most important for value generation.

Table 4 estimates Equation (1) using measures of employee turnover as the outcome variable. Panel A includes controls only, and Panel B includes controls and industry and year fixed effects. Column (1) shows a positive association between the CHRO pay ratio and employee turnover. Focusing on Panel B, estimated turnover is 0.81 percentage points higher for firms at the 75th percentile of the ranked pay-ratio distribution than for firms at the 25th percentile.[13] Because turnover reflects both employee inflows and outflows, columns (2) and (3) disaggregate these components and show that the association reflects both new hires and departures. This pattern suggests that firms with well-compensated CHROs are not focused solely on hiring or solely on firing, but are instead actively reshaping the workforce.

To further understand whether this turnover reflects deliberate talent curation, we examine whether it is concentrated in strategically important roles.[14] Directly identifying which positions are central to a firm is challenging, as this depends on each firm's unique

[12]While significant turnover can be costly, prior studies in management highlight that some degree of employee turnover is healthy for organizations (e.g., Dalton and Todor, 1979; Glebbeek and Bax, 2004; Hancock, Allen, Bosco, McDaniel, and Pierce, 2013). Practitioner sources support this idea, as active management of a firm's talent is one of CHROs' most important roles, which includes letting go of underperforming employees (e.g., Khetan, 2024) and strengthening the talent pipeline (e.g., TalentHR, 2024).

[13]Because *CHRO Pay Ratio* is measured as a decile rank, the coefficient of 0.162 represents the difference in turnover associated with a one-decile increase. Moving from the 25th to the 75th percentile corresponds to approximately five deciles, yielding an estimated difference of 0.81 percentage points (0.162×5).

[14]For example, the former CHRO of GE and American Express, Kevin Cox, highlighted the importance of talent curation in revenue-generating functions: "You have a great talent strategy if you have your most talented professionals in the roles that make the biggest difference to the strategy you're trying to pull off" (Cox, 2018).

business model and strategy. Following Larcker, McClure, Shi, and Watts (2025), we address this challenge by partitioning employees into quartiles based on their average salary using Revelio Labs' 150 job classifications and estimated salaries, with higher salaries assumed to reflect more strategically important roles for the firm. Column (4) reports results for the top quartile and shows that turnover is most pronounced in core business roles, such as engineering and product development. Additional analyses in Table IA-6 suggest that both the magnitude and statistical significance decrease monotonically across lower quartiles. This pattern suggests that the association between CHRO pay and turnover is concentrated in the most strategically important parts of the workforce, a pattern consistent with deliberate talent curation.

Finally, to capture turnover in a single measure, we apply principal component analysis (PCA) to the measures in columns (1)-(4). The procedure yields a single component with an eigenvalue greater than one, which we label *Turnover PCA*, and we report the PCA statistics and factor loadings in Table IA-7, Panel A. Column (5) uses this composite measure and shows that well-paid CHROs are positively associated with this turnover measure. Together, the findings in Table 4 provide evidence that firms that pay their CHROs more relative to their CEOs exhibit systematically higher workforce turnover, concentrated in roles more central to value generation.

4.2. Workforce quality

Although the turnover findings are consistent with talent curation, they do not by themselves indicate whether the workforce changes we document improve workforce quality. This distinction matters because turnover can reflect voluntary employee exits, which erode

firm-specific human capital and reduce firm value (e.g., Hancock et al., 2013; Li, Lourie, Nekrasov, and Shevlin, 2022). We therefore complement the turnover analysis with evidence on the quality of employees turning over.

As employee quality is latent and multidimensional, we rely on three measures that indirectly capture employee quality. The first is the fraction of new hires recruited from competitors. Such employees are likely to be of higher quality, as they bring industry-specific expertise, established networks, and tacit knowledge that can be deployed immediately, making such hires a strong signal of both employee quality and strategic intent.[15] The second measure focuses on the educational background of newly hired employees. Employers often prefer candidates with degrees from higher-ranking universities (Rivera, 2011), so if incoming employees have degrees from higher-ranked schools, this may indicate that firms with highly paid CHROs are better able to attract higher-quality employees. The final measure focuses on those who leave the firm. If high-quality employees leave because they can easily find opportunities elsewhere, they should receive higher compensation from their new employers. By contrast, if CHROs are primarily managing out low performers, we expect departing employees to be more likely to accept lower pay when they find new employment.

Table 5 reports the findings. Column (1) examines our first proxy of quality: the percentage of new hires recruited from direct competitors. We define competitors using Revelio Labs' proprietary industry classification, which offers the important advantage of covering both public and private firms, providing a more comprehensive view of the competitive landscape. The result reveals a positive association between the CHRO pay ratio and the percentage of

[15] In some cases, this signal is amplified (and possibly distorted) by "predatory" tactics. For example, Meta has lured away top OpenAI researchers by offering compensation packages reported to reach $300 million over four years, underscoring both the value of these peer hires and the potential for rent-seeking in talent markets (Jin, Hagey, and Cohen, 2025).

new hires from competitors. Focusing on Panel B, the estimated share of new hires recruited from competitors is 2.58 percentage points higher for firms at the 75th percentile of the ranked pay-ratio distribution than for firms at the 25th percentile.

In column (2), we examine how CHRO pay relates to new hires' educational backgrounds. We measure the educational quality of new hires using Revelio Labs' dynamic university rankings, which assign each employee a school rank based on the institution where they earned their highest degree. For each firm-year, we calculate the average ranking of new hires' schools and multiply it by -1 so that higher values correspond to more prestigious universities. We find that higher-paid CHROs are linked to hiring from higher-ranked schools. In column (3), we examine the quality of departing employees by the percentage who, upon taking a new position, receive lower pay. The result indicates that a higher CHRO pay ratio is associated with a higher percentage of such departures, consistent with CHROs managing out lower performers.

Because each of these measures captures a different dimension of workforce quality, we again use PCA to combine them into a summary measure, *Workforce Quality PCA*. As we show in column (4), *CHRO Pay Ratio* is positively associated with this summary measure of workforce quality. The estimated difference in *Workforce Quality PCA* between firms at the 75th and 25th percentiles of the ranked pay-ratio distribution is approximately 0.23 standard deviations. Taken together, these results suggest that firms with more highly compensated CHROs actively manage employee turnover to improve the composition and capability of their workforce. The patterns of selective hiring and strategic exits are consistent with CHROs playing a proactive role in enhancing human capital.

4.3. Employee sentiment and morale

The preceding analysis documents associations between relative CHRO compensation and the composition of the workforce; yet, altering workforce composition is only one dimension of human capital management. Another important dimension is employee sentiment and morale (e.g., Del Mar, 2024; TalentHR, 2024; Delacroix, 2025), particularly given the substantial evidence that employee satisfaction plays a critical role in sustaining employee productivity and, in turn, firm value (e.g., Edmans, 2011; Green et al., 2019; Huang et al., 2020).

We follow prior studies and rely on Glassdoor employee ratings as a proxy for employees' perceptions of their firms. These ratings, derived from online reviews, capture employee sentiment across several dimensions of the workplace. In addition to aggregate ratings, we focus on two types of employee incentives: *economic incentives* associated with compensation, benefits, and career opportunities, and *social incentives* related to culture, values, and work-life balance.

Columns (1) and (2) of Table 6, Panels A and B focus on economic incentives by estimating Equation (1) using employee ratings related to compensation and benefits in column (1) and career opportunities in column (2) as dependent variables. Panel B shows a positive relation between CHRO pay and ratings on both dimensions. These results indicate that well-compensated CHROs are associated with more favorable employee perceptions of reward structures and career development programs.

Columns (3)-(4) explore the social aspects of the workplace, using employee ratings related to culture and values and work-life balance as dependent variables in Equation (1). We find that the CHRO pay ratio is positively associated with both outcomes. These results suggest

that firms that emphasize human capital through the CHRO role tend to foster organizational environments that promote employee well-being.

Building on these results, we next examine broader indicators of employee sentiment: firms' overall Glassdoor ratings and a composite index from PCA that summarizes all types of employee ratings (*Sentiment PCA*). Columns (5) and (6) show positive associations with both the overall Glassdoor ratings and the PCA employee sentiment measure, respectively. These broader indicators support the notion that when CHROs are well-compensated, they are associated with stronger overall employee sentiment and a more positive workplace climate. The estimated difference in *Sentiment PCA* between firms at the 75th and 25th percentiles of the ranked pay-ratio distribution is approximately 0.11 standard deviations.

To provide additional evidence on employee development, Panel C complements the numeric Glassdoor ratings with a textual analysis of employee reviews. We classify development-related reviews, using a large language model applied to employee review text, into discussions of formal training programs and informal mentorship or career-development mechanisms. The results show little relation between *CHRO Pay Ratio* and discussions of formal training, but a positive and significant association with informal development discussions, which includes topics such as stretch assignments, exposure to senior leaders, informal mentorship, individualized career pathing, and internal mobility. One possible explanation is that formal training is relatively standardized or driven by compliance and technical requirements, whereas informal development mechanisms may better reflect firm-specific talent systems and managerial practices. This pattern is consistent with firms with higher CHRO pay ratios placing greater emphasis on informal opportunities for employee growth. Accordingly, these reviews are more informative about employees' perceptions of such opportunities than firms'

direct spending on formal training.

Overall, these results are consistent with firms that place greater emphasis on the CHRO role offering employees both stronger economic incentives and a more favorable work environment. These associations underscore that relative CHRO compensation contains information about the firm's commitment to human capital development. Importantly, the findings also help mitigate the concern that the turnover we document reflects dissatisfied high-quality employees leaving for better opportunities.[16]

5. Human capital management and value creation

5.1. Intellectual capital

Human capital is a primary input to intellectual capital, which, in turn, is a key source of firm value. We begin our analysis of value creation by examining whether the CHRO pay ratio is directly associated with future intellectual capital. Beginning with this direct specification is useful because the human-capital outcomes examined in Tables 4–6 could be shaped by many factors other than relative CHRO compensation, so associations between those outcomes and intellectual capital cannot on their own speak to the CHRO's role. We then examine whether the workforce dynamics and employee sentiment associated with higher CHRO pay ratios are themselves related to subsequent intellectual-capital creation.

Given that intellectual capital is inherently multidimensional, we rely on multiple proxies to capture its different facets. We begin with patent-based measures, as they provide a direct

[16]We also examine whether the pay ratio associations vary over the sample period since broader adoption of the CHRO title could make relative CHRO compensation less informative over time. Figure IA-2 plots year-specific coefficients for all three HCM summary measures and shows no systematic attenuation after 2017 or around 2020–2021, consistent with relative CHRO compensation remaining informative about cross-firm differences in HCM outcomes as the title becomes more common.

output of firms' intellectual capital creation (e.g., Jaffe, 1986; Griliches, 1999). Following Kogan et al. (2017), we use both the number of patents, which reflects the productivity of innovation, and inflation-adjusted patent values, which reflect their commercial significance.[17] While informative, patents capture only one channel through which employees create value. We therefore complement these measures with new product launches, which translate innovation into marketable outputs and signal not only the application of new technologies but also the use of intellectual investments in design, branding, and market knowledge. We further incorporate the replacement cost of knowledge capital from Peters and Taylor (2017), which captures the accumulated stock of firm-specific knowledge. Finally, we use PCA to aggregate these measures of intellectual capital into a summary measure, which we call *IC PCA*.

To implement these tests, we re-estimate Equation (1) using each of our four intellectual-capital measures and *IC PCA* serving in turn as the dependent variable. Panel A of Table 7 uses *CHRO Pay Ratio* as the main explanatory variable. Panels B–D instead use *Turnover PCA*, *Workforce Quality PCA*, and *Sentiment PCA*, respectively. For parsimony, we report the summary PCA measures in the main table and report results using the individual components of the human-capital measures in Table IA-8. We restrict Panels B–D to observations with non-missing CHRO pay ratios to maintain comparability with our earlier analyses, though the results are not sensitive to removing this restriction.

Panel A examines the direct association between *CHRO Pay Ratio* and future intellectual capital. The coefficient on *CHRO Pay Ratio* is positive and statistically significant across all five outcomes. Across the individual measures, firms with higher CHRO pay ratios

[17] We assign granted patents to firm-years using application (filing) dates rather than grant dates to better align patent output with the underlying innovative activity.

subsequently have more patents, higher patent value, more new product launches, and greater knowledge capital. For the aggregate measure, the estimates imply that *IC PCA* is approximately 0.14 standard deviations higher for firms at the 75th percentile of the ranked pay-ratio distribution than for firms at the 25th percentile.

Panels B–D then examine whether the human-capital outcomes associated with higher CHRO pay ratios are also related to future intellectual capital. Panel B shows that firms with higher turnover have greater future intellectual capital, while Panel C shows a similar association for *Workforce Quality PCA*. Panel D shows that employee sentiment is also positively associated with future intellectual capital. Together, the results in Table 7 show that the CHRO pay ratio is directly associated with future intellectual-capital creation and that the human-capital outcomes associated with higher CHRO pay ratios are themselves related to future intellectual capital.

Two additional analyses refine these results. One concern with the analysis in Panel A is that this association may reflect the presence of executives whose responsibilities are more directly tied to technology and innovation, such as chief technology or chief innovation officers. However, Table IA-9 shows that the coefficient on *CHRO Pay Ratio* remains positive and significant for all intellectual-capital outcomes after controlling for the presence and estimated pay of these executives. In addition, beyond levels of intellectual-capital creation, we consider the dispersion of realized patent outcomes as an ex post proxy for innovation risk-taking, since a reshaped workforce may pursue more uncertain projects that produce a wider spread of realized outcomes. Table IA-10 measures dispersion using the firm-year coefficient of variation of patent value and patent citations. We find some evidence that relative CHRO compensation, turnover, and employee sentiment are associated with higher-variance realized

patent portfolios, providing evidence of greater innovation risk-taking.

5.2. Firm value

Having documented that firms with higher CHRO pay ratios exhibit workforce improvements associated with the creation of intellectual capital, we next examine whether these gains are reflected in firm value. As stock prices are forward-looking and embed investors' expectations about the payoffs to intangible and knowledge capital (e.g., Kogan et al., 2017; Peters and Taylor, 2017; Ewens et al., 2025), we focus on stock returns to examine whether the market prices the increased knowledge capital we document.[18] To the extent that the workforce changes associated with higher CHRO pay map into firm value, we expect positive correlations between intellectual capital and subsequent firm returns.

To test this prediction, we regress future stock returns on *IC PCA*, the summary measure of intellectual capital, using specifications that progressively add the firm-level controls and fixed effects used in our main analyses. For parsimony, we report results using the summary measure in the main table and show in Table IA-12 that the findings extend to individual intellectual capital measures. We evaluate two return metrics based on stock returns in year $t + 1$: raw returns and market-adjusted returns. Together, these measures provide complementary perspectives on whether CHRO-linked improvements in intellectual capital creation are recognized by investors and translate into superior stock performance.

Table 8 presents the results. Across both return measures—raw returns (Panel A) and

[18]Consistent with the idea that accounting measures reflect intangible investments with a lag, and with reduced power due to sample attrition, we find weaker results when using operating performance. In line with this pattern, Table IA-11 shows that IC PCA is strongly associated with Tobin's Q, but exhibits weaker relations with valuation multiples such as the EV/EBITDA ratio, the price-to-earnings ratio, and profit growth.

market-adjusted returns (Panel B)—*IC PCA* loads positively and significantly, suggesting that firms with greater intellectual capital creation earn higher subsequent returns. These findings are consistent with markets recognizing and rewarding CHRO-linked improvements in workforce dynamics and employee sentiment that underpin the creation of intellectual capital.

5.3. Path analysis

Our evidence thus far suggests a sequence of relations linking CHRO compensation, human capital management, intellectual capital, and firm value. To assess whether these relations are consistent with this proposed structure, we estimate a path analysis that models all components simultaneously. Specifically, we estimate a sequence of regressions that follows the timing of our main empirical design, linking lead-lag relationships in CHRO pay to workforce outcomes, workforce outcomes to intellectual capital, and intellectual capital to firm value.[19] Figure 3 outlines the empirical framework, and Table 9 reports the results.

Consistent with our earlier findings, columns (1) through (3) show that *CHRO Pay Ratio* is positively associated with *Turnover PCA*, *Workforce Quality PCA*, and *Sentiment PCA*. Column (4) shows that *CHRO Pay Ratio* and these workforce measures are positively associated with our measure of intellectual capital, *IC PCA*, consistent with workforce outcomes being associated with subsequent intellectual capital creation. Notably, *CHRO Pay Ratio* is positively associated with *IC PCA* beyond its association with observable changes in

[19]To align with our prior analyses, we first relate the CHRO pay ratio in year t to workforce outcomes in year $t+1$. We then relate these workforce measures to intellectual capital in year $t+2$ and include the CHRO pay ratio in year t. Finally, we relate intellectual capital to stock returns in year $t+3$. In addition to requiring all variables, this lead-lag relationship results in significant sample attrition and reduced statistical power.

workforce composition and sentiment, indicating other channels through which CHRO pay is associated with IC. Finally, column (5) shows that *IC PCA* is positively correlated with future returns, consistent with this being the primary link between strategic human capital management and firm value.

Although descriptive, the results are consistent with the relation between CHRO pay and firm value running primarily through workforce outcomes and intellectual capital, rather than through a direct association with returns. The path analysis provides a compact summary of how these relations fit together, highlighting the indirect link between CHRO pay and firm value.

6. Additional analyses

The results so far point to a consistent empirical pattern linking CHRO compensation to human capital management, intellectual capital, and firm performance. The analyses in this section characterize the information contained in relative CHRO compensation (Sections 6.1-6.4) and examine alternative explanations (Sections 6.5-6.6).[20]

[20]The Internet Appendix complements these intensive-margin analyses with three supplemental analyses based on CHRO presence and appointments. Table IA-13 shows that CHRO presence is associated only with *Turnover PCA* after conditioning on other HCM measures. Table IA-14 reports weak average appointment estimates but more positive estimates when relative CHRO compensation is higher. Figure IA-3 shows no systematic pooled pre-appointment movement, although we do not assess pay-group-specific pretrends because the pay classification is observed only after appointment. Table IA-15 reports insignificant average announcement returns but a positive association with the firm's mean *CHRO Pay Ratio*. Because CHRO pay is generally undisclosed at appointment, this association likely reflects executive, role, or firm attributes rather than an investor response to compensation. Overall, these results suggest that CHRO presence or appointment is a relatively coarse indicator, whereas relative compensation distinguishes differences in the role, executive, and firm.

6.1. The incremental value of CHRO pay information

We compare CHRO pay ratio with several other HCM-related measures.[21] These comparisons help characterize the information contained in relative CHRO compensation and assess whether its associations with outcomes persist after conditioning on those other HCM measures. To do so, we conduct a series of horse races in which we regress our three summary measures of human capital management on the CHRO pay ratio alongside several alternative human capital proxies. Specifically, we include the size and estimated average pay of the firm's HR team from Revelio Labs, Peters and Taylor (2017)'s replacement-cost measure of organizational capital, an indicator for whether a firm reports a CHRO as an NEO in proxy statements, and an indicator for inclusion in the "Fortune 100 Best Companies to Work For" list per Edmans (2011).[22]

Table 10 reports the results. Across all three outcomes, the CHRO pay ratio remains positive and statistically significant, even after conditioning on these alternative measures. Interestingly, *HR Pay* also has strong predictive power for human capital outcomes, whereas the other alternative proxies load inconsistently. Overall, these findings suggest that the CHRO pay ratio captures a distinct dimension of firms' human capital management that is

[21] CHRO compensation is generally only disclosed publicly when the CHRO is a named executive officer (NEO). As we show in Table IA-16, our findings are similar when we restrict the subsample to CHROs who are also NEOs.

[22] We also examined the organizational capital measure in Ewens et al. (2025). We exclude it from our baseline analysis because it shrinks the sample size by more than 50%, resulting in 1,060, 881, and 992 observations for the three outcome variables, respectively. Despite this reduction, the CHRO pay ratio remains incrementally predictive for workforce quality and employee sentiment, though the turnover association attenuates in this smaller sample. See Table IA-17.

not subsumed by other proxies.[23]

6.2. CHROs and new-hire innovation

Our analyses thus far link higher CHRO pay ratios to better human capital outcomes, which, in turn, are associated with higher intellectual capital. To provide more direct evidence on this link, we examine a key mechanism through which firms boost their intellectual capital: the recruitment of innovators (e.g., Palomeras and Melero, 2010; Singh and Agrawal, 2011). To examine this channel, we leverage data linking patents to individual inventors, which allow us to measure each new hire's patenting activity both before and after joining the firm.[24] We then test whether firms with higher CHRO pay ratios recruit more innovative employees and whether these employees remain productive once hired.

Table 11 reports the results, with columns (1) and (2) measuring patenting activity one and three years prior to hire, and columns (3) and (4) after joining the firm. Panel A excludes industry and year fixed effects, whereas Panel B includes them. In both panels, columns (1) and (2) show that firms with higher CHRO pay ratios hire inventors with more pre-hire patents, consistent with these firms attracting higher-quality and more innovative employees. Columns (3) and (4) show that this productivity advantage persists in the one and three years

[23]To assess whether *CHRO Pay Ratio* partly reflects firms' broader compensation structures, Table IA-18 examines its relation to the CEO-to-median-employee pay ratio, an indicator of vertical pay disparity available beginning in 2017. The two ratios are negatively associated, although this relation should be interpreted cautiously because CEO pay enters their construction in opposite directions. In the post-2017 sample, *CHRO Pay Ratio* remains positive and statistically significant for *Turnover PCA* and *Workforce Quality PCA* when controlling for this ratio alone (Panel B) or jointly with the other HCM-related measures (Panel C), while its coefficients for *Sentiment PCA* remain positive but statistically insignificant. Overall, the turnover and workforce-quality associations remain incremental to broader vertical pay disparity, although the evidence for employee sentiment is weaker.

[24]We obtain these data from Revelio Labs' employee-linked patent data, which link USPTO patent records from PatentsView to the Revelio Labs data described in Section 2. These data are similar to those used in studies that explore the patent productivity of firm employees (e.g. Islam and Zein, 2020; Glaeser, Xiao, Xie, and Zhang, 2025).

following hiring, suggesting that these firms not only attract more innovative employees but also place them in environments where they remain productive. This evidence is consistent with the recruitment and retention of innovative employees being one channel underlying the intellectual-capital associations documented in prior sections.

6.3. Cross-sectional variation in CHRO compensation

The results so far document a strong link between CHRO compensation and human capital outcomes. If CHRO compensation reflects differences in the authority, incentives, and resources allocated to the position, its association with firm outcomes should be strongest when CHROs are incentivized to influence firm-wide outcomes and when human capital is central to value creation. We examine these dimensions using two cross-sectional tests.

We begin by focusing on the incentive structure of CHRO compensation. Equity-based pay increases managers' exposure to firm value and is typically used to align executives' incentives with long-term, firm-wide outcomes (Jensen and Murphy, 1990; Core et al., 1999; Edmans et al., 2017). If firms view human capital management as a long-term value driver, they should place greater weight on equity-based pay for CHROs, as they do for CEOs. Accordingly, in Table 12, Panel A, we find that the documented associations are stronger among firms whose CHRO compensation is more equity-based. Specifically, the interaction between *CHRO Pay Ratio* and *High % Equity*, where *High % Equity* is an indicator for whether the fraction of CHRO compensation that is equity-based is above the sample median, is positive and statistically significant for two of our three outcome variables, *Turnover PCA* and *Workforce Quality PCA*.

We next consider whether the relation varies with firms' demand for strategic human

capital. We proxy for this demand using an indicator for new-economy firms, where intangible assets—and the human capital that supports them—are more central to value creation (Lev, 2019; Barth et al., 2023). In Table 12, Panel B, we show that the interaction between CHRO pay ratio and the new economy indicator is positive and statistically significant for *Turnover PCA* and *Sentiment PCA*, and positive but not statistically significant for *Workforce Quality PCA*. Once we allow for this heterogeneity, the coefficient on *CHRO Pay Ratio*, which captures the relation for non–new-economy firms, is attenuated and statistically significant only for *Workforce Quality PCA*. Taken together, these results indicate that the relation between the CHRO pay ratio and human capital outcomes is concentrated among firms where human capital is more central to value creation, rather than reflecting a uniform pattern across firms.

6.4. Employment-related controversies

The results in Section 4.3 show that relative CHRO compensation is associated with employee sentiment on average. A natural question is whether relative CHRO compensation is especially informative when firms face serious personnel problems. Severe employment-related controversies raise concerns about workplace practices and related legal, regulatory, and reputational risks, making the CHRO particularly consequential. We examine this possibility using high-severity employment-related incidents from RepRisk, a database that tracks firm-level ESG controversies reported in public sources. We focus on five categories that are most relevant to HCM: discrimination in employment, racism or racial inequality, gender inequality, poor employment conditions, and occupational health issues. For each category, Table 13 reports a regression of *Sentiment PCA*$_{i,t+1}$ on *CHRO Pay Ratio*$_{i,t}$, a controversy indicator for year t, and their interaction, using the same controls and fixed effects as Table

6, Panel B. The interaction is positive in all five specifications and statistically significant at the 10% level or better in four, indicating a more favorable association between controversies and subsequent employee sentiment at higher CHRO pay ratios. These descriptive results suggest that, following severe employment-related controversies, employee sentiment is less adversely affected at firms with higher CHRO pay ratios.

6.5. Alternative explanations: Labor-market competition and R&D intensity

An alternative explanation for our findings is that relative CHRO compensation reflects broader labor-market conditions affecting firms' recruitment of both senior HR talent and other employees. Firms facing greater competition from similar employers may pay more to recruit CHROs while also experiencing different patterns of hiring, turnover, and innovation. A related concern is that R&D intensity may capture firms' demand for specialized labor because R&D expenditures include compensation for technical employees. However, several findings are inconsistent with these alternatives. In particular, we show in Table IA-19 that (1) the labor-market competition measure from De La Parra and Glaeser (2025) is not significantly associated with the CHRO pay ratio after conditioning on the determinants from Table 3, (2) the coefficients on *CHRO Pay Ratio* remain positive and statistically significant for all three HCM outcomes after controlling for labor-market competition, and (3) the interactions between *CHRO Pay Ratio* and above-median labor-market competition are statistically insignificant for all three outcomes, providing no evidence that these associations vary with measured labor-market competition. With R&D intensity as a supplemental control, the turnover and workforce-quality associations remain significant, whereas the sentiment association attenuates and becomes insignificant (Table IA-20). Finally, the association

between the CHRO pay ratio and intellectual capital continues to hold after separately controlling for labor-market competition and R&D intensity (Table IA-21).

6.6. Alternative explanations: Rent extraction

A related concern is that high CHRO compensation may reflect rent extraction rather than the organizational importance assigned to the CHRO or the HCM function. Two supplemental analyses do not support this interpretation. First, if high pay ratios primarily reflect rents, the relation between *CHRO Pay Ratio* and HCM outcomes should weaken or reverse at the top of the distribution. However, the binned scatterplots in Figure IA-4 in the Internet Appendix instead show an increase in the relation between the pay ratio and our HCM outcomes in the upper half of the pay-ratio distribution with no attenuation among the highest firms. Second, if rent extraction were concentrated in weaker-governance firms, the relation should attenuate when board independence is low. However, in Table IA-22 in the Internet Appendix, the interactions between *CHRO Pay Ratio* and an indicator for firms in the bottom tercile of board independence are small and statistically insignificant across all three HCM outcomes. Although these analyses do not rule out rent extraction in particular firms, they do not suggest that rent extraction explains the average associations.

7. Concluding remarks

Using proprietary CHRO compensation data from Equilar, we examine whether firms that allocate greater relative compensation to the CHRO differ in their workforce outcomes and intellectual-capital creation. Because the CHRO oversees the firm's HCM function, we view relative CHRO compensation as informative about the role's importance within

the senior leadership team. We find that firms with higher CHRO pay ratios exhibit more active workforce reshaping, stronger workforce-quality measures, more favorable employee sentiment, and greater intellectual-capital creation. These workforce outcomes are also positively associated with subsequent intellectual-capital creation, which is in turn associated with future stock returns. Overall, our findings provide descriptive evidence that relative CHRO compensation contains information about firms' HCM-related organizational priorities that is difficult to observe using existing public data.

As with most empirical work on executive compensation and corporate governance, our findings are inherently descriptive and should be interpreted accordingly.[25] Specific to our setting, relative CHRO compensation is endogenous and jointly determined with other firm policies, so our analyses do not isolate the causal effects of CHRO pay itself. Instead, our evidence highlights robust predictive associations between CHRO pay ratios and various labor outcomes within organizations. We then link CHRO pay, through labor outcomes and intellectual capital generation, to firm value.

Furthermore, greater organizational importance assigned to the CHRO and HCM need not be beneficial in all settings. Our evidence captures *on-average* associations, and in some firms more active human capital management could produce excessive turnover or constrain efficient hiring, firing, or allocation decisions. We do not interpret our findings as evidence that such reallocation is uniformly efficient or value-increasing, and we leave an examination of these potential costs to future research.

[25] As noted in Core et al. (2003), incentive contracts are chosen endogenously based on firm and manager characteristics, making it difficult to draw causal inferences between incentives and performance. This challenge is compounded by the fact that firm performance reflects many factors beyond executives' control (e.g., market-wide stock price movements). An advantage of our study over much of the literature linking executive pay to performance is our ability to examine outcomes more directly within the CHRO's domain.

Notwithstanding these caveats, our findings provide new insights into the significance of strategic human capital management and the increasingly important role of the CHRO in the C-suite. Although we focus on workforce hiring and intellectual capital creation, many related questions remain. For example, CHROs may influence leadership succession planning or shape human capital strategy and employee integration in M&As (e.g., Lott, 2022; Colletta, 2025). It would also be valuable to better understand the specific management practices CHROs employ when executing changes in their human resource strategy. We leave these questions for future research, particularly as firms continue to place greater emphasis on human capital.

Our study also speaks to debates over human-capital disclosure, as existing disclosures provide limited standardized information about firms' HCM practices (e.g., Batish, Gordon, Kepler, Larcker, Tayan, and Yu, 2021; Bourveau, Chowdhury, Le, and Rouen, 2025). Our evidence suggests that relative CHRO compensation is informative about firms' HCM-related organizational priorities. Because CHRO compensation is publicly disclosed by only a small fraction of firms, we view this evidence as highlighting its potential information content rather than supporting a particular disclosure requirement.

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Appendix A. Common CHRO titles

This table summarizes common CHRO titles by frequency. CHROs typically assume hierarchical ranks such as executive vice president or senior vice president, which are removed during standardization. Other standardizations include spelling out abbreviations, e.g., "hr" and "human resources" are interchangeable. The titles in the "Other" category are mostly variants of the titles reported in the table, such as "Corporate Chief Human Resources Officer," "Chief People Outreach Officer," "Chief People, Culture, and Corporate Strategy Officer," "Chief People and Inclusion Officer," among others.

Standardized Title	Frequency
Chief Human Resources Officer	72.1%
Chief People Officer	18.0%
Chief Talent Officer	1.3%
Chief People and Culture Officer	0.8%
Chief Culture Officer	0.6%
Chief People and Communications Officer	0.2%
Chief People and Diversity Officer	0.2%
Chief People Services Officer	0.2%
Chief HR and Diversity Officer	0.2%
Chief Experience Officer	0.2%
Other	5.4%
Total	100%

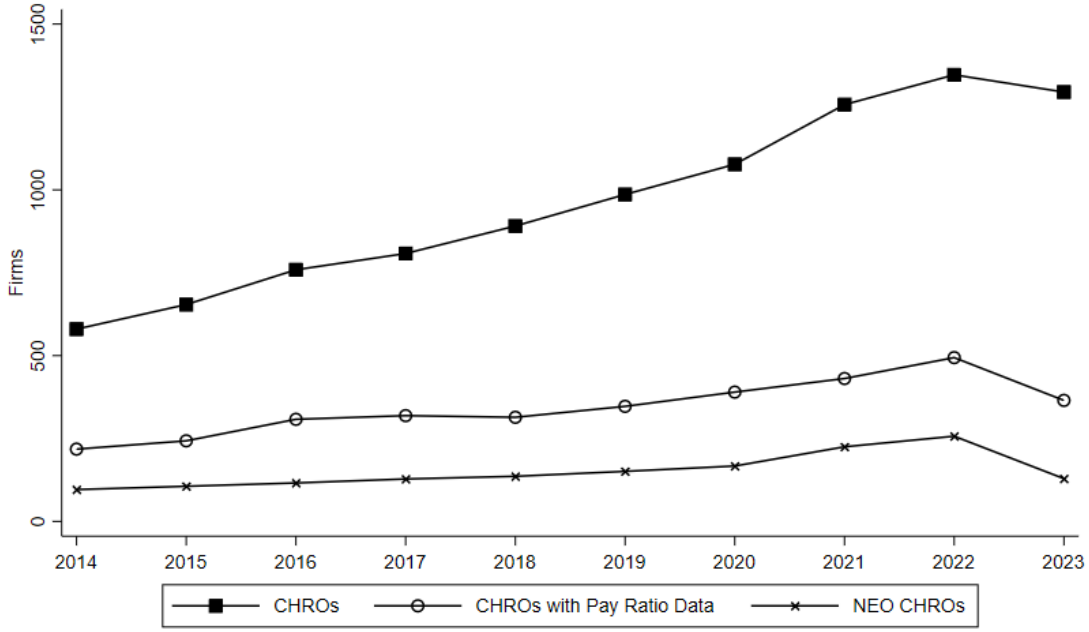
Appendix B. Variable definitions

This table contains descriptions of the primary variables used throughout this paper. Sources include Revelio Labs (RL), Equilar (EQL), Capital IQ (CIQ), RepRisk (RR), Compustat (COMP), the Center for Research in Security Prices (CRSP), Fortune Magazine (FORTUNE), Peters and Taylor (2017) (PT), and Kogan et al. (2017) (KPSS).

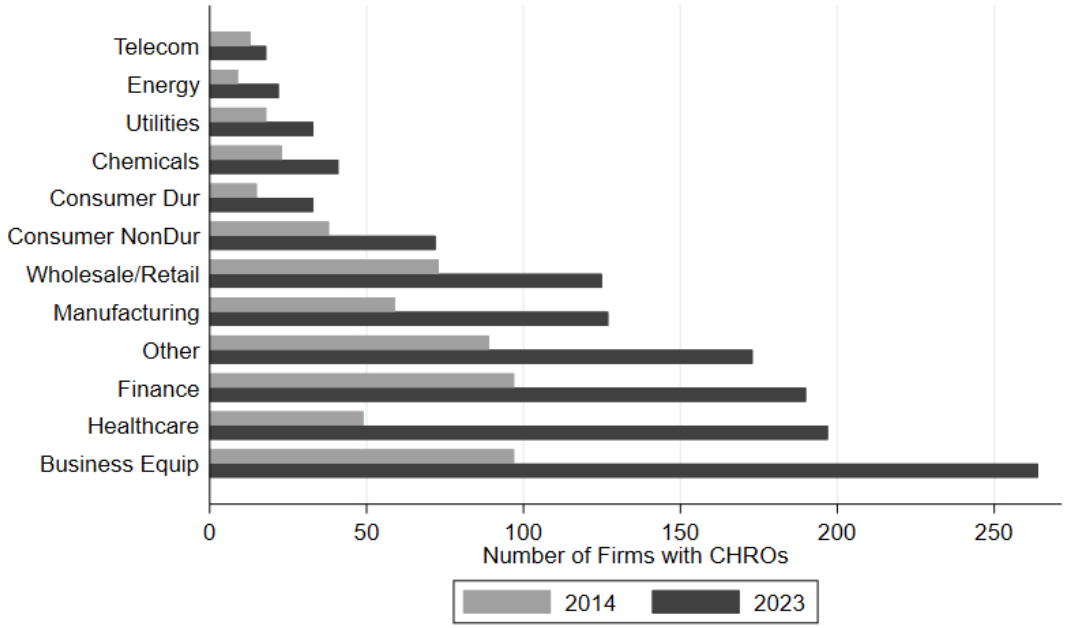
Variable	**Definition**
	Firm characteristics
Asset Growth	Asset growth for firm i from year $t-1$ to year t. (COMP)
BM	Book value of equity scaled by market value of equity for firm i in year t. (COMP)
Leverage	Total liabilities divided by total assets for firm i in year t. (COMP)
New Economy Firm	An indicator for whether firm i is in the technology sector in year t. (COMP)
PCM	Sales minus Cost of Goods Sold, divided by sales for firm i in year t. (COMP)
ROA	Income before extraordinary items divided by total assets for firm i in year t. (COMP)
Size	Natural logarithm of total assets for firm i in year t. (COMP)
	Human resources division and human capital measures
CHRO as NEO	An indicator equal to one if the CHRO ranks among the firm's five most highly paid executives, as supplied to us through Equilar. (EQL)
CHRO Pay Ratio	The decile rank of CHRO total direct compensation divided by CEO total direct compensation for firm i in year t. (EQL)
Fortune 100	An indicator for whether firm i appears in *Fortune* magazine's 100 Best Companies to Work For list in year t. (FORTUNE)
High % Equity	An indicator for whether the percentage of equity compensation is above the sample median for firm i in year t. (EQL)
HR Team Size	Natural logarithm of one plus the number of rank-and-file employees in the HR department for firm i in year t. (RL)
HR Pay	Natural logarithm of weighted average pay for rank-and-file employees in the HR department for firm i in year t. (RL)
Organizational Capital	Natural logarithm of one plus the replacement cost of organizational capital for firm i in year t. (PT)
Prestige	A proprietary score based on the CHRO's education and work experience for firm i in year t. (RL)
Prior Experience (Other Firm)	An indicator for whether the CHRO has prior work experience from other firms for firm i in year t. (RL)
Prior Experience (Same Firm)	An indicator for whether the CHRO has prior work experience from the same firm for firm i in year t. (RL)
	Workforce dynamics
% Competitors	Percentage of newly hired employees from peer firms in the Revelio Labs mapped 50 industry classifications for firm i in year t. (RL)
% Lower Pay	Percentage of departed employees receiving lower salary in the subsequent job for firm i in year t. (RL)
Core	The sum of the newly hired and departed employees in revenue-generating functions, divided by two times the total number of employees for firm i in year t. (RL)
Degree Ranking	Weighted average of degree institution rankings for newly hired employees for firm i in year t, multiplied by minus one. The rankings vary by year, with each employee's rank determined by their graduation year. (RL)
Inflow	Number of newly hired employees divided by total number of employees for firm i in year t. (RL)
New Hires	Natural logarithm of one plus the number of newly hired employees for firm i in year t. (RL)

Outflow	Number of departed employees divided by total number of employees for firm i in year t. (RL)
Turnover	The sum of the newly hired and departed employees, divided by two times total number of employees for firm i in year t. (RL)
Turnover PCA	The first component from a principal component analysis of the following variables: Turnover, Core, Inflow, Outflow for firm i in year t.
Workforce Quality PCA	The first component from a principal component analysis of the following variables: Degree Ranking, % Competitors, and % Lower Pay for firm i in year t.
	Employee ratings
Any Training	Natural logarithm of one plus the number of reviews mentioning training and mentoring for firm i in year t, identified using a large language model (Google's Gemma 3) applied to employee review text. (RL)
Career Opportunities	Employee ratings on career opportunities for firm i in year t. (RL)
Comp & Benefits	Employee ratings on compensation and benefits for firm i in year t. (RL)
Culture & Values	Employee ratings on culture and values for firm i in year t. (RL)
Formal Training	Natural logarithm of one plus the number of reviews mentioning formal training and mentoring programs for firm i in year t, identified using a large language model (Google's Gemma 3) applied to employee review text. (RL)
Glassdoor	Overall employee ratings for firm i in year t. (RL)
Informal Training	Natural logarithm of one plus the number of reviews mentioning informal mentorship for firm i in year t. Examples of informal mentorship and professional development opportunities include senior employees or leaders broadly investing time in junior employees' growth, organic or informal mentorship described as a firm-wide cultural expectation, firms systematically placing employees in high visibility or high learning situations, among others, identified using a large language model (Google's Gemma 3) applied to employee review text. (RL)
Number of Reviews	Natural logarithm of one plus the number of Glassdoor reviews for firm i in year t. (RL)
Sentiment PCA	The first component from a principal component analysis of the following variables: Career Opportunities, Comp & Benefits, Culture & Values, Glassdoor, and Work-life Balance for firm i in year t.
Work-life Balance	Employee ratings on work-life balance for firm i in year t. (RL)
	Intellectual capital
IC PCA	The first component from a principal component analysis of the following variables: Patents, Patent Value, New Products, and Knowledge Capital, for firm i in year t.
New Products	Natural logarithm of one plus the number of new product announcements for firm i in year t. Announcements are identified from product-related announcements in the Capital IQ Key Developments database whose headlines contain launch-related keywords. (CIQ)
Patents	Natural logarithm of one plus the number of patents ultimately granted to firm i with application dates in year t. (KPSS)
Patent Value	Natural logarithm of one plus the inflation-adjusted value of patents ultimately granted to firm i with application dates in year t. (KPSS)
Knowledge Capital	Natural logarithm of one plus the replacement cost of knowledge capital for firm i in year t. (PT)
PostHirePatent1Yr	Natural logarithm of one plus the number of patents in which newly hired employees appointed by firm i in year t are listed as inventors in $t+1$. (RL)
PostHirePatent3Yr	Natural logarithm of one plus the number of patents in which newly hired employees appointed by firm i in year t are listed as inventors in $t+1$ through $t+3$. (RL)
PreHirePatent1Yr	Natural logarithm of one plus the number of patents in which employees newly appointed by firm i in year t are listed as inventors, in the year prior to appointment. (RL)

PreHirePatent3Yr	Natural logarithm of one plus the number of patents in which employees newly appointed by firm i in year t are listed as inventors, in the three years prior to appointment. (RL)
	Firm performance
AdjRet	Market excess return in percentages for firm i in year t, calculated as the difference between raw return and CRSP value-weighted market return. (CRSP)
Ret	Raw return in percentages for firm i in year t. (CRSP)
	Workplace Controversies
Discrimination	An indicator equal to one if a firm i has at least one severe case tagged by RepRisk as "discrimination in employment" in year t. (RR)
Employment Conditions	An indicator equal to one if a firm i has at least one severe case tagged by RepRisk as "poor employment conditions" in year t. (RR)
Gender Inequality	An indicator equal to one if a firm i has at least one severe case tagged by RepRisk as "gender inequality" in year t. (RR)
Occupational Health	An indicator equal to one if a firm i has at least one severe case tagged by RepRisk as "occupational health and safety issues" in year t. (RR)
Racism	An indicator equal to one if a firm i has at least one severe case tagged by RepRisk as "racism/racial inequality" in year t. (RR)

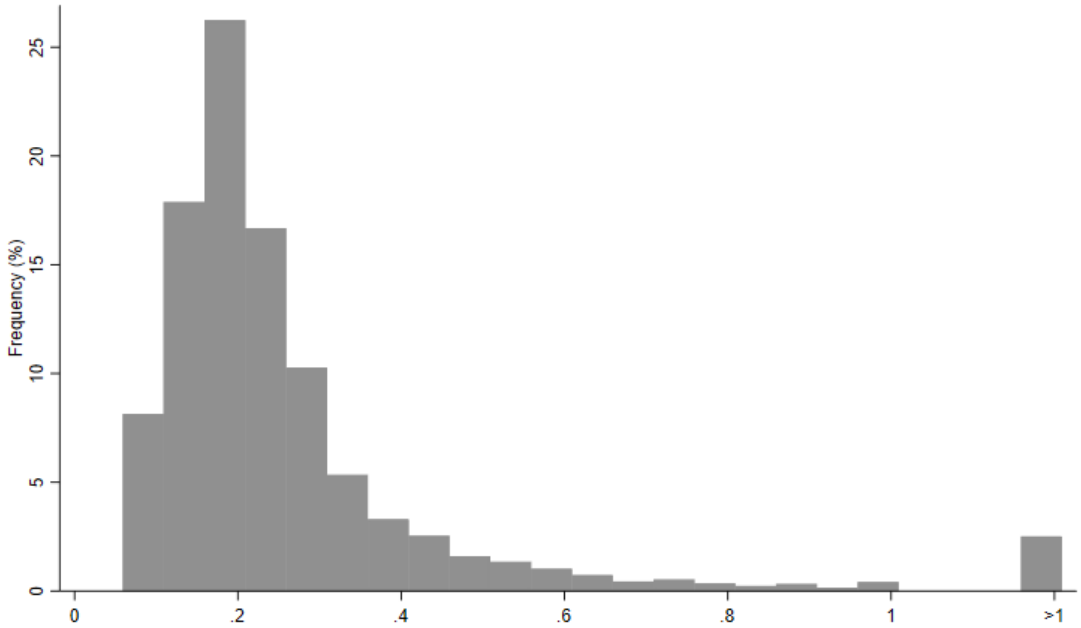


Panel A: CHRO over time

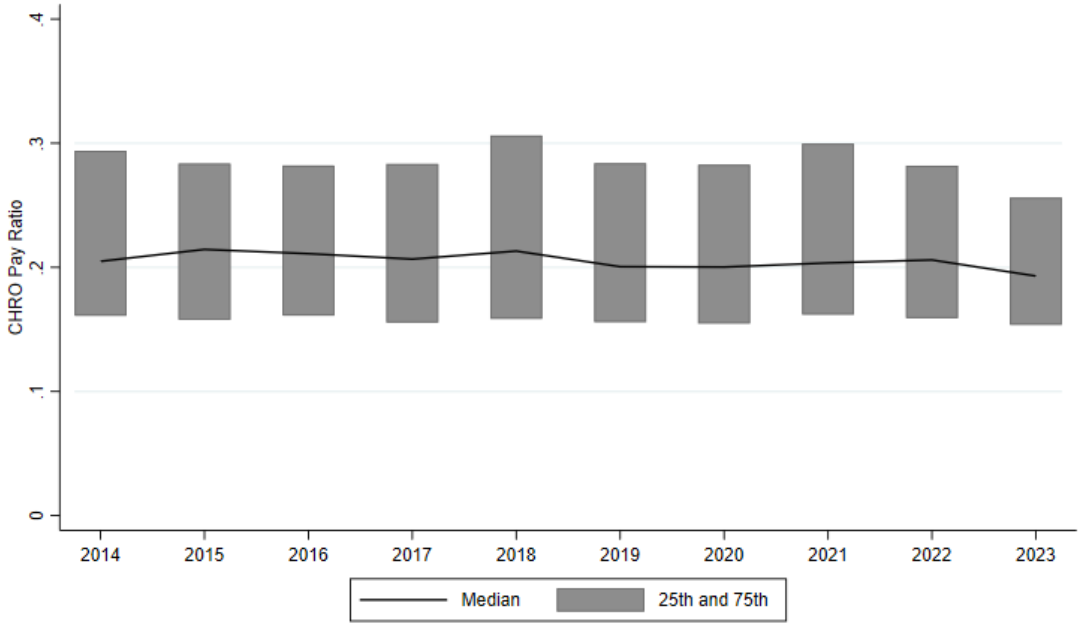


Panel B: Distribution of CHRO by industry over time

Fig. 1 CHRO over time. This figure presents trends in CHRO prevalence. Panel A reports the number of firms with a CHRO (square), the number of CHROs with compensation data in our sample (circle), and the number of firms with a CHRO listed as a Named Executive Officer (NEO) in proxy statements (×). Panel B reports the number of firms with a CHRO in the first and last year of our sample by industry. CHROs are identified through a keyword search of job titles in Revelio Labs' profile-level data, following the process outlined in Appendix A. Pay ratio data come from Equilar. NEO CHROs are CHROs ranking among a firm's five most highly paid executives, as supplied to us through Equilar. The slight drop in CHROs with pay ratio data in 2023 reflects the timing of data extraction, as Equilar had not yet completed processing all survey responses at the time of delivery.



Panel A: Distribution of CHRO pay ratio



Panel B: CHRO pay ratio distribution by year

Fig. 2 CHRO pay ratio. This figure presents the distribution of the CHRO to CEO pay ratio. Panel A reports the distribution in 0.05 increments, with ratios greater than one bundled. Most of the cases with a CHRO to CEO pay ratio greater than one involve dollar pay CEOs. Panel B reports the 25th percentile, median, and 75th percentile CHRO pay ratio by year.

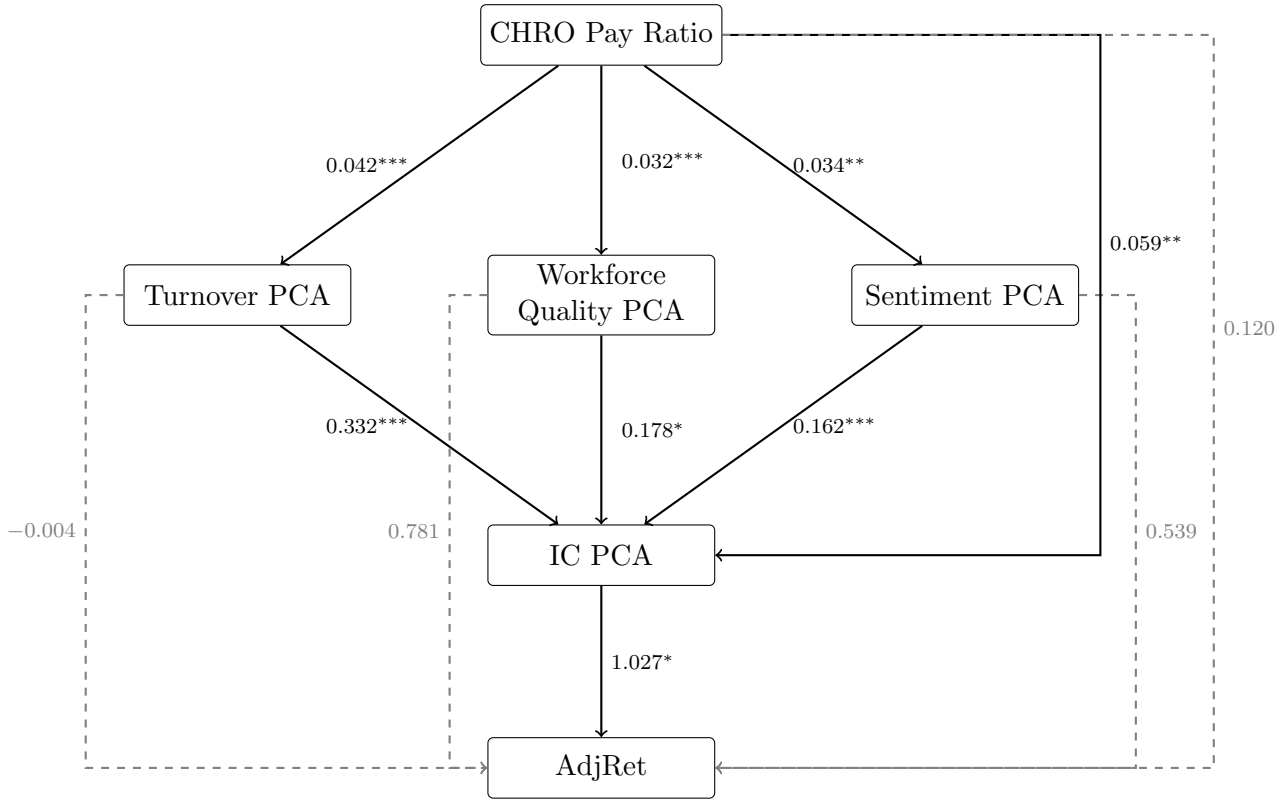


Fig. 3 Path analysis. This figure presents results from a path analysis examining whether CHRO pay ratio is associated with stock returns through workforce and intellectual capital outcomes. The results are also tabulated in Table 9. The analysis follows the following structure: we first relate CHRO pay ratio in year t to workforce outcomes (*Turnover PCA*, *Workforce Quality PCA*, and *Sentiment PCA*) in year $t+1$. We then relate these workforce measures to intellectual capital (IC PCA) in year $t+2$, while also including CHRO pay ratio as a direct predictor. Finally, we relate intellectual capital to market-adjusted stock returns in year $t+3$, controlling for earlier workforce outcomes and CHRO pay ratio. Solid arrows represent statistically significant paths; dashed gray arrows represent non-significant direct paths. The SEM system is estimated simultaneously. All specifications include firm size, book-to-market, ROA, leverage, price-cost margin, and asset growth as control variables, as well as two-digit SIC industry and year fixed effects. Levels of significance are presented as follows: *p<0.1; **p<0.05; ***p<0.01.

Table 1
CHRO existence and compensation

Panel A: CHRO pay ratio by industry

Fama French 12 Industry	(1) Mean	(2) Median
Business Equipment (e.g., Computer, Software, Electronic Equipment)	0.42	0.25
Healthcare, Medical Equipment, and Drugs	0.28	0.20
Other (e.g., Equipment, Bus. Service)	0.27	0.22
Finance	0.27	0.20
Wholesale, Retail, and Some Services	0.25	0.21
Consumer Non-Durables	0.25	0.19
Telephone and Television Transmission	0.24	0.20
Oil, Gas, and Coal Extraction and Products	0.24	0.19
Manufacturing	0.23	0.19
Consumer Durables	0.22	0.18
Utilities	0.21	0.18
Chemicals and Allied Products	0.20	0.18

Panel B: CHRO compensation

	(1) Mean	(2) SD	(3) 25th	(4) 50th	(5) 75th
CHRO Pay Ratio:					
All	0.29	0.36	0.16	0.20	0.29
Excluding Firms with Dollar Pay CEOs	0.24	0.14	0.16	0.20	0.28
Pay Mix:					
% Equity	0.43	0.20	0.33	0.45	0.56
Total Direct Compensation:					
Full Sample	2,996	10,903	1,006	1,567	2,719
Survey Sample	2,771	10,038	1,043	1,630	2,710
Disclosure Sample	3,283	11,918	950	1,503	2,738

This table presents statistics on the compensation of CHROs. Panel A reports the mean and median CHRO pay ratios across the Fama-French 12 industries. Panel B summarizes the distribution of the CHRO pay ratio, pay mix, and CHRO total direct compensation. "All" includes all CHROs with pay ratio data. "Excluding Firms with Dollar Pay CEOs" excludes CHROs with pay ratios higher than one. Total direct compensation (in thousands) includes base salary, bonus, equity, and other cash/non-cash compensation. This measure is computed as the product of the CHRO pay ratio and the CEO total direct compensation in proxy statements. "Full Sample" includes all CHROs with pay ratio data. "Survey Sample" includes CHROs not in proxy statements, and "Disclosure Sample" includes all CHROs in proxy statements as NEOs.

Table 2
Descriptive statistics and sample selection

Panel A: Descriptive statistics

	(1) Mean	(2) SD	(3) 25th	(4) 50th	(5) 75th
Firm characteristics:					
Asset Growth	0.09	0.28	-0.02	0.04	0.12
BM	0.41	0.46	0.16	0.32	0.60
Leverage	0.67	0.24	0.52	0.67	0.82
PCM	0.33	1.78	0.25	0.38	0.56
ROA	0.03	0.10	0.01	0.04	0.08
Size	8.74	1.63	7.68	8.69	9.87
Workforce dynamics:					
% Competitors	24.51	18.23	10.84	20.60	34.42
% Lower Pay	37.10	8.73	31.68	36.71	41.55
Core	4.48	3.98	1.89	3.27	5.63
Degree Ranking	-192.97	50.54	-219.03	-191.11	-162.76
Inflow	17.79	9.67	11.34	15.96	21.75
Outflow	15.91	7.12	10.96	14.71	19.50
Turnover	16.86	7.94	11.41	15.42	20.56
Turnover PCA	0.14	1.41	-0.83	-0.14	0.80
Workforce Quality PCA	-0.22	0.77	-0.77	-0.28	0.25
Employee ratings:					
Any Training	2.47	1.47	1.39	2.40	3.40
Career Opportunities	2.83	0.58	2.50	2.81	3.13
Comp & Benefits	3.04	0.62	2.66	3.00	3.41
Culture & Values	2.94	0.66	2.56	2.92	3.29
Glassdoor	3.46	0.57	3.14	3.48	3.82
Formal Training	2.18	1.45	1.10	2.08	3.09
Informal Training	1.47	1.16	0.69	1.39	2.20
Sentiment PCA	0.08	1.33	-0.68	0.03	0.80
Work-life Balance	2.95	0.63	2.57	2.92	3.30
Intellectual capital:					
IC PCA	0.63	2.09	-1.05	-0.25	1.53
Knowledge Capital	2.64	3.18	0.00	0.00	5.65
New Products	0.47	0.66	0.00	0.00	0.69
Patents	0.81	1.46	0.00	0.00	1.10
Patent Value	1.60	2.62	0.00	0.00	3.19
Firm performance:					
AdjRet	0.16	35.66	-20.71	-2.29	17.24
Ret	11.09	38.91	-12.76	8.25	30.49
Employees and patents:					
PreHirePatent1Yr	0.56	0.93	0.00	0.00	0.69
PreHirePatent3Yr	0.94	1.26	0.00	0.00	1.61
PostHirePatent1Yr	0.56	0.88	0.00	0.00	1.10
PostHirePatent3Yr	0.96	1.25	0.00	0.00	1.79
Additional HCM measures:					
Fortune 100	0.03	0.16	0.00	0.00	0.00
HR Team Size	4.55	1.51	3.67	4.65	5.51
HR Pay	11.33	0.17	11.23	11.34	11.44
Organizational Capital	5.92	2.53	5.23	6.46	7.51
Workplace controversies:					
Discrimination	0.01	0.08	0.00	0.00	0.00
Racism	0.00	0.06	0.00	0.00	0.00
Gender Inequality	0.00	0.07	0.00	0.00	0.00
Employment Conditions	0.02	0.14	0.00	0.00	0.00
Occupational Health	0.01	0.12	0.00	0.00	0.00

Table 2
Descriptive statistics and sample selection

Panel B: Sample selection

Firm characteristics	(1) CCM	(2) Pay Ratio	(3) NEO	(4) Non-NEO	(5) Revelio	(6) (1)=(2)	(7) (3)=(4)	(8) (2)=(5)
Asset Growth	0.11	0.09	0.09	0.09	0.11	***		**
BM	0.62	0.41	0.40	0.42	0.44	***		
Leverage	0.60	0.67	0.65	0.69	0.63	***	***	***
PCM	-0.71	0.33	0.24	0.41	-0.06	***	**	***
ROA	-0.07	0.03	0.02	0.04	-0.02	***	***	***
Size	7.14	8.74	8.13	9.23	8.36	***	***	***

This table summarizes the key variables in our analysis and documents how the CHRO sample differs from the broader Compustat-CRSP universe. Panel A reports summary statistics for firm characteristics, hiring and firing metrics, employee ratings, and intellectual capital measures. Panel B compares sample means of key firm characteristics across five groups: the full Compustat-CRSP universe (CCM), our CHRO pay ratio sample (Pay Ratio), the subsample where the CHRO is a Named Executive Officer (NEO), the subsample where they are not (Non-NEO), and firms with a CHRO in Revelio but not in our CHRO pay ratio sample (Revelio). Columns (1)–(5) display the means for each group, while columns (6)–(8) report the significance of the difference in means for CCM vs. Pay Ratio, NEO vs. Non-NEO, and Revelio vs. Pay Ratio samples. All variables are defined in Appendix B, and all continuous measures are winsorized at 1% and 99%. Coefficient comparisons are based on standard errors clustered by firm. Levels of significance are presented as follows: $^{*}p<0.1$; $^{**}p<0.05$; $^{***}p<0.01$.

Table 3
Determinant analysis

	(1)	(2)	(3)	(4)	(5)	(6)
			CHRO Pay Ratio			
Firm Characteristics:						
Size	-0.352***			-0.463***	-0.463***	-0.391***
	(-6.82)			(-5.40)	(-5.38)	(-3.98)
BM	0.426***			0.353**	0.365**	0.351*
	(2.68)			(1.98)	(2.05)	(1.90)
ROA	-3.217***			-3.592***	-3.762***	-3.586***
	(-4.77)			(-4.23)	(-4.36)	(-4.23)
Leverage	0.823**			0.153	0.180	-0.135
	(2.51)			(0.39)	(0.46)	(-0.29)
PCM	0.027			0.038*	0.040**	0.066***
	(1.20)			(1.85)	(1.97)	(2.95)
Asset Growth	0.057			0.157	0.158	0.167
	(0.29)			(0.63)	(0.63)	(0.66)
New Economy Firm	0.874***			0.897***	0.899***	
	(3.80)			(3.22)	(3.23)	
CHRO Characteristics:						
Prior Experience (Other Firm)		0.367		0.447*	0.462*	0.480**
		(1.56)		(1.81)	(1.87)	(1.98)
Prior Experience (Same Firm)		0.404***		0.485***	0.486***	0.485***
		(2.61)		(2.96)	(2.98)	(3.05)
Prestige		0.237		0.295	0.291	0.385
		(0.96)		(1.20)	(1.18)	(1.64)
HR Team Characteristics:						
HR Team Size			-0.150**	0.271**	0.275**	0.151
			(-2.54)	(2.50)	(2.53)	(1.32)
HR Pay			-0.160	0.214	0.368	0.455
			(-0.32)	(0.35)	(0.56)	(0.60)
Constant	7.773***	5.027***	7.875	4.993	3.213	2.499
	(16.71)	(27.15)	(1.40)	(0.71)	(0.43)	(0.29)
Fixed Effects	No	No	No	No	Year	Ind, Year
Observations	3,317	2,538	2,723	2,152	2,152	2,147
Adjusted R^2	0.073	0.003	0.005	0.082	0.082	0.120

This table analyzes the determinants of CHRO-to-CEO pay ratio. The sample comprises all firm-years with non-missing CHRO pay ratios and determinants. Columns (1)–(3) include firm, CHRO, and HR team characteristics separately; column (4) combines all three; columns (5) and (6) add year and two-digit SIC industry fixed effects, respectively. All variables are defined in Appendix B. Cluster robust t-statistics, by firm, are included in parentheses. Levels of significance are presented as follows: *p<0.1; **p<0.05; ***p<0.01.

Table 4
CHRO and workforce dynamics

Panel A: No fixed effects

	(1)	(2)	(3)	(4)	(5)
	Turnover	Inflow	Outflow	Core	Turnover PCA
CHRO Pay Ratio	0.266***	0.289***	0.251***	0.172***	0.054***
	(3.78)	(3.59)	(3.75)	(4.44)	(4.22)
Controls	Yes	Yes	Yes	Yes	Yes
Ind, Year Fixed Effects	No	No	No	No	No
Observations	2,539	2,539	2,539	2,539	2,539
Adjusted R^2	0.084	0.098	0.059	0.085	0.094

Panel B: Industry and year fixed effects

	(1)	(2)	(3)	(4)	(5)
	Turnover	Inflow	Outflow	Core	Turnover PCA
CHRO Pay Ratio	0.162***	0.175**	0.154***	0.096***	0.032***
	(2.71)	(2.51)	(2.75)	(2.96)	(2.98)
Controls	Yes	Yes	Yes	Yes	Yes
Ind, Year Fixed Effects	Yes	Yes	Yes	Yes	Yes
Observations	2,537	2,537	2,537	2,537	2,537
Adjusted R^2	0.426	0.404	0.396	0.401	0.435

This table reports analyses of the association between firm-level employee turnover and CHRO pay ratio. *CHRO Pay Ratio* is the decile rank of the CHRO's total direct compensation divided by the CEO's. In each panel, the dependent variable in column (1) is *Turnover*, defined as the sum of employees joining and leaving the firm divided by twice the total number of employees. The dependent variables in columns (2)–(3) are *Inflow* and *Outflow*, measured as the number of employees joining or leaving the firm divided by the total number of employees. Column (4) focuses on turnover in revenue-generating functions (*Core*). Employees are classified into four categories by the average salary of each position, with "core" functions defined as those in the top quartile. Turnover for core functions is calculated as the number of employees joining and leaving in that group divided by twice the total number of employees. In column (5), the dependent variable is the first component from a principal component analysis of the four dependent variables in columns (1)-(4). All regressions include firm size, book-to-market, ROA, leverage, price–cost margin, and asset growth as control variables. Panel B additionally includes two-digit SIC industry and year fixed effects. Cluster robust t-statistics, by firm, are included in parentheses. Levels of significance are presented as follows: *p<0.1; **p<0.05; ***p<0.01.

Table 5
CHRO and quality of workforce dynamics

Panel A: No fixed effects

	(1)	(2)	(3)	(4)
	% Competitors	Degree Ranking	% Lower Pay	Workforce Quality PCA
CHRO Pay Ratio	0.570***	1.719***	0.262***	0.045***
	(3.20)	(3.52)	(2.87)	(5.21)
Controls	Yes	Yes	Yes	Yes
Ind, Year Fixed Effects	No	No	No	No
Observations	2,417	2,327	2,286	2,044
Adjusted R^2	0.069	0.025	0.015	0.061

Panel B: Industry and year fixed effects

	(1)	(2)	(3)	(4)
	% Competitors	Degree Ranking	% Lower Pay	Workforce Quality PCA
CHRO Pay Ratio	0.516***	1.364***	0.194**	0.036***
	(3.33)	(2.84)	(2.33)	(4.50)
Controls	Yes	Yes	Yes	Yes
Ind, Year Fixed Effects	Yes	Yes	Yes	Yes
Observations	2,413	2,324	2,283	2,040
Adjusted R^2	0.337	0.103	0.239	0.261

This table presents analyses of the association between the quality of firm-level workforce dynamics and the CHRO pay ratio. In each panel, the dependent variable in column (1) is the percentage of new hires from firms in the same industry (*% Competitors*), calculated as the number of new hires from firms in the same industry divided by the total number of new hires. We use a proprietary industry classification developed by Revelio Labs, which groups firms into 50 industries that cover all firms in the Revelio Labs database, including private firms. The dependent variable in column (2) is the average of each new hire's highest degree–granting institution's ranking. For ease of interpretation, this variable is multiplied by -1 so that higher values indicate degrees from higher-ranked institutions. In column (3), the dependent variable is *% Lower Pay*, the percentage of departed employees whose subsequent job pays less than their prior position. In column (4), the dependent variable (*Workforce Quality PCA*) is the first component from a principal component analysis (PCA) of the three dependent variables in columns (1)-(3). All regressions include firm size, book-to-market, ROA, leverage, price–cost margin, and asset growth as control variables. Panel B additionally includes two-digit SIC industry and year fixed effects. Cluster robust t-statistics, by firm, are included in parentheses. Levels of significance are presented as follows: *p<0.1; **p<0.05; ***p<0.01.

Table 6
CHRO and employee sentiment

Panel A: No fixed effects

	(1) Comp & Benefits	(2) Career Opportunities	(3) Culture & Values	(4) Work-life Balance	(5) Glassdoor	(6) Sentiment PCA
CHRO Pay Ratio	0.006	0.011**	0.012*	0.015**	0.010*	0.027**
	(1.01)	(2.06)	(1.91)	(2.52)	(1.81)	(2.11)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Ind, Year Fixed Effects	No	No	No	No	No	No
Observations	2,230	2,230	2,230	2,230	2,230	2,230
Adjusted R^2	0.012	0.025	0.015	0.012	0.035	0.019

Panel B: Industry and year fixed effects

	(1) Comp & Benefits	(2) Career Opportunities	(3) Culture & Values	(4) Work-life Balance	(5) Glassdoor	(6) Sentiment PCA
CHRO Pay Ratio	0.011**	0.011**	0.011*	0.010*	0.011**	0.028**
	(2.17)	(2.32)	(1.91)	(1.96)	(2.30)	(2.36)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Ind, Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,227	2,227	2,227	2,227	2,227	2,227
Adjusted R^2	0.229	0.128	0.136	0.178	0.204	0.148

Panel C: Textual analysis of formal and informal professional development

	(1)	(2)	(3)	(4)	(5)	(6)
	Any Training		Formal Training		Informal Training	
CHRO Pay Ratio	0.013**	0.003	0.009	0.001	0.028***	0.017***
	(2.35)	(0.72)	(1.62)	(0.26)	(4.31)	(2.88)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Ind, Year Fixed Effects	No	Yes	No	Yes	No	Yes
Observations	2,501	2,498	2,501	2,498	2,501	2,498
Adjusted R^2	0.863	0.895	0.842	0.879	0.686	0.736

This table presents analyses of the association between employee sentiment and CHRO pay ratio. In Panels A–B, the dependent variables are employee ratings of the employer's compensation and benefits (*Comp & Benefits*), career opportunities (*Career Opportunities*), culture (*Culture & Values*), work–life balance (*Work–life Balance*), and overall employee ratings (*Glassdoor*) in columns (1)-(5), respectively. In column (6), the dependent variable (*Sentiment PCA*) is the first component from a principal component analysis (PCA) of the five dependent variables in columns (1)-(5). In Panel C, the dependent variables measure the extent of employee reviews discussing training and career development, with columns (1) and (2) pooling all discussions, columns (3) and (4) covering discussions of formal training programs, and columns (5) and (6) covering discussions of mentorship and informal career development interactions. These variables are identified using a large language model (Google's Gemma 3) applied to employee review text. All regressions include firm size, book-to-market, ROA, leverage, price–cost margin, and asset growth as control variables. Panel B additionally includes two-digit SIC industry and year fixed effects. Panel C includes the number of Glassdoor reviews as an additional control. Cluster robust t-statistics, by firm, are included in parentheses. Levels of significance are presented as follows: *p<0.1; **p<0.05; ***p<0.01.

Table 7
Intellectual capital creation

Panel A: CHRO pay ratio

	(1) Patents	(2) Patent Value	(3) New Products	(4) Knowledge Capital	(5) IC PCA
CHRO Pay Ratio	0.040***	0.057***	0.009*	0.084***	0.057***
	(3.02)	(2.66)	(1.82)	(3.80)	(3.48)
Controls	Yes	Yes	Yes	Yes	Yes
Ind, Year Fixed Effects	Yes	Yes	Yes	Yes	Yes
Observations	2,912	2,912	3,236	2,912	2,912
Adjusted R^2	0.357	0.377	0.184	0.630	0.476

Panel B: Employee turnover

	(1) Patents	(2) Patent Value	(3) New Products	(4) Knowledge Capital	(5) IC PCA
Turnover PCA	0.220***	0.379***	0.078***	0.420***	0.355***
	(5.20)	(5.29)	(4.56)	(6.72)	(6.51)
Controls	Yes	Yes	Yes	Yes	Yes
Ind, Year Fixed Effects	Yes	Yes	Yes	Yes	Yes
Observations	2,537	2,537	2,853	2,537	2,537
Adjusted R^2	0.403	0.418	0.209	0.652	0.519

Panel C: Quality of workforce dynamics

	(1) Patents	(2) Patent Value	(3) New Products	(4) Knowledge Capital	(5) IC PCA
Workforce Quality PCA	0.195***	0.273**	0.053*	0.375***	0.283***
	(2.66)	(2.26)	(1.96)	(3.01)	(3.09)
Controls	Yes	Yes	Yes	Yes	Yes
Ind, Year Fixed Effects	Yes	Yes	Yes	Yes	Yes
Observations	2,044	2,044	2,290	2,044	2,044
Adjusted R^2	0.398	0.415	0.215	0.648	0.506

Panel D: Employee sentiment

	(1) Patents	(2) Patent Value	(3) New Products	(4) Knowledge Capital	(5) IC PCA
Sentiment PCA	0.129***	0.196***	0.037***	0.315***	0.202***
	(4.49)	(4.25)	(3.18)	(5.77)	(5.35)
Controls	Yes	Yes	Yes	Yes	Yes
Ind, Year Fixed Effects	Yes	Yes	Yes	Yes	Yes
Observations	2,220	2,220	2,476	2,220	2,220
Adjusted R^2	0.390	0.413	0.190	0.649	0.505

This table presents analyses of the association between measures of intellectual capital and CHRO pay ratio or summary measures of workforce dynamics or employee sentiment. In each panel, the dependent variables are measures of patenting activity (*Patents*), patent value (*Patent Value*), new product announcements (*New Products*), the Peters and Taylor (2017) knowledge capital measure (*Knowledge Capital*), and the first component (*IC PCA*) from a principal component analysis of the four intellectual capital measures, respectively. In Panels A–D, the independent variables are *CHRO Pay Ratio*, the first component from a principal component analysis (PCA) of the key variables in Table 4 (*Turnover PCA*), the first component from a PCA analysis of key variables in Table 5 (*Workforce Quality PCA*), and the first component from a PCA analysis of the ratings variables in Table 6 (*Sentiment PCA*), respectively. All regressions include firm size, book-to-market, ROA, leverage, price–cost margin, and asset growth as control variables, as well as two-digit SIC industry and year fixed effects. Cluster robust t-statistics, by firm, are included in parentheses. Levels of significance are presented as follows: *p<0.1; **p<0.05; ***p<0.01.

Table 8
Stock returns

Panel A: Raw returns

	(1)	(2)	(3)
		Ret	
IC PCA	0.658**	0.687**	1.176***
	(2.26)	(2.26)	(2.88)
Controls	No	Yes	Yes
Ind, Year Fixed Effects	No	No	Yes
Observations	3,348	3,236	3,232
Adjusted R^2	0.001	0.001	0.119

Panel B: Market excess returns

	(1)	(2)	(3)
		AdjRet	
IC PCA	0.973***	0.934***	1.197***
	(3.46)	(3.19)	(2.94)
Controls	No	Yes	Yes
Ind, Year Fixed Effects	No	No	Yes
Observations	3,348	3,236	3,232
Adjusted R^2	0.003	0.004	0.036

This table presents analyses of the association between stock returns and the summary measure of intellectual capital. The sample is limited to firm-years with non-missing CHRO pay ratio data, although we do not require non-missing human capital management measures examined in earlier tables. Panels A and B report results using raw returns (*Ret*) and market excess returns (*AdjRet*) as the dependent variable, respectively. In each panel, the independent variable is the first component (*IC PCA*) from a principal component analysis of the four intellectual capital measures in Table 7, including *Patents, Patent Value, New Products* and *Knowledge Capital*. Control variables include firm size, book-to-market, ROA, leverage, price–cost margin, and asset growth. Column (3) also includes two-digit SIC industry and year fixed effects. Cluster robust t-statistics, by firm, are included in parentheses. Levels of significance are presented as follows: $^{*}p<0.1$; $^{**}p<0.05$; $^{***}p<0.01$.

Table 9
CHRO and stock returns: path analysis

	(1) Turnover PCA	(2) Workforce Quality PCA	(3) Sentiment PCA	(4) IC PCA	(5) AdjRet
CHRO Pay Ratio	0.042***	0.032***	0.034**	0.059**	0.120
	(2.68)	(3.62)	(2.47)	(2.39)	(0.33)
Turnover PCA				0.332***	-0.004
				(4.31)	(-0.00)
Workforce Quality PCA				0.178*	0.781
				(1.68)	(0.50)
Sentiment PCA				0.162***	0.539
				(3.58)	(0.54)
IC PCA					1.027*
					(1.87)
Controls			Yes		
Ind, Year Fixed Effects			Yes		
Observations			1,427		

This table presents a path analysis of whether CHRO pay ratio is associated with stock returns using structural equation modeling (SEM). The SEM system includes a regression of *Turnover PCA* on *CHRO Pay Ratio*, a regression of *Workforce Quality PCA* on *CHRO Pay Ratio*, a regression of *Sentiment PCA* on *CHRO Pay Ratio*, a regression of *IC PCA* on *CHRO Pay Ratio*, *Turnover PCA*, *Workforce Quality PCA*, and *Sentiment PCA*, and a regression of market-adjusted return on *CHRO Pay Ratio*, *Turnover PCA*, *Workforce Quality PCA*, *Sentiment PCA*, and *IC PCA*. These equations are estimated simultaneously as a system. The analysis follows a four-year structure in which CHRO pay ratio is measured in year t, workforce outcomes in year $t+1$, intellectual capital in year $t+2$, and stock returns in year $t+3$. All regressions include firm size, book-to-market, ROA, leverage, price–cost margin, and asset growth as control variables, as well as two-digit SIC industry and year fixed effects. Cluster robust z-statistics, by firm, are included in parentheses. Levels of significance are presented as follows: *p<0.1; **p<0.05; ***p<0.01.

Table 10
CHRO pay ratio and other measures of human capital

	(1) Turnover PCA	(2) Workforce Quality PCA	(3) Sentiment PCA
CHRO Pay Ratio	0.038***	0.034***	0.026**
	(3.47)	(4.41)	(1.98)
HR Team Size	0.045	-0.019	0.132**
	(1.21)	(-0.53)	(2.46)
HR Pay	1.182***	0.955***	0.640**
	(4.48)	(3.99)	(2.13)
Organizational Capital	-0.060**	0.017	-0.013
	(-2.30)	(1.15)	(-0.66)
CHRO as NEO	-0.060	0.052	-0.131*
	(-0.94)	(1.19)	(-1.71)
Fortune 100	0.307*	0.136	0.438**
	(1.81)	(0.91)	(2.40)
Controls	Yes	Yes	Yes
Ind, Year Fixed Effects	Yes	Yes	Yes
Observations	2,321	2,025	1,956
Adjusted R^2	0.487	0.294	0.167

This table presents analyses of horse races between *CHRO Pay Ratio* and several alternative human capital measures, including HR team size and pay derived from Revelio Labs, Peters and Taylor (2017)'s organizational capital measure, an indicator for whether the CHRO is a NEO, and whether the firm is included in the "Fortune 100 Best Companies to Work For" list. We regress the PCA measures in Tables 4-6 on *CHRO Pay Ratio* and alternative human capital measures. All regressions additionally include firm size, book-to-market, ROA, leverage, price–cost margin, and asset growth as control variables, as well as two-digit SIC industry and year fixed effects. Cluster robust t-statistics, by firm, are included in parentheses. Levels of significance are presented as follows: *p<0.1; **p<0.05; ***p<0.01.

Table 11
Quality of new hires and subsequent innovation

Panel A: No fixed effects

	(1) PreHirePatent1Yr	(2) PreHirePatent3Yr	(3) PostHirePatent1Yr	(4) PostHirePatent3Yr
CHRO Pay Ratio	0.025***	0.034***	0.025***	0.035***
	(3.17)	(3.27)	(3.54)	(3.55)
Controls	Yes	Yes	Yes	Yes
Ind, Year Fixed Effects	No	No	No	No
Observations	2,711	2,711	2,711	2,711
Adjusted R^2	0.239	0.284	0.252	0.287

Panel B: Industry and year fixed effects

	(1) PreHirePatent1Yr	(2) PreHirePatent3Yr	(3) PostHirePatent1Yr	(4) PostHirePatent3Yr
CHRO Pay Ratio	0.024***	0.031***	0.024***	0.034***
	(3.31)	(3.50)	(3.89)	(4.05)
Controls	Yes	Yes	Yes	Yes
Ind, Year Fixed Effects	Yes	Yes	Yes	Yes
Observations	2,708	2,708	2,708	2,708
Adjusted R^2	0.378	0.454	0.410	0.464

This table presents an analysis of the quality of employees hired and their subsequent performance using patent data. In each panel, the first two columns measure the patents produced by new hires in the one or three years prior to joining the firm, capturing new-hire credentials. The third and fourth columns measure the patents produced in the one or three years after joining the firm, capturing subsequent performance. All regressions include firm size, book-to-market, ROA, leverage, price–cost margin, and asset growth as control variables. We additionally control for the number of new hires. Panel B additionally includes two-digit SIC industry and year fixed effects. Cluster robust t-statistics, by firm, are included in parentheses. Levels of significance are presented as follows: *p<0.1; **p<0.05; ***p<0.01.

Table 12
Cross-sectional analysis

Panel A: Variation in CHRO equity incentives

	(1) Turnover PCA	(2) Workforce Quality PCA	(3) Sentiment PCA
CHRO Pay Ratio	0.006	0.013	0.017
	(0.49)	(1.45)	(1.04)
High % Equity	0.076	-0.109	0.142
	(0.75)	(-1.33)	(1.13)
CHRO Pay Ratio × High % Equity	0.039**	0.040***	0.010
	(2.12)	(2.98)	(0.49)
Controls	Yes	Yes	Yes
Ind, Year Fixed Effects	Yes	Yes	Yes
Observations	2,537	2,040	2,227
Adjusted R^2	0.446	0.270	0.152

Panel B: Variation in demand for high-quality HCM

	(1) Turnover PCA	(2) Workforce Quality PCA	(3) Sentiment PCA
CHRO Pay Ratio	0.004	0.029***	0.010
	(0.32)	(3.46)	(0.81)
New Economy Firm	-0.468*	0.050	-0.084
	(-1.81)	(0.31)	(-0.34)
CHRO Pay Ratio × New Economy Firm	0.149***	0.032	0.069**
	(4.19)	(1.56)	(2.26)
Controls	Yes	Yes	Yes
Ind, Year Fixed Effects	Yes	Yes	Yes
Observations	2,537	2,040	2,227
Adjusted R^2	0.454	0.267	0.154

This table presents an analysis of how our main results vary in the cross section. Panel A exploits variation in CHRO equity incentives. Panel B exploits variation in firms' demand for high-quality human capital. In each panel, the dependent variables are the PCA measures from Tables 4–6. In Panel A, the partitioning variable is an indicator for whether the percentage of equity compensation (*% Equity*) is above the sample median (*High % Equity*). In Panel B, the partitioning variable is an indicator for whether the firm is a new economy firm. All regressions include firm size, book-to-market, ROA, leverage, price-cost margin, and asset growth as control variables, as well as two-digit SIC industry and year fixed effects. Cluster robust t-statistics, by firm, are included in parentheses. Levels of significance are presented as follows: *p<0.1; **p<0.05; ***p<0.01.

Table 13
CHRO pay ratio, workplace controversies, and employee sentiment

	(1)	(2)	(3)	(4)	(5)
			Sentiment PCA		
CHRO Pay Ratio	0.026**	0.027**	0.027**	0.026**	0.025**
	(2.24)	(2.26)	(2.25)	(2.16)	(2.14)
Discrimination	-0.604**				
	(-2.01)				
CHRO Pay Ratio × Discrimination	0.143**				
	(2.33)				
Racism		-0.764*			
		(-1.69)			
CHRO Pay Ratio × Racism		0.174*			
		(1.72)			
Gender Inequality			-0.596*		
			(-1.79)		
CHRO Pay Ratio × Gender Inequality			0.151**		
			(2.26)		
Employment Conditions				-0.304	
				(-1.19)	
CHRO Pay Ratio × Employment Conditions				0.068	
				(1.56)	
Occupational Health					-0.464
					(-1.64)
CHRO Pay Ratio × Occupational Health					0.125***
					(2.77)
Controls	Yes	Yes	Yes	Yes	Yes
Ind, Year Fixed Effects	Yes	Yes	Yes	Yes	Yes
Observations	2,227	2,227	2,227	2,227	2,227
Adjusted R^2	0.148	0.147	0.148	0.147	0.149

This table presents an analysis of how CHRO pay ratio moderates the association between workplace controversies and subsequent employee sentiment. We regress the employee sentiment PCA measure in Table 6 on CHRO pay ratio, indicators of workplace controversies, and their interactions. All regressions additionally include firm size, book-to-market, ROA, leverage, price–cost margin, and asset growth as control variables, as well as two-digit SIC industry and year fixed effects. Workplace controversy indicators include discrimination in employment (*Discrimination*), racism or racial inequality (*Racism*), gender inequality (*Gender Inequality*), poor employment conditions (*Employment Conditions*) and occupational health issues (*Occupational Health*). Workplace controversies are sourced from RepRisk data and are aggregated at the firm-year level. Cluster robust t-statistics, by firm, are included in parentheses. Levels of significance are presented as follows: *p<0.1; **p<0.05; ***p<0.01.

Internet Appendix for
"CHRO Compensation and Strategic Human Capital Management"

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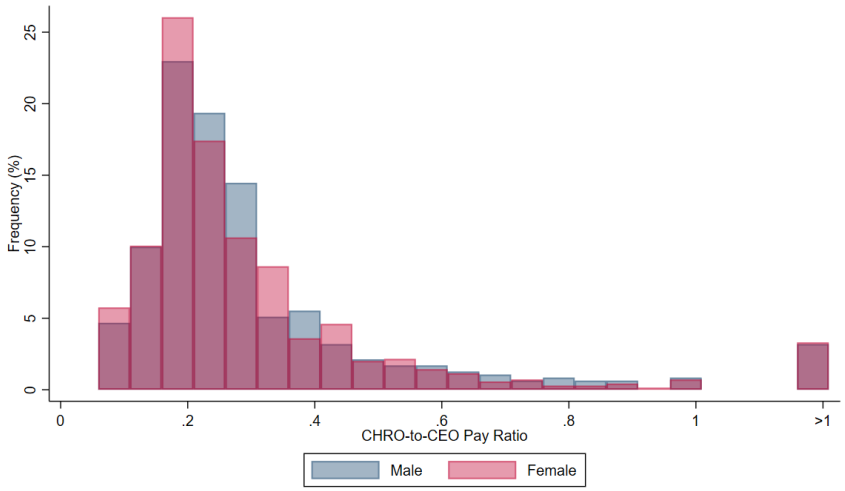
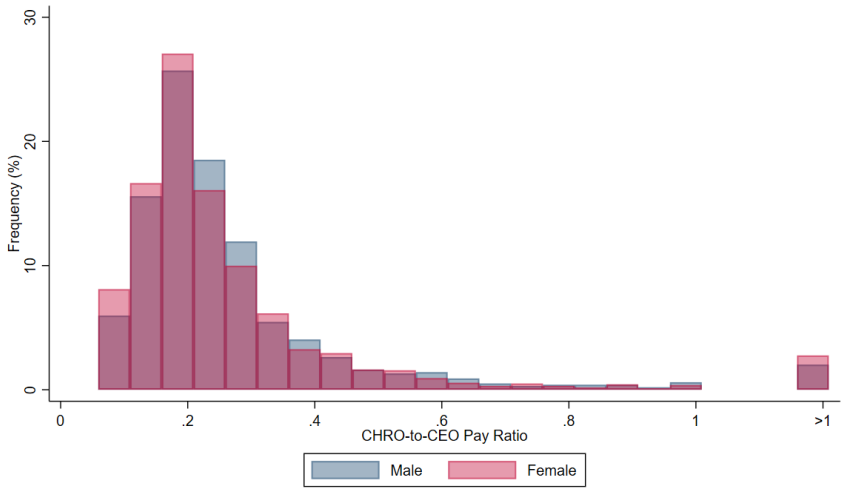
- Table IA-22: Cross-sectional variation in board independence

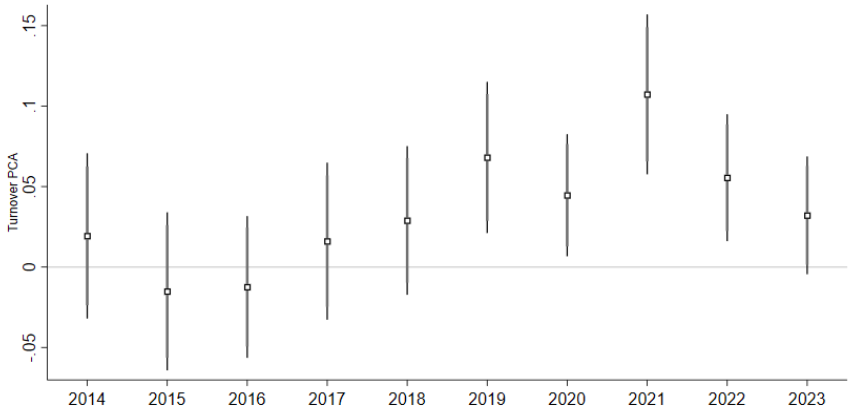


Panel A: Equilar subsample with non-missing names

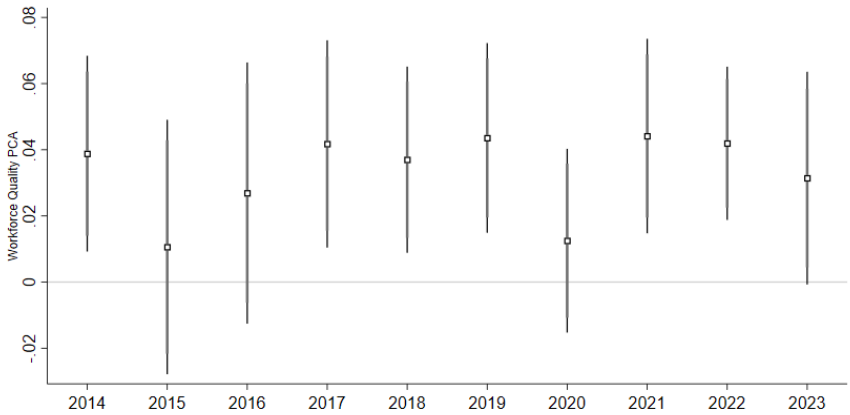


Panel B: Full sample

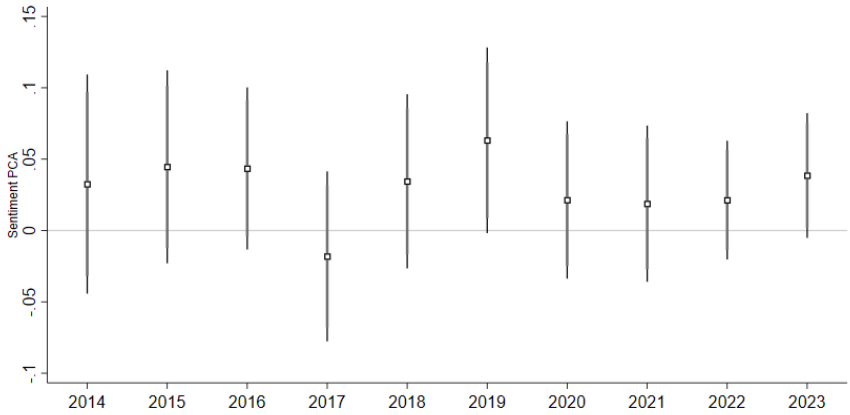
Fig. IA-1 CHRO pay ratio by gender. This figure presents the distribution of the CHRO to CEO pay ratio by gender. In Panel A, we use a subsample of firms with non-missing CHRO names in Equilar data. In Panel B, we additionally consider firms with missing CHRO names using Revelio profile data. We infer CHRO gender using their first names. Specifically, we check first names against U.S. Social Security Administration's birth records. If we cannot infer gender through SSA records, we classify gender using OpenAI's GPT-4o.



Panel A: Employee turnover

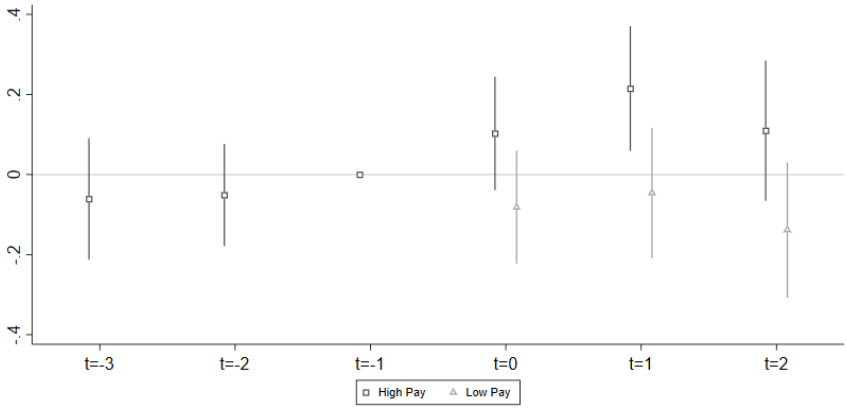


Panel B: Workforce quality

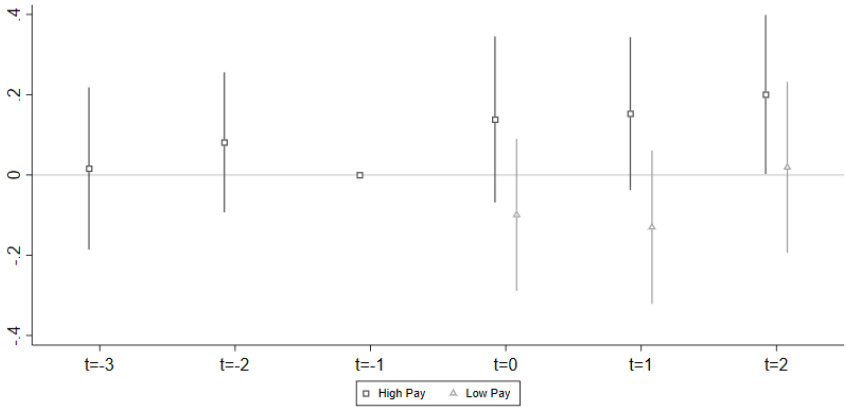


Panel C: Employee sentiment

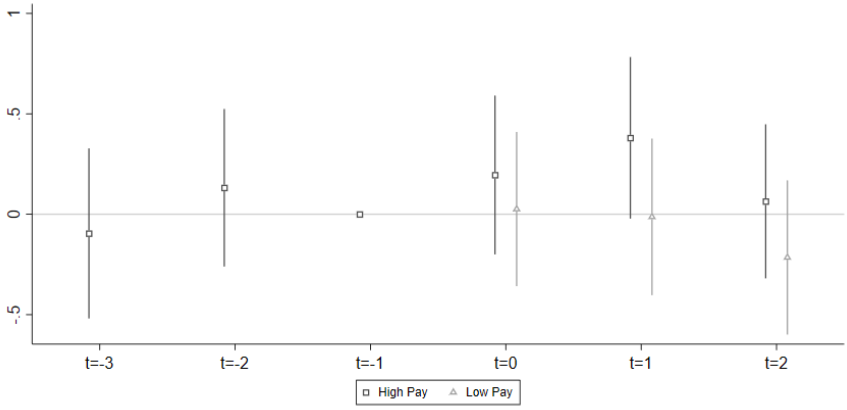
Fig. IA-2 Yearly effects. This figure plots year-specific coefficients from regressions of the turnover, workforce-quality, and employee-sentiment PCAs on the CHRO pay ratio. Specifically, we interact *CHRO Pay Ratio* with yearly indicators and plot the estimated year-specific coefficients, using the same controls and fixed effects as our main tests in Table 4 Panel B column (5), Table 5 Panel B column (4), and Table 6 Panel B column (6). The grey bars and the black lines represent 90% and 95% confidence intervals, respectively. Inferences are based on standard errors clustered by firm.



Panel A: Employee turnover

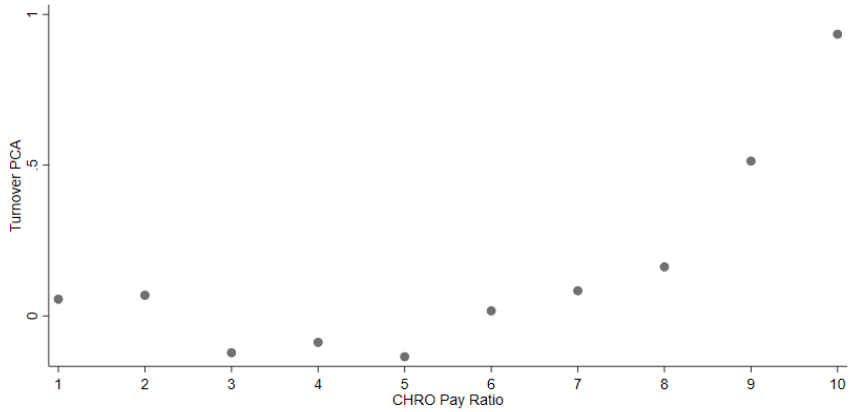


Panel B: Workforce quality

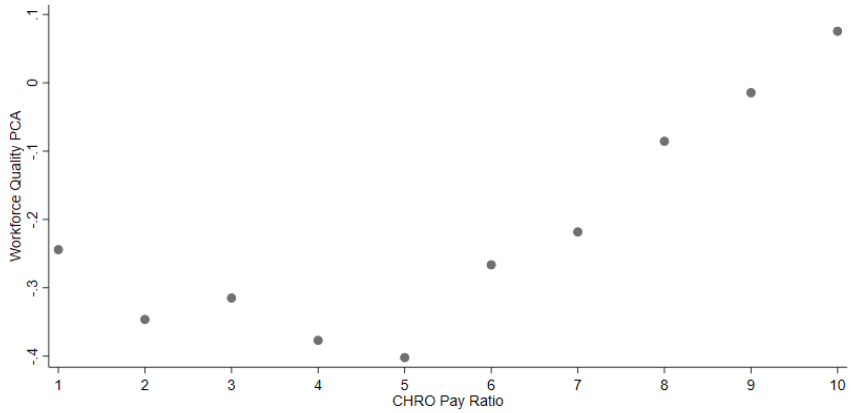


Panel C: Employee sentiment

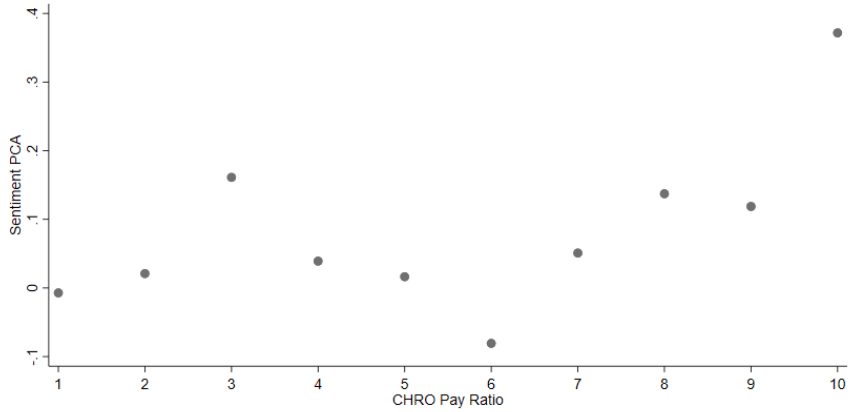
Fig. IA-3 The effect of CHRO appointments in event time. This figure presents an event-time analysis of key outcome variables in our analysis. Panels A, B, and C report summary measures of employee turnover (*Turnover PCA)*, workforce quality (*Workforce Quality PCA*), and employee sentiment (*Sentiment PCA*) as the dependent variables, respectively. The sample used for this analysis is identical to the sample used for the analysis tabulated in Table IA-14 Panel E. The grey bars and the black lines represent 90% and 95% confidence intervals, respectively. Inferences are based on standard errors clustered by firm.



Panel A: Employee turnover



Panel B: Workforce quality



Panel C: Employee sentiment

Fig. IA-4 Binned Scatterplots by CHRO pay ratio decile. This figure presents binned scatterplots of CHRO pay ratio and key outcome variables in our main analysis. For each CHRO pay ratio decile, we compute the average of *Turnover PCA*, *Workforce Quality PCA*, and *Sentiment PCA*, and plot the values.

Table IA-1
Alternative measures of CHRO compensation

	(1) Turnover PCA	(2) Workforce Quality PCA	(3) Sentiment PCA
Baseline (Results in Tables 4, 5, and 6):			
CHRO Pay Ratio	0.032***	0.036***	0.028**
	(2.98)	(4.50)	(2.36)
Alternative Transformations:			
[1] Ln(Raw Pay Ratio)	0.890***	0.482***	0.487**
	(4.99)	(3.58)	(2.13)
[2] Raw Pay Ratio	0.460***	0.202***	0.212*
	(5.33)	(2.97)	(1.81)
[3] Yearly Ranked Pay Ratio	0.030***	0.037***	0.027**
	(2.82)	(4.59)	(2.32)
Alternative Ways to Scale CHRO Pay Level:			
[4] Scaled by Highest-Paid Non-CEO NEO Pay	0.132***	0.091***	0.032
	(3.46)	(2.85)	(0.61)
[5] Scaled by Average NEO Pay	0.188***	0.177***	0.145*
	(3.04)	(3.71)	(1.72)
[6] Scaled by the Highest-Paid NEO Pay	0.642***	0.509***	0.546***
	(3.73)	(4.27)	(2.62)
Excluding Pay Ratio > 1:			
[7] Raw Pay Ratio	0.468**	0.649***	0.513**
	(2.34)	(4.06)	(2.16)
[8]Decile Ranked Pay Ratio	0.021**	0.034***	0.021*
	(2.00)	(4.23)	(1.82)
CHRO and CEO Pay Levels as Independent Variables:			
[9]Ln(CHRO Pay Level)	0.297***	0.202***	0.196***
	(5.32)	(5.18)	(3.13)
[10]Ln (CEO Pay Level)	-0.106	-0.062	-0.143*
	(-1.18)	(-1.40)	(-1.70)

This table reports results using alternative measures of CHRO compensation. With the exception of [9]-[10], each coefficient comes from a separate regression. Rows [1]-[3] report results using alternative transformations of the CHRO to CEO pay ratio, including the natural logarithm, the untransformed raw ratio, and the within-year decile-ranked ratio. Rows [4]-[6] report results using alternative denominators to construct the CHRO pay ratio, including the highest-paid non-CEO NEO compensation, the average NEO compensation, and the highest-paid NEO compensation. Rows [7]-[8] report results using raw and decile ranked pay ratios, excluding ratios that are greater than one. For rows [9]-[10], each column represents one regression. We regress outcome variables on CHRO and CEO pay levels jointly. All regressions include firm size, book-to-market, ROA, leverage, price–cost margin, and asset growth as control variables, as well as two-digit SIC industry and year fixed effects. Cluster robust t-statistics, by firm, are included in parentheses. Levels of significance are presented as follows: *p<0.1; **p<0.05; ***p<0.01.

Table IA-2
Weighted regressions adjusting for sample selection

Panel A: Human capital management (Analysis in Tables 4-6)

	(1) Pay Ratio Sample	(2) CHRO Sample	(3) Compustat Sample
	Independent variable: CHRO Pay Ratio		
Dependent variable:			
Turnover PCA	0.032***	0.037***	0.034**
	(2.98)	(3.02)	(2.13)
Workforce Quality PCA	0.036***	0.038***	0.031***
	(4.50)	(4.59)	(3.29)
Sentiment PCA	0.028**	0.027**	0.030*
	(2.36)	(2.09)	(1.72)

Panel B: Intellectual capital creation (Analysis in Table 7)

	(1) Pay Ratio Sample	(2) CHRO Sample	(3) Compustat Sample
	Dependent variable: IC PCA		
Independent variable:			
Turnover PCA	0.355***	0.307***	0.195***
	(6.51)	(5.79)	(4.20)
Workforce Quality PCA	0.283***	0.281***	0.131*
	(3.09)	(3.29)	(1.71)
Sentiment PCA	0.202***	0.187***	0.139***
	(5.35)	(5.23)	(4.29)

Panel C: Stock returns (Analysis in Table 8)

	(1) Pay Ratio Sample	(2) CHRO Sample	(3) Compustat Sample
	Independent variable: IC PCA		
Dependent variable:			
Ret	1.176***	1.578***	1.982**
	(2.88)	(2.80)	(2.41)
AdjRet	1.197***	1.600***	1.993**
	(2.94)	(2.85)	(2.44)

This table reports weighted least squares regressions corresponding to the analyses in Tables 4–8. Each coefficient reflects the estimate from a separate regression. For parsimony, we present results using the PCA measures and the key independent variables of interest. Column (1) reproduces the baseline estimates from Tables 4–8. Column (2) reestimates these regressions using weights derived from a selection model predicting whether firms with identified CHROs in Revelio Labs profile data are covered by Equilar. Column (3) reestimates the regressions using weights from a selection model predicting whether Compustat firms are covered by Equilar. These weighted specifications adjust for potential sample selection, so the results in column (2) can be interpreted as representative of the broader universe of firms with CHROs, while the results in column (3) approximate those for the full population of public firms. All regressions include firm size, book-to-market, ROA, leverage, price–cost margin, and asset growth as control variables, as well as two-digit SIC industry and year fixed effects. Cluster robust t-statistics, by firm, are included in parentheses. Levels of significance are presented as follows: *p<0.1; **p<0.05; ***p<0.01.

Table IA-3
CHRO pay ratio by gender

	(1)	(2)	(3)	(4)
		CHRO Pay Ratio		
Female CHRO	-0.218	-0.248	-0.265	-0.276
	(-0.92)	(-0.97)	(-1.49)	(-1.56)
Sample	Firms with non-missing CHRO names in Equilar data		Full Sample	
Controls	No	Yes	No	Yes
Ind, Year Fixed Effects	No	Yes	No	Yes
Observations	1,165	1,102	2,580	2,486
Adjusted R^2	0.001	0.129	0.002	0.120

This table reports results from an analysis of whether female CHROs are compensated differently from male CHROs. We regress *CHRO Pay Ratio* on an indicator for whether the CHRO is female. In columns (2) and (4), we additionally include control variables and fixed effects in our main analysis, including firm size, book-to-market, ROA, leverage, price–cost margin, asset growth, as well as two-digit SIC industry and year fixed effects. Cluster robust t-statistics, by firm, are included in parentheses. In columns (1) and (2), we use a subsample of firms with non-missing CHRO names in Equilar data. In columns (3) and (4), we additionally consider firms with missing CHRO names using Revelio profile data. We infer CHRO gender using their first names. See Figure IA-1 notes for information on how we infer CHRO gender. Levels of significance are presented as follows: $^{*}p<0.1$; $^{**}p<0.05$; $^{***}p<0.01$.

Table IA-4
ANOVA analysis and alternative fixed effects

Panel A: Number of observations per firm

Observations	Distribution of Firms	Cumulative Percentages
1	29.71%	29.71%
2	20.89%	50.60%
3	14.86%	65.46%
4	10.12%	75.58%
5	8.64%	84.22%
6	5.20%	89.42%
7+	10.58%	100.00%

Panel B: Sources of Variation

Fixed Effects	R^2	1-R^2	Within SD	Within / Total SD	Within/Total Variance
Year	0.0030	0.9970	2.8685	0.9638	0.9971
Two digit SIC	0.0699	0.9301	2.7690	0.9639	0.9291
Year, two-digit SIC	0.0729	0.9271	2.7645	0.9623	0.9261
Firm	0.5867	0.4133	1.8353	0.6389	0.4082
Firm, Year	0.5885	0.4115	1.8313	0.6388	0.4064

Panel C: Industry-year fixed effects

Dependent Variable	(1) Table & Column	(2) Coefficient	(3) t-statistic
Turnover	Table 4B col (1)	0.160	2.46
Inflow	Table 4B col (2)	0.177	2.32
Outflow	Table 4B col (3)	0.150	2.47
Core	Table 4B col (4)	0.099	2.77
Turnover PCA	Table 4B col (5)	0.032	2.71
% Competitors	Table 5B col (1)	0.613	3.66
Degree Ranking	Table 5B col (2)	1.485	2.76
% Lower Pay	Table 5B col (3)	0.204	2.26
Workforce Quality PCA	Table 5B col (4)	0.038	4.38
Comp & Benefits	Table 6B col (1)	0.012	2.07
Career Opportunities	Table 6B col (2)	0.012	2.33
Culture & Values	Table 6B col (3)	0.014	2.20
Work-life Balance	Table 6B col (4)	0.012	2.07
Glassdoor	Table 6B col (5)	0.015	2.74
Sentiment PCA	Table 6B col (6)	0.033	2.50

This table provides additional information on the structure of the CHRO pay ratio data. Panel A reports the distribution of sample firms by the number of observations in the pay ratio data. The majority of the firms have 1-2 observations. Panel B presents results from an ANOVA analysis. We regress *CHRO Pay Ratio* on various fixed effects, and report their R^2 and $1 - R^2$. In addition, we report the residualized standard deviation, its ratio to the total unresidualized standard deviation, and the ratio of residualized variance to unresidualized variance. Here, we use the decile-ranked version used in our regression analysis. Using the actual pay ratios generates quantitatively similar results. Panel C repeats the analyses in Tables 4-6 with industry-year fixed effects. Cluster robust t-statistics, by firm, are reported in column (3).

Table IA-5

Standard errors clustered by two-digit SIC industry

	(1)	(2)	(3)
		t-statistics	
Dependent Variable	Table & Column	Cluster by firm	Cluster by SIC2
Turnover	Table 4B col (1)	2.71	1.34
Inflow	Table 4B col (2)	2.51	1.27
Outflow	Table 4B col (3)	2.75	1.38
Core	Table 4B col (4)	2.96	1.82
Turnover PCA	Table 4B col (5)	2.98	1.47
% Competitors	Table 5B col (1)	3.33	2.97
Degree Ranking	Table 5B col (2)	2.84	2.66
% Lower Pay	Table 5B col (3)	2.33	2.38
Workforce Quality PCA	Table 5B col (4)	4.50	4.28
Comp & Benefits	Table 6B col (1)	2.17	2.13
Career Opportunities	Table 6B col (2)	2.32	2.65
Culture & Values	Table 6B col (3)	1.91	1.94
Work-life Balance	Table 6B col (4)	1.96	2.01
Glassdoor	Table 6B col (5)	2.30	2.04
Sentiment PCA	Table 6B col (6)	2.36	2.31
Any Training	Table 6C col (2)	0.72	0.49
Formal Training	Table 6C col (4)	0.26	0.19
Informal Training	Table 6C col (6)	4.31	2.30
Patents	Table 7A col (1)	3.02	2.75
Patent Value	Table 7A col (2)	2.66	3.43
New Products	Table 7A col (3)	1.82	1.82
Knowledge Capital	Table 7A col (4)	3.80	3.86
IC PCA	Table 7A col (5)	3.48	3.72
Patents	Table 7B col (1)	5.20	6.58
Patent Value	Table 7B col (2)	5.29	6.28
New Products	Table 7B col (3)	4.56	4.08
Knowledge Capital	Table 7B col (4)	6.72	3.53
IC PCA	Table 7B col (5)	6.51	7.53
Patents	Table 7C col (1)	2.66	1.70
Patent Value	Table 7C col (2)	2.26	1.45
New Products	Table 7C col (3)	1.96	1.34
Knowledge Capital	Table 7C col (4)	3.01	2.85
IC PCA	Table 7C col (5)	3.09	1.87
Patents	Table 7D col (1)	4.49	4.30
Patent Value	Table 7D col (2)	4.25	3.77
New Products	Table 7D col (3)	3.18	3.95
Knowledge Capital	Table 7D col (4)	5.77	2.80
IC PCA	Table 7D col (5)	5.35	4.02
Ret	Table 8A col (1)	2.26	1.62
Ret	Table 8A col (2)	2.26	1.83
Ret	Table 8A col (3)	2.88	2.89
AdjRet	Table 8B col (1)	3.46	2.65
AdjRet	Table 8B col (2)	3.19	2.68
AdjRet	Table 8B col (3)	2.94	2.89
Turnover PCA	Table 10 col (1)	3.47	1.88
Workforce Quality PCA	Table 10 col (2)	4.41	3.97
Sentiment PCA	Table 10 col (3)	1.98	2.09
PreHirePatent1Yr	Table 11B col (1)	3.31	3.51
PreHirePatent3Yr	Table 11B col (2)	3.50	3.97
PostHirePatent1Yr	Table 11B col (3)	3.89	4.29
PostHirePatent3Yr	Table 11B col (4)	4.05	3.63

This table reports results based on clustering by two-digit SIC industry. We re-estimate all panel regressions from Tables 4-8, 10 and 11. For tables with multiple panels reporting results under different fixed effects structures (i.e., Tables 4, 5, 6, 11), we report results with industry and year fixed effects. All regressions include firm size, book-to-market, ROA, leverage, price–cost margin, and asset growth as control variables, as well as two-digit SIC industry and year fixed effects. Column (1) reports the location of the corresponding result in the paper. Column (2) reproduces the t-statistics reported in the paper. Column (3) reports the t-statistics based on standard errors clustered by two-digit SIC industry.

Table IA-6

Employee turnover by job function

	(1)	(2)	(3)	(4)
			Turnover	
	1 (Core)	2	3	4 (Non-Core)
CHRO Pay Ratio	0.096***	0.038*	0.028	0.005
	(2.96)	(1.74)	(1.19)	(0.22)
Controls	Yes	Yes	Yes	Yes
Ind, Year Fixed Effects	Yes	Yes	Yes	Yes
Observations	2,537	2,537	2,537	2,537
Adjusted R^2	0.401	0.316	0.324	0.486

This table expands the analysis in Table 4 and examines turnover by job function. The dependent variable is turnover of employees in specific job functions. We follow Larcker et al. (2025) and partition employees into job functions based on yearly average salary. We sort the yearly average salaries into quartiles to form four categories characterizing the extent to which a position relates to the revenue-generating function of a firm. All regressions include firm size, book-to-market, ROA, leverage, price–cost margin, and asset growth as control variables. Cluster robust t-statistics, by firm, are included in parentheses. Levels of significance are presented as follows: *p<0.1; **p<0.05; ***p<0.01.

Table IA-7
Principal component analysis

Panel A: Employee turnover

	(1)	(2)	(3)	(4)	(5)	(6)
Component	Eigenvalue	Difference	Proportion	Cumulative	Variable	Loading on Factor1
Factor1	3.24	2.80	0.81	0.81	Turnover	0.98
Factor2	0.43	0.11	0.11	0.92	Core	0.82
Factor3	0.32	0.32	0.08	1.00	Inflow	0.91
Factor4	0.00	–	0.00	1.00	Outflow	0.87

Panel B: Quality of workforce dynamics

	(1)	(2)	(3)	(4)	(5)	(6)
Component	Eigenvalue	Difference	Proportion	Cumulative	Variable	Loading on Factor1
Factor1	1.12	0.16	0.37	0.37	% Competitors	0.62
Factor2	0.96	0.05	0.32	0.69	Degree Ranking	0.54
Factor3	0.92	–	0.31	1.00	% Lower Pay	0.71

Panel C: Employee sentiment

	(1)	(2)	(3)	(4)	(5)	(6)
Component	Eigenvalue	Difference	Proportion	Cumulative	Variable	Loading on Factor1
Factor1	3.61	3.04	0.72	0.72	Comp & Benefits	0.84
Factor2	0.57	0.25	0.11	0.84	Career Opportunities	0.91
Factor3	0.32	0.05	0.06	0.90	Culture & Values	0.89
Factor4	0.27	0.05	0.05	0.96	Work-life Balance	0.85
Factor5	0.22	–	0.04	1.00	Glassdoor	0.76

Panel D: Intellectual capital

	(1)	(2)	(3)	(4)	(5)	(6)
Component	Eigenvalue	Difference	Proportion	Cumulative	Variable	Loading on Factor1
Factor1	2.66	1.96	0.67	0.67	Patents	0.93
Factor2	0.70	0.13	0.18	0.84	Patent Value	0.92
Factor3	0.57	0.50	0.14	0.98	New Products	0.64
Factor4	0.07	–	0.02	1.00	Knowledge Capital	0.74

This table presents results from principal component analyses of key variables in our analysis. Panel A focuses on the key variables in Table 4, including *Turnover, Inflow, Outflow*, and *Core*. Panel B focuses on the key variables in Table 5, including *% Competitors, Degree Ranking*, and *% Lower Pay*. Panel C focuses on the ratings variables in Table 6. Panel D focuses on the intellectual capital measures in Table 7. The PCA measures we generate are based on the first component in each panel. All of them have eigenvalues greater than one. Columns (5)-(6) report how each underlying variable loads on the PCA factor. We estimate the principal components using all firm-years with available data on the underlying variables, including observations outside our regression samples, to maximize estimation precision. Consequently, the resulting PCA scores need not have zero mean within any particular subsample.

Table IA-8
Table 7 robustness

Panel A: Employee turnover

	(1) Patents	(2) Patent Value	(3) New Products	(4) Knowledge Capital	(5) IC PCA
Turnover	0.033***	0.057***	0.011***	0.065***	0.053***
	(4.52)	(4.58)	(3.90)	(5.73)	(5.59)
Core	0.098***	0.163***	0.037***	0.165***	0.153***
	(5.94)	(6.16)	(5.42)	(6.34)	(7.32)
Inflow	0.026***	0.045***	0.008***	0.053***	0.042***
	(4.34)	(4.39)	(3.57)	(5.60)	(5.32)
Outflow	0.031***	0.055***	0.012***	0.062***	0.052***
	(4.37)	(4.43)	(3.97)	(5.39)	(5.45)

Panel B: Quality of workforce dynamics

	(1) Patents	(2) Patent Value	(3) New Products	(4) Knowledge Capital	(5) IC PCA
% Competitors	0.002	0.003	-0.000	0.006	0.003
	(0.89)	(0.66)	(-0.27)	(1.63)	(0.89)
Degree Ranking	0.002***	0.003**	0.001*	0.002	0.003***
	(2.63)	(2.40)	(1.77)	(1.39)	(2.59)
% Lower Pay	0.005	0.007	0.004*	0.021*	0.011
	(0.87)	(0.79)	(1.94)	(1.93)	(1.47)

Panel C: Employee sentiment

	(1) Patents	(2) Patent Value	(3) New Products	(4) Knowledge Capital	(5) IC PCA
Comp & Benefits	0.310***	0.466***	0.037	0.659***	0.436***
	(4.45)	(4.16)	(1.41)	(4.93)	(4.69)
Career Opportunities	0.238***	0.343***	0.065***	0.621***	0.370***
	(3.86)	(3.52)	(2.64)	(5.54)	(4.63)
Culture & Values	0.219***	0.345***	0.082***	0.551***	0.363***
	(4.20)	(4.00)	(3.49)	(5.38)	(5.24)
Work-life Balance	0.223***	0.336***	0.082***	0.612***	0.371***
	(3.52)	(3.28)	(3.40)	(5.05)	(4.49)
Glassdoor	0.304***	0.470***	0.098***	0.691***	0.474***
	(4.64)	(4.32)	(3.40)	(5.50)	(5.39)

This table presents results from robustness analyses of the correlation between intellectual capital creation and workforce dynamics and employee sentiment in Table 7, using the underlying variables that go into the PCA analyses. Each coefficient represents a result from a regression. All regressions include firm size, book-to-market, ROA, leverage, price–cost margin, and asset growth as control variables, as well as two-digit SIC industry and year fixed effects. Cluster robust t-statistics, by firm, are included in parentheses. Levels of significance are presented as follows: *p<0.1; **p<0.05; ***p<0.01.

Table IA-9

Table 7 Panel A robustness: Controlling for CTO existence and pay

Panel A: CTO indicator

	(1) Patents	(2) Patent Value	(3) New Products	(4) Knowledge Capital	(5) IC PCA
CHRO Pay Ratio	0.037***	0.053**	0.008*	0.080***	0.054***
	(2.89)	(2.50)	(1.65)	(3.71)	(3.34)
CTO Indicator	0.333***	0.598***	0.135***	0.525***	0.536***
	(3.71)	(3.78)	(3.57)	(3.62)	(4.67)
Controls	Yes	Yes	Yes	Yes	Yes
Ind, Year Fixed Effects	Yes	Yes	Yes	Yes	Yes
Observations	2,912	2,912	3,236	2,912	2,537
Adjusted R^2	0.368	0.388	0.192	0.635	0.445

Panel B: Ln(CTO Pay)

	(1) Patents	(2) Patent Value	(3) New Products	(4) Knowledge Capital	(5) IC PCA
CHRO Pay Ratio	0.037***	0.053**	0.008*	0.080***	0.054***
	(2.89)	(2.51)	(1.65)	(3.72)	(3.35)
Ln(CTO Pay)	0.028***	0.050***	0.011***	0.041***	0.044***
	(3.76)	(3.84)	(3.53)	(3.52)	(4.67)
Controls	Yes	Yes	Yes	Yes	Yes
Ind, Year Fixed Effects	Yes	Yes	Yes	Yes	Yes
Observations	2,912	2,912	3,236	2,912	2,537
Adjusted R^2	0.368	0.389	0.192	0.635	0.444

This table presents results from robustness analyses of the correlation between intellectual capital creation and CHRO pay ratio in Table 7 Panel A. In Panels A and B, we include an indicator for whether a firm has a chief technology officer or chief innovation officer (*CTO Indicator*), and the natural logarithm of one plus CTO pay (Ln(*CTO Pay*)), respectively. We identify CTOs through Revelio Labs profile data. Specifically, we search for the following titles: chief technology officer, chief technical officer, chief technology and innovation officer, chief technology and digital officer, chief technology and product officer, chief innovation officer, chief innovation and technology officer, chief innovation and strategy officer, and chief innovation and digital officer. We also search for CTO, but not CIO, as CIO alone is almost always chief information officer. We exclude false positives that are subordinates to CTOs (e.g., Executive assistant to CTO). We use estimated pay rather than a technology/innovation-executive-to-CEO pay ratio because the executive-pay estimate and disclosed CEO compensation come from different data sources. All regressions include firm size, book-to-market, ROA, leverage, price–cost margin, and asset growth as control variables, as well as two-digit SIC industry and year fixed effects. Cluster robust t-statistics, by firm, are included in parentheses. Levels of significance are presented as follows: *p<0.1; **p<0.05; ***p<0.01.

Table IA-10
Innovation risk-taking

	(1) Patent Value CV	(2) Citation CV
Panel A:		
CHRO Pay Ratio	0.003*	0.014**
	(1.71)	(2.05)
Panel B:		
Turnover PCA	0.019***	0.086***
	(4.12)	(4.52)
Panel C:		
Workforce Quality PCA	0.009	0.065*
	(1.10)	(1.95)
Panel D:		
Sentiment PCA	0.012***	0.051***
	(3.51)	(3.39)

This table presents an analysis of how CHRO pay ratio, workforce dynamics, and employee sentiment correlate with innovation risk-taking. We measure innovation risk-taking using the dispersion of patent value and patent citations. We capture dispersion using coefficient of variation (CV). All regressions include firm size, book-to-market, ROA, leverage, price–cost margin, and asset growth as control variables, as well as two-digit SIC industry and year fixed effects. For parsimony, we present the coefficient of interest in each regression. Cluster robust t-statistics, by firm, are included in parentheses. Levels of significance are presented as follows: *p<0.1; **p<0.05; ***p<0.01.

Table IA-11
Alternative measures of firm performance

Panel A: Tobin's Q

	(1)	(2)	(3)
		Tobin's Q	
IC PCA	0.215***	0.273***	0.306***
	(6.40)	(8.98)	(6.69)
Controls	No	Yes	Yes
Ind, Year Fixed Effects	No	No	Yes
Observations	3,347	3,239	3,235
Adjusted R^2	0.066	0.257	0.353

Panel B: EV/EBITDA ratio

	(1)	(2)	(3)
		EV/EBITDA	
IC PCA	0.888**	0.925*	0.798
	(2.06)	(1.94)	(1.20)
Controls	No	Yes	Yes
Ind, Year Fixed Effects	No	No	Yes
Observations	3,206	3,101	3,097
Adjusted R^2	0.003	0.020	0.028

Panel C: P/E ratio

	(1)	(2)	(3)
		PE Ratio	
IC PCA	1.569**	1.256**	0.407
	(2.54)	(2.02)	(0.47)
Controls	No	Yes	Yes
Ind, Year Fixed Effects	No	No	Yes
Observations	3,351	3,239	3,235
Adjusted R^2	0.002	0.014	0.020

Panel D: Profit growth

	(1)	(2)	(3)
		Profit Growth	
IC PCA	0.049*	0.048*	0.041
	(1.80)	(1.74)	(1.06)
Controls	No	Yes	Yes
Ind, Year Fixed Effects	No	No	Yes
Observations	3,349	3,336	3,332
Adjusted R^2	0.001	0.000	0.007

This table repeats the analysis in Table 8 with alternative measures of firm performance. Panels A-D report results using Tobin's Q, EV/EBITDA, P/E ratio, and profit growth, respectively. Panels A-C include firm size, ROA, leverage, price–cost margin, and asset growth as control variables. Panel D includes firm size, ROA, leverage, and price–cost margin as control variables. Column (3) of each panel additionally includes two-digit SIC industry and year fixed effects. Cluster robust t-statistics, by firm, are included in parentheses. Levels of significance are presented as follows: *p<0.1; **p<0.05; ***p<0.01.

Table IA-12

Table 8 robustness

Panel A: Raw return

	(1)	(2)	(3)	(4)
			Ret	
IndepVar:	Patents	Patent Value	New Products	Knowledge Capital
IndepVar	1.571***	1.454***	-1.577	0.261
	(2.92)	(4.80)	(-1.64)	(0.81)
Controls	Yes	Yes	Yes	Yes
Ind, Year Fixed Effects	Yes	Yes	Yes	Yes
Observations	3,232	3,232	3,232	3,232
Adjusted R^2	0.119	0.123	0.118	0.117

Panel B: Market adjusted return

	(1)	(2)	(3)	(4)
			AdjRet	
IndepVar:	Patents	Patent Value	New Products	Knowledge Capital
IndepVar	1.632***	1.471***	-1.535	0.220
	(3.06)	(4.87)	(-1.62)	(0.69)
Controls	Yes	Yes	Yes	Yes
Ind, Year Fixed Effects	Yes	Yes	Yes	Yes
Observations	3,232	3,232	3,232	3,232
Adjusted R^2	0.037	0.041	0.034	0.034

This table repeats the analysis in Table 8 with underlying measures of intellectual capital as the independent variable. Panels A and B report results using raw return and market adjusted return as the dependent variable. All regressions include firm size, book-to-market, ROA, leverage, price–cost margin, and asset growth as control variables, as well as two-digit SIC industry and year fixed effects. Cluster robust t-statistics, by firm, are included in parentheses. Levels of significance are presented as follows: *p<0.1; **p<0.05; ***p<0.01.

Table IA-13
CHRO existence

Panel A: Main analysis

	(1)	(2)	(3)
		Workforce	
	Turnover PCA	Quality PCA	Sentiment PCA
Has CHRO	0.330***	-0.075***	0.104***
	(8.28)	(-2.89)	(2.79)
Controls	Yes	Yes	Yes
Ind, Year Fixed Effects	Yes	Yes	Yes
Observations	26,313	20,621	17,425
Adjusted R^2	0.310	0.176	0.072

Panel B: Control for other dimensions of human capital management

	(1)	(2)	(3)
		Workforce	
	Turnover PCA	Quality PCA	Sentiment PCA
Has CHRO	0.309***	0.006	0.063
	(7.31)	(0.21)	(1.60)
Other HCM measures:			
HR Team Size	0.083***	-0.075***	0.084***
	(4.34)	(-5.24)	(3.77)
HR Pay	0.662***	0.846***	0.408***
	(7.32)	(12.78)	(3.19)
Organizational Capital	-0.074***	-0.042***	-0.032***
	(-5.58)	(-4.70)	(-2.62)
CHRO as NEO	-0.161***	-0.021	-0.002
	(-2.66)	(-0.56)	(-0.03)
Fortune 100	0.486***	0.129	0.678***
	(3.65)	(1.42)	(6.76)
Controls	Yes	Yes	Yes
Ind, Year Fixed Effects	Yes	Yes	Yes
Observations	24,637	20,160	16,912
Adjusted R^2	0.342	0.225	0.079

This table examines the association between CHRO existence and our PCA measures in Tables 4–6. The sample includes all firms with Revelio Labs coverage from 2014-2023. *Has CHRO* is an indicator for whether the firm has a CHRO according to Revelio Labs data. We discuss the methodology in Figure 1. Panel A regresses the PCA measures on *Has CHRO*, controls, and two-digit SIC and year fixed effects. Panel B additionally considers the human capital management measures in Table 10. All regressions include firm size, book-to-market, ROA, leverage, price–cost margin, and asset growth as control variables. Cluster robust t-statistics, by firm, are included in parentheses. Levels of significance are presented as follows: *p<0.1; **p<0.05; ***p<0.01.

Table IA-14
Difference-in-differences analysis

Panel A: Average effects: All Revelio Labs CHRO appointments

	(1)	(2)	(3)
	Turnover PCA	Workforce Quality PCA	Sentiment PCA
Treat × Post	0.178***	0.026	-0.018
	(3.22)	(0.58)	(-0.19)
Controls	Yes	Yes	Yes
Ind-Cohort and Year-Cohort Fixed Effects	Yes	Yes	Yes
Observations	9,251	6,484	6,983
Adjusted R^2	0.470	0.297	0.134

Panel B: Average effects: All Equilar appointments

	(1)	(2)	(3)
	Turnover PCA	Workforce Quality PCA	Sentiment PCA
Treat × Post	-0.021	0.023	-0.007
	(-0.38)	(0.51)	(-0.08)
Controls	Yes	Yes	Yes
Ind-Cohort and Year-Cohort Fixed Effects	Yes	Yes	Yes
Observations	6,775	4,725	5,358
Adjusted R^2	0.433	0.324	0.146

Panel C: Average effects: Revelio Labs and survey-matched CHRO appointments

	(1)	(2)	(3)
	Turnover PCA	Workforce Quality PCA	Sentiment PCA
Treat × Post	0.075	0.027	0.069
	(1.10)	(0.39)	(0.46)
Controls	Yes	Yes	Yes
Ind-Cohort and Year-Cohort Fixed Effects	Yes	Yes	Yes
Observations	3,281	1,929	2,555
Adjusted R^2	0.499	0.409	0.141

Panel D: Variation in pay ratio: Panel B sample

	(1)	(2)	(3)
	Turnover PCA	Workforce Quality PCA	Sentiment PCA
Treat × Post	-0.106*	-0.031	-0.063
	(-1.87)	(-0.65)	(-0.66)
Treat × Post × High Pay	0.252***	0.162***	0.166**
	(3.70)	(3.82)	(2.15)
Controls	Yes	Yes	Yes
Ind-Cohort and Year-Cohort Fixed Effects	Yes	Yes	Yes
Observations	6,775	4,725	5,358
Adjusted R^2	0.435	0.326	0.146

Table IA-14
Difference-in-differences analysis (cont'd)

Panel E: Variation in pay ratio: Panel C sample

	(1) Turnover PCA	(2) Workforce Quality PCA	(3) Sentiment PCA
Treat × Post	-0.055	-0.102	-0.083
	(-0.68)	(-1.25)	(-0.51)
Treat × Post × High Pay	0.233**	0.234***	0.285**
	(2.29)	(3.09)	(2.20)
Controls	Yes	Yes	Yes
Ind-Cohort and Year-Cohort Fixed Effects	Yes	Yes	Yes
Observations	3,281	1,929	2,555
Adjusted R^2	0.501	0.413	0.143

Panel F: Variation in pay ratio: Panel C sample and *High Pay* defined using terciles

	(1) Turnover PCA	(2) Workforce Quality PCA	(3) Sentiment PCA
Treat × Post	-0.038	-0.035	-0.054
	(-0.48)	(-0.46)	(-0.34)
Treat × Post × High Pay	0.261**	0.147*	0.292**
	(2.33)	(1.91)	(2.09)
Controls	Yes	Yes	Yes
Ind-Cohort and Year-Cohort Fixed Effects	Yes	Yes	Yes
Observations	3,281	1,929	2,555
Adjusted R^2	0.501	0.410	0.143

This table presents difference-in-differences analyses of CHRO appointments. Panels A-C report average effects using different samples and definitions of CHRO appointments. In Panel A, we use all CHRO appointments identified through Revelio Labs. Treated firms are those that appoint a CHRO. If a firm appoints multiple CHROs during our sample period, we define the event year as the earliest year of appointment. In Panel B, we focus on the Equilar data and define the event year as the first year with pay ratio data. Treated firms are those with CHRO pay ratio data. In Panel C, we focus on the subset of CHROs in the Equilar data, requiring the first year in the pay ratio data to coincide with the CHRO appointment year identified through Revelio. In all three panels, each treated firm is matched with replacement to a firm without a CHRO using propensity score matching based on firm characteristics measured in the year prior to the event. Specifically, in each calendar year, we pool firms with event years and firms without CHROs during our sample period and estimate a propensity score model using all control variables from our regression analysis together with Fama-French 12 industry fixed effects. We retain all treated firms and their matched controls, keeping three years before and after the event year to form a cohort. We repeat this procedure for all years in our sample except 2023 (which lacks post-treatment years) and stack the resulting cohorts to construct the final sample. For Panels B and C, we require the control group not to have a CHRO as indicated by any of the datasets. Panels D-F further interact the DiD estimator with an indicator, *High Pay*, which equals one for firm-years with above-median (Panels D, E) or top-tercile (Panel F) CHRO pay ratios, using the samples in Panels B and C. We do not perform this test for the sample in Panel A because pay ratio data is unavailable for the Revelio-only sample. Because CHRO pay data exist only for treated firms in the post period, *High Pay* equals zero for control firms in the post period and for all firms in the pre period. As a result, $Treat \times Post \times HighPay$ coincides with $HighPay$ (and likewise for the low-pay group), so the pay-partitioned estimates are identified only from treated post-event observations. Interacting the pay-group indicators with the year-cohort or industry-cohort fixed effects would therefore absorb the variation identifying these estimates, and such specifications are not separately identified under this construction. All regressions include firm size, book-to-market, ROA, leverage, price-cost margin, and asset growth as control variables, as well as two-digit SIC industry-cohort and year-cohort fixed effects. Cluster robust t-statistics, by firm, are included in parentheses. Levels of significance are presented as follows: *p<0.1; **p<0.05; ***p<0.01.

Table IA-15
Market reactions to CHRO appointments

Panel A: Average stock market reactions to CHRO appointments

	(1) Mean CAR	(2) t-statistic	(3) Positive: Negative
$[-1, 5]$	0.238	0.88	161:147
$[-1, 10]$	0.507	1.39	166:141
$[-5, 5]$	0.038	0.11	145:163
$[-5, 10]$	0.317	0.75	147:160
$[-10, 10]$	-0.046	-0.09	152:155

Panel B: CHRO pay ratio and stock market reactions

	(1)	(2)	(3)	(4)
	$\text{CAR}^{[-5,10]}$		$\text{CAR}^{[-10,10]}$	
Mean CHRO Pay Ratio	0.501**	0.594**	0.560**	0.664**
	(2.37)	(2.32)	(2.30)	(2.22)
Controls	Yes	Yes	Yes	Yes
Fixed Effects	Year	Ind, Year	Year	Ind, Year
Observations	303	303	303	303
Adjusted R^2	0.035	-0.011	0.042	-0.005

This table presents an analysis of market reactions to CHRO appointments. Panel A presents the results for average market reactions using various measurement windows. Columns (1), (2), and (3) report the mean cumulative abnormal returns (CAR), t-statistics from a test of whether the returns equal zero, and the number of positive and negative stock price reactions. Panel B presents results from regressions of CAR on the firm average CHRO pay ratio. The dependent variable is CAR from $t \in [-5, 10]$ or $[-10, 10]$, with expected returns computed using the Carhart four-factor model. *Mean CHRO Pay Ratio* is the average *CHRO Pay Ratio* at the firm level. We compute firm averages because the exact pay ratio in the initial year of appointment is not necessarily available. CHRO appointments are identified through Capital IQ's Key Development database with keyword searches. We use the keywords in Appendix A to identify CHROs. We delete CHRO departures by dropping news events containing "retire," "depart," "resign," "cessation," "step down," and "no longer" in the title. We further require "appoint" or "promote" to be in the news headline to capture appointments. We retain appointments for firms in our sample. Because not all firms publicly announce CHRO appointments and not all announcements can be matched to pay ratio data, this analysis covers a subset of firms that enter our main analysis. All regressions include firm size, book-to-market, ROA, leverage, price–cost margin, and asset growth as control variables. Some specifications also include two-digit SIC industry and/or year fixed effects. Cluster robust t-statistics, by firm, are included in parentheses. Levels of significance are presented as follows: *p<0.1; **p<0.05; ***p<0.01.

Table IA-16
NEO subsample analysis

Panel A: Table 4 analysis

	(1) Turnover	(2) Inflow	(3) Outflow	(4) Core	(5) Turnover PCA
No Fixed Effects	0.446***	0.423**	0.478***	0.316***	0.094***
	(2.99)	(2.48)	(3.38)	(3.72)	(3.43)
Ind, Year Fixed Effects	0.201	0.167	0.244**	0.208***	0.048**
	(1.65)	(1.16)	(2.01)	(2.94)	(2.15)

Panel B: Table 5 analysis

	(1) % Competitors	(2) Degree Ranking	(3) % Lower Pay	(4) Workforce Quality PCA
No Fixed Effects	0.793**	3.775***	0.226	0.080***
	(2.12)	(3.16)	(1.25)	(4.10)
Ind, Year Fixed Effects	0.264	2.765**	0.086	0.036*
	(0.85)	(2.21)	(0.47)	(1.92)

Panel C: Table 6 analysis

	(1) Comp & Benefits	(2) Career Opportunities	(3) Culture & Values	(4) Work-life Balance	(5) Glassdoor	(6) Sentiment PCA
No Fixed Effects	0.014	0.028**	0.033**	0.035**	0.020*	0.065**
	(1.09)	(2.23)	(2.18)	(2.40)	(1.73)	(2.22)
Ind, Year Fixed Effects	0.026**	0.031**	0.035**	0.031**	0.032**	0.078***
	(2.20)	(2.50)	(2.29)	(2.32)	(2.55)	(2.62)

This table repeats the analysis in Tables 4–6 using the subsample of CHROs who are NEOs. For parsimony, we report only the coefficient on *CHRO Pay Ratio*. In each panel, the first row reports the results without fixed effects, corresponding to Panel A in each of Tables 4–6. The second row reports the results with industry and year fixed effects, corresponding to Panel B in each of Tables 4–6. All regressions include firm size, book-to-market, ROA, leverage, price–cost margin, and asset growth as control variables. Cluster robust t-statistics, by firm, are included in parentheses. Levels of significance are presented as follows: *p<0.1; **p<0.05; ***p<0.01.

Table IA-17
Additional horserace analysis

Panel A: Ewens et al. (2025) organization capital as the only additional determinant

	(1) Turnover PCA	(2) Workforce Quality PCA	(3) Sentiment PCA
CHRO Pay Ratio	0.012	0.033***	0.036**
	(0.75)	(2.94)	(2.15)
Ewens et al. (2025) Org Cap	-0.054	0.023	-0.010
	(-1.42)	(1.11)	(-0.32)
Controls	Yes	Yes	Yes
Ind, Year Fixed Effects	Yes	Yes	Yes
Observations	1,060	881	992
Adjusted R^2	0.429	0.236	0.114

Panel B: Ewens et al. (2025) replacing the Peters and Taylor (2017) measure

	(1) Turnover PCA	(2) Workforce Quality PCA	(3) Sentiment PCA
CHRO Pay Ratio	0.023	0.034***	0.028
	(1.59)	(3.18)	(1.38)
HR Team Size	0.030	0.041	0.265***
	(0.60)	(0.89)	(2.98)
HR Pay	1.046***	0.707**	0.688
	(2.68)	(1.99)	(1.36)
CHRO as NEO	0.011	-0.018	-0.056
	(0.13)	(-0.27)	(-0.44)
Fortune 100	0.328	0.155	0.478*
	(1.40)	(0.81)	(1.84)
Ewens et al. (2025) Org Cap	-0.070**	0.024	-0.026
	(-2.02)	(1.19)	(-0.82)
Controls	Yes	Yes	Yes
Ind, Year Fixed Effects	Yes	Yes	Yes
Observations	976	873	827
Adjusted R^2	0.458	0.256	0.160

This table repeats the analysis in Table 10 but replaces the organizational capital measure from Peters and Taylor (2017) with the measure in Ewens et al. (2025). In Panel A, Ewens et al. (2025) is the only additional human capital management measure. In Panel B, we include all of the additional human capital management measures in Table 10, except that we switch out Peters and Taylor (2017) measure for the Ewens et al. (2025) measure. All regressions include firm size, book-to-market, ROA, leverage, price–cost margin, and asset growth as control variables, and two-digit SIC industry and year fixed effects. Firm-clustered t-statistics appear in parentheses. $^{*}p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$.

Table IA-18
CEO-median employee pay ratio

Panel A: CEO pay ratio as an additional determinant

	(1)	(2)	(3)	(4)
		CHRO Pay Ratio		
CEO Pay Ratio	-0.273***	-0.272***	-0.268***	-0.356***
	(-10.27)	(-7.50)	(-7.37)	(-9.10)
Other Determinants	No	Yes	Yes	Yes
Ind, Year Fixed Effects	No	No	Year	Ind, Year
Observations	2,669	1,795	1,795	1,790
Adjusted R^2	0.077	0.122	0.121	0.173

Panel B: Control for CEO pay ratio

	(1)	(2)	(3)
	Turnover PCA	Workforce Quality PCA	Sentiment PCA
CHRO Pay Ratio	0.036***	0.034***	0.011
	(3.09)	(3.91)	(0.92)
Controls	Yes	Yes	Yes
Ind, Year Fixed Effects	Yes	Yes	Yes
Observations	2,014	1,624	1,759
Adjusted R^2	0.452	0.277	0.176

Panel C: Horserace analysis

	(1)	(2)	(3)
	Turnover PCA	Workforce Quality PCA	Sentiment PCA
CHRO Pay Ratio	0.037***	0.029***	0.004
	(3.20)	(3.40)	(0.27)
HR Team Size	0.056	-0.013	0.105*
	(1.45)	(-0.39)	(1.96)
HR Pay	1.284***	1.073***	0.662**
	(4.86)	(4.77)	(2.19)
Organizational Capital	-0.056**	0.017	-0.011
	(-2.19)	(1.05)	(-0.50)
CHRO as NEO	-0.012	0.084*	-0.075
	(-0.19)	(1.79)	(-0.95)
Fortune 100	0.314*	0.090	0.398**
	(1.71)	(0.66)	(2.02)
CEO Pay Ratio	-0.048***	-0.017	-0.083***
	(-2.85)	(-1.26)	(-4.41)
Controls	Yes	Yes	Yes
Ind, Year Fixed Effects	Yes	Yes	Yes
Observations	1,848	1,611	1,563
Adjusted R^2	0.507	0.313	0.192

This table repeats several analyses in the paper with CEO to median employee pay ratio (*CEO Pay Ratio*) as an additional variable. *CEO Pay Ratio* is the decile rank of the firm's disclosed CEO-to-median-employee pay ratio, collected by Equilar from proxy statements. In Panel A, we repeat the determinant analysis in Table 3 with CEO pay ratio as an additional determinant. For parsimony, we omit other determinants from the table. In Panel B, we repeat the analysis in Tables 4–6 with this additional control. In Panel C, we repeat the horserace analysis in Table 10 with this additional measure. All regressions include firm size, book-to-market, ROA, leverage, price–cost margin, and asset growth as control variables. Some specifications also include two-digit SIC industry and/or year fixed effects. Levels of significance are presented as follows: *p<0.1; **p<0.05; ***p<0.01.

Table IA-19
Labor market competition

Panel A: Determinant analysis

	(1)	(2)	(3)	(4)
			CHRO Pay Ratio	
Panel A.1. Drop observations with missing LMC				
LMC	4.649*	0.963	2.176	1.908
	(1.76)	(0.28)	(0.59)	(0.49)
Panel A.2. Impute missing LMC with industry median				
LMC (Impute)	5.001*	0.820	2.096	2.101
	(1.88)	(0.24)	(0.55)	(0.53)
Other Determinants	No	Yes	Yes	Yes
Fixed Effects	No	No	Year	Ind, Year

Panel B: Tables 4-6 analysis with LMC control

	(1)	(2)	(3)
	Turnover PCA	Workforce Quality PCA	Sentiment PCA
Panel B.1. Drop observations with missing LMC			
No Fixed Effects	0.058***	0.047***	0.029**
	(4.14)	(5.39)	(2.21)
Ind, Year Fixed Effects	0.034***	0.033***	0.030**
	(2.94)	(4.01)	(2.40)
Panel B.2. Impute missing LMC with industry median			
No Fixed Effects	0.054***	0.045***	0.027**
	(4.21)	(5.29)	(2.14)
Ind, Year Fixed Effects	0.032***	0.036***	0.029**
	(3.03)	(4.50)	(2.47)

Panel C: Cross-sectional variation in labor market conditions

	(1)	(2)	(3)
	Turnover PCA	Workforce Quality PCA	Sentiment PCA
CHRO Pay Ratio	0.026*	0.027***	0.025*
	(1.89)	(2.66)	(1.67)
Above Median LMC	0.203	-0.017	0.074
	(1.54)	(-0.21)	(0.57)
CHRO Pay Ratio × Above Median LMC	0.020	0.013	0.008
	(0.86)	(0.98)	(0.35)
Controls	Yes	Yes	Yes
Ind, Year Fixed Effects	Yes	Yes	Yes
Observations	2,102	1,789	1,936
Adjusted R^2	0.465	0.286	0.158

This table presents analyses examining the role of labor market conditions. In Panel A, we repeat the determinant analysis in Table 3, including labor market conditions from De La Parra and Glaeser (2025) as an additional determinant. When the variable is missing, we either drop the observation (Panel A.1) or impute using the industry median (Panel A.2). For parsimony, we only report the coefficient on labor market conditions. In Panel B, we repeat the analysis in Tables 4-6 and include labor market condition as an additional determinant. For parsimony, we only report the coefficient on *CHRO Pay Ratio*. In Panel C, we examine how our main results vary by labor market conditions. Specifically, for each year, we sort *LMC* into two groups based on the median. *Above Median LMC* is an indicator for whether LMC is above the yearly median. For Panel C, we report the version without imputation, though findings are quantitatively similar with imputation. All regressions include firm size, book-to-market, ROA, leverage, price–cost margin, and asset growth as control variables. Some specifications also include two-digit SIC industry and/or year fixed effects. Cluster robust t-statistics, by firm, are included in parentheses. Levels of significance are presented as follows: *p<0.1; **p<0.05; ***p<0.01.

Table IA-20
Control for R&D expenses

Panel A: No fixed effects

	(1)	(2)	(3)
		Workforce	
	Turnover PCA	Quality PCA	Sentiment PCA
CHRO Pay Ratio	0.041***	0.038***	0.013
	(3.37)	(4.43)	(1.10)
Controls	Yes	Yes	Yes
Ind, Year Fixed Effects	No	No	No
Observations	2,539	2,044	2,230
Adjusted R^2	0.164	0.108	0.060

Panel B: Industry and year fixed effects

	(1)	(2)	(3)
		Workforce	
	Turnover PCA	Quality PCA	Sentiment PCA
CHRO Pay Ratio	0.020**	0.030***	0.017
	(2.02)	(3.84)	(1.56)
Controls	Yes	Yes	Yes
Ind, Year Fixed Effects	Yes	Yes	Yes
Observations	2,537	2,040	2,227
Adjusted R^2	0.500	0.306	0.182

This table repeats the analysis in Tables 4–6 with R&D intensity as an additional control variable. R&D intensity is defined as the R&D expense scaled by total assets. When R&D expense is missing, this variable is set to 0. All regressions include firm size, book-to-market, ROA, leverage, price–cost margin, and asset growth as control variables. Some specifications also include two-digit SIC industry and/or year fixed effects. Cluster robust t-statistics, by firm, are included in parentheses. Levels of significance are presented as follows: *p<0.1; **p<0.05; ***p<0.01.

Table IA-21

CHRO pay ratio and intellectual capital: control for labor market conditions and R&D intensity

Panel A: Controlling for labor market conditions

	(1) Patents	(2) Patent Value	(3) New Products	(4) Knowledge Capital	(5) IC PCA
Panel A.1. Drop observations with missing LMC					
No Fixed Effects	0.047***	0.076***	0.015**	0.090**	0.058***
	(2.87)	(2.82)	(2.39)	(2.49)	(4.14)
Ind, Year Fixed Effects	0.039***	0.058**	0.007	0.092***	0.034***
	(2.68)	(2.44)	(1.21)	(3.78)	(2.94)
Panel A.2. Impute missing LMC with industry median					
No Fixed Effects	0.042***	0.065***	0.014***	0.072**	0.054***
	(2.88)	(2.69)	(2.64)	(2.22)	(4.21)
Ind, Year Fixed Effects	0.039***	0.057***	0.009*	0.084***	0.032***
	(3.01)	(2.64)	(1.77)	(3.81)	(3.03)

Panel B: Control for R&D Intensity

	(1) Patents	(2) Patent Value	(3) New Products	(4) Knowledge Capital	(5) IC PCA
No Fixed Effects	0.024*	0.035	0.010*	0.016	0.041***
	(1.88)	(1.59)	(1.86)	(0.58)	(3.37)
Ind, Year Fixed Effects	0.028**	0.038*	0.006	0.052***	0.020**
	(2.30)	(1.88)	(1.25)	(2.83)	(2.02)

This table repeats the analysis in Table 7 with either labor market condition or R&D intensity as an additional control variable. All regressions include firm size, book-to-market, ROA, leverage, price–cost margin, and asset growth as control variables. Some specifications also include two-digit SIC industry and/or year fixed effects. Cluster robust t-statistics, by firm, are included in parentheses. Levels of significance are presented as follows: *p<0.1; **p<0.05; ***p<0.01.

Table IA-22

Cross-sectional variation in board independence

	(1)	(2)	(3)
		Workforce	
	Turnover PCA	Quality PCA	Sentiment PCA
CHRO Pay Ratio	0.032***	0.035***	0.024*
	(2.71)	(4.00)	(1.95)
Less Independent	-0.022	0.106	-0.140
	(-0.11)	(0.85)	(-0.62)
CHRO Pay Ratio × Less Independent	0.022	-0.007	0.029
	(0.66)	(-0.39)	(0.84)
Controls	Yes	Yes	Yes
Ind, Year Fixed Effects	Yes	Yes	Yes
Observations	2,467	1,979	2,179
Adjusted R^2	0.442	0.267	0.144

This table presents an analysis of how the association between CHRO pay ratio and workforce dynamics varies by board independence. Less Independent is an indicator for whether the percentage of independent directors is in the bottom tercile. Board independence data come from Equilar. All regressions include firm size, book-to-market, ROA, leverage, price–cost margin, and asset growth as control variables, as well as two-digit SIC industry and year fixed effects. t-statistics are based on standard errors clustered by firm. Levels of significance are presented as follows: *p<0.1; **p<0.05; ***p<0.01.

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