Perks and labor investment efficiency: Evidence from China

Hu, Juncheng; Li, Xiaorong

Published in:
International Review of Economics & Finance

DOI:
10.1016/j.iref.2024.103478

International Review of Economics and Finance 95 (2024) 103478

Contents lists available at ScienceDirect

International Review of Economics and Finance

journal homepage: www.elsevier.com/locate/iref

Perks and labor investment efficiency: Evidence from China

Juncheng Hu [a,*], Xiaorong Li [b,**]

[a] Bond Business School, Bond University, Gold Coast, Australia
[b] School of Public Finance and Taxation, Central University of Finance and Economics, Beijing, China

ARTICLE INFO

Keywords:
Perk
Agency problem
Labor investment efficiency

ABSTRACT

This study investigates the effect of perks on future labor investment efficiency. Agency theory suggests that perks motivate managers to distort investments for personal gain. By contrast, incentive contract theory suggests that perks can be a component of incentive contracts, encouraging managers to make investments in the best interest of shareholders. Based on a sample of 12,818 firm–year observations from 2009 to 2017, we find that perks are positively related to future labor investment inefficiencies, consistent with agency theory. An exogenous reduction in executive perks caused by the 2012 anti-corruption campaign decreases labor investment inefficiencies. Further analyses show that the positive effect of perks on overinvestment predominantly occurs when firms have excessive free cash flow, low political visibility, and a less-educated workforce, whereas the positive relationship between perks and underinvestment is more prevalent. Finally, we find that perks and labor investment inefficiencies are detrimental to firm value.

1. Introduction

This paper explores whether managerial perquisites (perks hereafter) affect future labor investment efficiency. Agency theory posits that perks lead to conflicts of interest between managers and shareholders, incentivizing managers to distort investments for their own benefit (e.g., Jensen & Meckling, 1976; Narayanan, 1985; Shleifer & Vishny, 1989; Stein, 1989). By contrast, incentive contract theory argues that perks are an effective component of incentive contracts to align managerial interests with those of shareholders, curbing managerial shirking and self-serving investments (e.g., Fama, 1980; Kryscynski et al., 2020; Marino & Zábojník, 2008). This study aims to enrich this discussion by examining whether perks are positively or negatively associated with future labor investment inefficiencies, as predicted by agency and incentive contract theories, respectively.

Given that a firm's labor force is its most valuable asset for productivity, competitive advantage, and success, understanding the role of executive perks in labor investment is critical (e.g., Becker, 1962; Black & Lynch, 1996; Lazear, 2009; Moretti, 2004). From a micro perspective, as core components of normal business operations, employees and other labor-related costs have direct and ongoing effects on firm profitability. From a macro perspective, labor is an essential part of national wealth. Labor productive capacity, overall economic growth, and local employment are inseparable (Erosa et al., 2010; Kong et al., 2018; Schultz, 1961). Labor costs, which account for around two-thirds of the economy-wide value added, significantly influence the global economy (Bernanke, 2004; Hamermesh, 1993). Therefore, efficient investments in labor are important for policymakers seeking to establish sustainable economic

* Corresponding author.
** Corresponding author.
E-mail addresses: bhu@bond.edu.au (J. Hu), lixiaorongchina@163.com (X. Li).

https://doi.org/10.1016/j.iref.2024.103478
Received 8 February 2023; Received in revised form 8 November 2023; Accepted 31 July 2024
Available online 31 July 2024

and employment growth.

We conduct our research in the context of China. China has a well-established business tradition of providing perks to executives. This practice has arisen in part from the limited availability of stock options and relatively modest base wages (Gul et al., 2011; Zhang et al., 2015). However, perks are often not explicitly detailed in remuneration contracts, creating challenges for external shareholders to monitor managerial perk consumption (Xu et al., 2014). Therefore, it remains unclear whether Chinese managers who receive perks are more likely to enhance or distort labor investments. Further, China's unique disclosure of perks in annual reports facilitates our investigation. Our final sample includes 12,818 firm–year observations related to perks and other financial data from 2009 to 2017 to test the main hypotheses.

Employing the inverse measure of labor investment efficiency developed by Jung et al. (2014), we find that perks relate positively to future labor investment inefficiencies, a result more consistent with agency theory. The positive effect of perks on labor investment distortion continues to be significant using Heckman (1979) two-stage analysis to overcome selection bias stemming from missing data on perks.

To mitigate endogeneity, we perform a difference-in-differences (DID) analysis by exploiting the anti-corruption campaign implemented by President Xi Jinping in 2012 as an experimental setting. One of the objectives of the anti-corruption campaign was to rein in perks such as travel and entertainment expenses (Griffin et al., 2021; Hu, 2021; Li, 2019). However, this campaign was not aimed at firm-specific labor investment decisions; thus, it provides a suitable context for identifying the causal effect of perks on labor investment efficiency. Our DID results confirm that the exogenous reduction in executive perks caused by the anti-corruption campaign leads to a decrease in labor investment distortions.

We consider several economic settings in which the cross-sectional effect of perks on labor investment distortions may vary. Our subsample analyses show that the positive relationship between perks and overinvestment occurs only in firms with excess free cash flow and low political visibility and when the labor force in which they are investing has a relatively low level of education. The results suggest that entrenched managers tend to distort labor investments when firms have high free cash flow and weak political monitoring and when the employees in whom they are investing are less costly to control. However, the positive effect of perks on underinvestment distortions is prevalent and unconstrained by the factors of free cash flow and labor education.

Finally, we test the economic consequences of perks and labor investment inefficiency. The agency theory literature suggests that perks and suboptimal investments are detrimental to firm value (e.g., Jensen & Meckling, 1976; Narayanan, 1985; Shleifer & Vishny, 1989; Stein, 1989). We find that perks are negatively related to future stock returns, consistent with the agency cost perspective. Labor investment inefficiency is the channel through which perks negatively affect future stock returns.

Our study has several contributions. First, we add to the growing labor investment efficiency literature (e.g., Ben-Nasr & Alshwer, 2016; Cao & Rees, 2020; Chen et al., 2022; Do & Le, 2022; Gu et al., 2022; Jia & Li, 2024; Jung et al., 2014; Jung et al., 2022; Karami et al., 2024; Khedmati et al., 2019; Kong et al., 2018; Luo et al., 2020). These studies consistently show that information asymmetry, agency costs, and moral hazards are fundamental drivers of inefficient labor investments. Our findings align with this body of literature by demonstrating that perks, as a potential indicator of managerial rent extraction, relate to labor investment distortion. Additionally, our evidence highlights the detrimental effects of labor investment distortions on future firm value, which supports the findings of Jung et al. (2014).

Second, our study contributes to the managerial perks literature. The agency theory literature proposes that perks are a typical example of agency costs, where managers misappropriate firm resources for private gain (Cai et al., 2011; Gul et al., 2011; Hu, 2021; Jensen & Meckling, 1976; Xu et al., 2014; Yermack, 2006). In contrast, incentive contract theory suggests that perks can be used to align managerial interests with those of shareholders (Fama, 1980; Marino & Zábojník, 2008; Rajan & Wulf, 2006). Our results are more consistent with agency theory, suggesting that perks contribute to labor investment inefficiencies.

Finally, our findings add to those of recent studies on the economic consequences of China's anti-corruption campaign (Griffin et al., 2021; Hu et al. 2020, 2023; Pan & Tian, 2020). We report that President Xi's 2012 anti-corruption campaign has generated positive externalities in the capital market by curbing managerial incentives to consume expensive perks through labor investment distortions.

The rest of this paper is organized as follows. In section 2, we review the literature and develop our hypotheses. Section 3 presents the variable measurements and descriptive statistics. Section 4 reports the results, and section 5 concludes the paper.

2. Hypothesis development

2.1. Perks and labor investment efficiency

The agency theory suggests that perks represent serious agency problems, where managers misappropriate a firm's surplus for private gain (Jensen & Meckling, 1976). In contrast, the incentive contract hypothesis suggests that perks are an effective component of compensation strategies to help align managerial and shareholder interests (Fama, 1980). These contrasting theories offer divergent views regarding the effect of perks on labor investment efficiency.

2.1.1. Agency perspective

From the agency perspective, lavish perks motivate managers to make investments that will entrench them in their current positions (Shleifer & Vishny, 1989). Overinvestment is an entrenchment strategy used by managers to collect various pecuniary and nonpecuniary benefits (Jensen, 1986; Shleifer & Vishny, 1989). In the context of labor, managers can reinforce their entrenchment by providing new employees with implicit contracts, such as the promise of job security, promotions, and high wages, in exchange for

their loyalty and obedience (Hellwig, 2000; Pagano & Volpin, 2005; Shleifer & Vishny, 1989). New employees may believe that incumbent managers are better able to measure their performance and even offer favors. In this situation, employees may be willing to ally themselves with the manager against possible raiders and takeovers (Pagano & Volpin, 2005; Shleifer & Vishny, 1989). Such an alliance makes incumbent managers irreplaceable so that they can continue to enjoy perks and extract rent in the future.

Aside from entrenchment theory, the managerial myopia hypothesis of Narayanan (1985) and Stein (1989) suggests that short-sighted managers resort to underinvestment to meet short-term performance goals (Narayanan, 1985; Stein, 2003). Such myopia occurs when managerial compensation is a function of firm profit (Watts & Zimmerman, 1986). While a large body of the short-termism literature concentrates on underinvestment in physical assets, research and development, and mergers and acquisitions (see Roychowdhury et al. (2019) for a review of literature), managerial myopia also comes into play for difficult-to-measure assets such as labor training, asset maintenance, and customer loyalty (Stein, 2003). To legitimize lavish perk spending, managers can intentionally underhire or overfire employees to cut labor costs, thereby portraying a better picture of firm performance.

Collectively, agency theoretical models suggest that perks motivate managers to engage in labor investment distortions for self-interest. Drawing on the agency theory, we propose the following hypothesis.

Agency cost perspective: Perks relate positively to future labor investment inefficiencies.

2.1.2. Incentive contract perspective

In contrast, the incentive contract hypothesis suggests that perks are a legitimate means used by shareholders to encourage managers to accomplish their tasks in the best interest of shareholders (Fama, 1980; Marino & Zábojník, 2008), potentially curbing suboptimal behaviors.

First, Kryscynski et al. (2020) show that perks can motivate top managers to achieve exceptional results. Rajan and Wulf (2006) show that lavish perks such as chauffeur services, first-class business travel, and prestigious club memberships help managers feel that their status, reputation, and efforts are being recognized. In this case, they will be less likely to engage in shirking and more likely to exercise caution when making investment decisions.

Second, the provision of perks reduces the temptation for managers to derive personal benefits through other channels. Rajan and Wulf (2006) suggest that it is less costly for firms to provide perks than to have managers make individual, uncoordinated choices. The reduction in moral hazards from the provision of perks can potentially restrain earnings management and other suboptimal behaviors.

Consequently, from the incentive contract perspective, perks can be useful for reducing moral hazards, motivating managers to be more cautious about investment opportunities, and encouraging managers to make decisions in the best interests of the principal. The hypothesis based on these assumptions can be stated as follows.

Incentive contract perspective: Perks relate negatively to future labor investment inefficiencies.

2.2. Difference between labor and nonlabor investments

Previous research has focused mainly on the role of perks in nonlabor investments. However, the findings of these studies may not apply to labor investments. Unlike capital investments, which are typically treated as lump sum expenditures, labor is treated as a variable factor of production in traditional economic models, resulting in lower adjustment costs (Dixit, 1997; Dixit & Pindyck, 1994; Jung et al., 2014). Nonlabor investments such as mergers and acquisitions and substantial physical assets usually rely on financing from the equity and debt markets. The financing of these investments provides opportunities for morally hazardous managers to misappropriate funds for personal enrichment through extravagant perks. In contrast, labor investments typically do not rely on capital-raising activities because they can be funded by recurring revenue and cash flow. Therefore, it is imperative to cautiously assess whether findings from the nonlabor investment context are applicable to labor-related scenarios.

Given that labor-related investments play a critical role in firm performance, economic growth, and employment (e.g., Cao & Rees, 2020; Gu et al., 2022; Jung et al., 2014; Khedmati et al., 2019; Kong et al., 2018), it is vital to understand the dynamics between executive perks and labor investment efficiency. Labor-related costs, in particular, are economically significant, constituting approximately two-thirds of the total economy-wide value added (Bernanke, 2004; Hamermesh, 1993). Overinvestment in labor results in excessive labor costs and idle labor capacity, hindering the allocation of limited firm resources to other projects and hampering long-term economic growth (Huisman & Kort, 2015). Conversely, underinvestment in labor results in production bottlenecks, causing firms to miss growth opportunities. From a macroeconomic perspective, underinvestment in labor also contributes to local unemployment (Kong et al., 2018). Thus, examining whether perks act as catalysts or barriers for firms to achieve an optimal level of labor investment is critical for researchers, regulators, and policymakers.

3. Research design

3.1. Variable definitions

3.1.1. Measuring perks

Executive perks refer to non-salary benefits and privileges provided to individuals in managerial or executive positions within organizations as part of their compensation package (Gul et al., 2011; Marino & Zábojník, 2008). These perks can take various forms, including entertainment, company cars, luxury travel, and access to exclusive facilities. Our definition of perks is consistent with that used in the Chinese regulation *on work-related perks by top executives of* state-owned enterprises and the relevant research in the context of China, such as Gul et al. (2011), Xu et al. (2014), and Zhang et al. (2015), Cheng et al. (2018), and Pan and Tian (2020). Perks are

defined as the sum of business expenses related to entertainment, travel, overseas training, meetings, boards of directors, and vehicles. We manually collect perk data from corporate annual reports. Thus, the main test variable, *Perk*, is the sum of the above items scaled by sales revenue, consistent with Gul et al. (2011), Xu et al. (2014), and Pan and Tian (2020).

Chinese firms have a longstanding tradition of offering substantial perks to executives to incentivize them to enhance their performance, primarily because of limited stock options and relatively low base wages (Gul et al., 2011). However, perks are often not explicitly outlined in remuneration contracts; therefore, shareholders find it challenging to monitor managerial perk consumption (Xu et al., 2014). Thus, executive perks are often characterized as a "gray area" in the Chinese media because managers can disguise their personal expenditures as regular business transactions. This expropriation of firm resources via perks assumes various forms, including the use of corporate cars and chauffeur services for private purposes, the use of "little coffers" to meet expenditures, and the embezzlement of corporate funds to pay for luxury items and leisure activities such as lavish meals, expensive drinks, club memberships, and entertainment activities.

3.1.2. Measuring labor investment inefficiency

We estimate labor investment inefficiency (the inverse measure of labor investment efficiency) using abnormal net hiring (*AB Net Hire*), defined as the deviation between the expected and actual percentage change in the number of employees based on the expected labor model of Pinnuck and Lillis (2007). The model is presented in Equation (1), which includes industry and year dummies as controls.

$$\begin{aligned} Net\ Hire_t = {} & \beta_0 + \beta_1 Sales\ Growth_t + \beta_2 Sales\ Growth_{t-1} + \beta_3 \Delta ROA_t + \beta_4 \Delta ROA_{t-1} + \beta_5 ROA_t + \beta_6 Return_t + \beta_7 MV\ Rank_{t-1} \\ & + \beta_8 Quick_{t-1} + \beta_9 \Delta Quick_{t-1} + \beta_{10} \Delta Quick_t + \beta_{11} Leverage_{t-1} + \beta_{12} LossBin1_{t-1} + \beta_{13} LossBin2_{t-1} + \beta_{14} LossBin3_{t-1} \\ & + \beta_{15} LossBin4_{t-1} + \beta_{16} LossBin5_{t-1} + \varepsilon_t \end{aligned} \quad (1)$$

The dependent variable, $Net\ Hire_t$, is the percentage change in the number of employees. Appendix 1 presents detailed variable definitions. The absolute value of the residual term generated by Equation (1), $|AB\ Net\ Hire|_t$, is our measure of labor investment inefficiency.

Panel A of Table 1 shows the sampling process used to estimate Equation (1). Initially, we generate 21,499 observations for which the number of employees was available for both current and previous years. 3388 observations do not have sufficient data to run Equation (1) and are excluded. The expected labor model in Equation (1) is based on 18,111 observations.[1]

Appendix 2 presents the regression results of the expected labor model. Consistent with Pinnuck and Lillis (2007) and Jung et al. (2014), the coefficients on $Sales\ Growth_t$ and $Sales\ Growth_{t-1}$ are significantly positive. Return on assets (ROA_t) is positively correlated with $Net\ Hire_t$, indicating that profitable firms are more likely to increase their labor hire in the current year. The coefficient on the percentile rank of the market value of equity ($MV\ Rank_{t-1}$) is positively correlated with $Net\ Hire_t$, showing that firm size has a positive effect on employment rate, consistent with Pinnuck and Lillis (2007) and Jung et al. (2014). The coefficient on the change in quick ratio ($\Delta Quick_{t-1}$) is negative, showing that firms with a higher quick ratio from the previous year are less likely to experience a net increase in hiring in the current year. Although not all of the coefficients on the *LossBin* dummies are statistically significant, overall, the coefficients are negative, suggesting that small reported losses are correlated with lower net hiring, consistent with Jung et al. (2014).[2]

3.1.3. Control variables

The selection of control variables is directly derived from Jung et al. (2014). Specifically, these variables include market-to-book ratio (MTB_{t-1}) to control for growth opportunities; the natural log of total assets ($Size_{t-1}$) to control for firm size; the quick ratio ($Quick_{t-1}$) to control for financial liquidity; debt-to-asset ratio ($Leverage_{t-1}$) to control for financial risk; standard deviations of cash flow ($\sigma\ CFO_{t-1}$) and sales revenue ($\sigma\ Sales_{t-1}$) to control for cash flow and sales volatilities, respectively; the percentage of property, plant, and equipment relative to total assets (PPE_{t-1}) to control for asset tangibility; and a loss dummy ($Loss_{t-1}$) to control for firms experiencing losses. We include the volatility of a firm's net hiring ($\sigma\ Net\ Hire_{t-1}$) and labor intensity ($Labor\ Intensity_{t-1}$), which are likely to correlate with current labor investment efficiency. We add the absolute value of abnormal investments in other projects ($|AB\ Other\ Invest|_t$) to control for any indirect effect of other investment decisions on the abnormal hiring of employees. In line with Biddle et al. (2009), we estimate the expected investments in other projects using $Other\ Invest_t = \beta_0 + \beta_1 Sales\ Growth_t + \varepsilon_t$, where $Other\ Invest_t$ is the sum of capital expenditures, acquisitions, and other expenditures (e.g., research and development, advertising) minus cash inflows from the sale of property, plant, and equipment. The absolute value of the residual term from the above regression is $|AB\ Other\ Invest|_t$. We include accrual quality (AQ_{t-1}) as a control variable because Jung et al. (2014) find that high-quality financial reporting enhances future labor investment efficiency.[3]

We further include a vector of governance and ownership variables because effective corporate governance mechanisms reduce

[1] All continuous variables are winsorized by year at the first and ninety-ninth percentiles to mitigate the effect of outliers.

[2] *LossBin* dummies are indicator variables used for each 0.005 interval of lagged *ROA* from 0 to −0.025.

[3] Following Jung et al. (2014), we measure reporting quality using the accrual quality model of Dechow and Dichev (2002), combined with the variables in the discretionary accrual model based on a modified model from Jones (1991), as in Dechow et al. (1995). We multiply the residual generated by the accrual quality model by −1 and rank accrual quality (AQ_{t-1}) into deciles by year; thus, a higher number means a higher accrual quality. In untabulated robustness checks, we use the raw accrual quality rather than its decile rank, and the results are statistically the same.

Table 1
Descriptive statistics.

Panel A: Sampling process

Description		Observations
Observations having number of employees in both previous and current years		21,499
Less observations without sufficient data to run expected labor model	(3,388)	18,111
Less observations without lagged perk data	(3,265)	14,846
Less missing control variables to test hypotheses	(2,028)	
Total firm-year observations		12,818

Panel B: Descriptive statistics

Variable	N	Mean	Standard deviation	Minimum	First quartile	Median	Third quartile	Maximum
$\|AB\ Net\ Hire\|_t$	12,818	0.346	0.486	0.000	0.101	0.215	0.395	6.152
$Perk_{t-1}$	12,818	0.016	0.025	0.000	0.003	0.007	0.017	0.252
MTB_{t-1}	12,818	4.084	4.348	−19.591	1.935	2.990	4.780	53.505
$Size_{t-1}$	12,818	22.014	1.246	18.171	21.165	21.876	22.725	27.146
$Quick_{t-1}$	12,818	2.161	2.417	0.082	1.014	1.471	2.327	34.465
$Leverage_{t-1}$	12,818	0.091	0.107	0.000	0.011	0.047	0.136	0.584
$Dividend_{t-1}$	12,818	0.696	0.460	0.000	0.000	1.000	1.000	1.000
$\sigma\ CFO_{t-1}$	12,818	0.056	0.041	0.001	0.029	0.045	0.070	0.387
$\sigma\ Sales_{t-1}$	12,818	0.151	0.148	0.002	0.061	0.106	0.185	1.206
PPE_{t-1}	12,818	0.241	0.171	0.001	0.108	0.207	0.345	0.786
$Loss_{t-1}$	12,818	0.095	0.293	0.000	0.000	0.000	0.000	1.000
$\sigma\ Net\ Hire_{t-1}$	12,818	0.474	0.455	0.012	0.178	0.330	0.603	2.962
$Labor\ Intensity_{t-1}$	12,818	0.015	0.018	0.000	0.005	0.010	0.019	0.239
$\|AB\ Other\ Invest\|_t$	12,818	0.143	0.187	0.000	0.064	0.111	0.147	1.829
AQ_{t-1}	12,818	0.557	0.283	0.100	0.300	0.600	0.800	1.000
$Big\ Four_{t-1}$	12,818	0.050	0.217	0.000	0.000	0.000	0.000	1.000
$Board\ Size_{t-1}$	12,818	2.154	0.236	0.000	2.079	2.197	2.197	2.890
$Independence_{t-1}$	12,818	0.369	0.058	0.000	0.333	0.333	0.400	0.800
$CEO\ Duality_{t-1}$	12,818	0.767	0.423	0.000	1.000	1.000	1.000	1.000
$Concentration_{t-1}$	12,818	0.508	0.156	0.008	0.396	0.510	0.618	0.974
$State_{t-1}$	12,818	0.055	0.140	0.000	0.000	0.000	0.000	0.711
$Institution_{t-1}$	12,818	0.045	0.051	0.000	0.008	0.030	0.067	0.730
$Foreign_{t-1}$	12,818	0.006	0.041	0.000	0.000	0.000	0.000	0.693
$MAge_{t-1}$	12,818	3.891	0.062	3.572	3.851	3.894	3.933	4.111
$Political\ Profile_{t-1}$	12,818	2.701	0.812	1.000	2.000	2.800	3.167	4.000
$Education_{t-1}$	12,818	0.415	0.249	0.000	0.250	0.417	0.583	1.000
$Acc.\ Profession_{t-1}$	12,818	0.373	0.134	0.050	0.278	0.357	0.450	1.000
$Gender_{t-1}$	12,818	0.830	0.107	0.353	0.765	0.846	0.909	1.000

Panel C: Correlations

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	$\|AB\ Net\ Hire\|_t$	**1.00**																
2	$Perk_{t-1}$	**0.05**	**1.00**															
3	MTB_{t-1}	**0.07**	**0.15**	**1.00**														
4	$Size_{t-1}$	−0.02	**−0.24**	**−0.32**	**1.00**													
5	$Quick_{t-1}$	**0.06**	**0.21**	**0.03**	**−0.25**	**1.00**												
6	$Leverage_{t-1}$	**−0.06**	**−0.13**	**−0.12**	**0.42**	**−0.22**	**1.00**											
7	$Dividend_{t-1}$	**0.07**	−0.02	**−0.17**	**0.21**	**0.14**	**−0.04**	**1.00**										

(*continued on next page*)

Table 1 (*continued*)

Panel C: Correlations

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
8	$\sigma\ CFO_{t-1}$	0.00	**−0.02**	**0.10**	**−0.11**	**−0.03**	−0.02	**−0.16**	**1.00**									
9	$\sigma\ Sales_{t-1}$	**0.03**	**−0.11**	**0.04**	**−0.02**	**−0.04**	**−0.11**	**−0.05**	**0.28**	**1.00**								
10	PPE_{t-1}	**−0.06**	**−0.17**	**−0.10**	**0.05**	**−0.26**	**0.26**	**−0.10**	**−0.19**	**−0.09**	**1.00**							
11	$Loss_{t-1}$	**−0.03**	**0.03**	**0.11**	**−0.10**	**−0.10**	**0.08**	**−0.25**	**0.06**	0.00	**0.13**	**1.00**						
12	$\sigma\ Net\ Hire_{t-1}$	0.00	**0.04**	**0.08**	**0.05**	**0.04**	**−0.04**	**0.13**	0.01	**0.03**	**−0.08**	**−0.07**	**1.00**					
13	$Labor\ Intensity_{t-1}$	**−0.10**	**0.17**	**0.28**	**−0.54**	**0.05**	**−0.16**	**−0.31**	**0.14**	−0.01	**0.03**	**0.18**	**0.03**	**1.00**				
14	$\lvert AB\ Other\ Invest\rvert_t$	**0.03**	**0.03**	**0.06**	**−0.07**	**0.21**	**−0.10**	0.01	**0.02**	0.01	**−0.13**	0.00	0.00	**0.03**	**1.00**			
15	AQ_{t-1}	0.00	**−0.02**	**−0.13**	**0.13**	**0.05**	**0.03**	**0.23**	**−0.27**	**−0.19**	0.02	**−0.19**	**−0.06**	**−0.16**	−0.02	**1.00**		
16	$Big\ Four_{t-1}$	−0.01	**−0.05**	**−0.08**	**0.33**	**−0.07**	**0.11**	**0.07**	**−0.06**	**−0.04**	**0.04**	**−0.03**	−0.01	**−0.12**	**−0.04**	**0.06**	**1.00**	
17	$Board\ Size_{t-1}$	**−0.02**	**−0.05**	**−0.10**	**0.22**	**−0.10**	**0.12**	**0.06**	**−0.07**	−0.02	**0.14**	−0.01	−0.01	**−0.13**	**−0.05**	**0.03**	**0.06**	**1.00**
18	$Independence_{t-1}$	0.01	0.02	**0.05**	**0.05**	0.02	0.01	0.01	−0.01	**−0.02**	**−0.05**	0.01	**0.03**	0.00	0.02	0.02	**0.05**	**−0.16**
19	$CEO\ Duality_{t-1}$	**−0.05**	**−0.08**	**−0.07**	**0.12**	**−0.10**	**0.11**	**−0.03**	−0.02	−0.01	**0.08**	0.01	**−0.06**	**−0.04**	**−0.05**	−0.01	**0.06**	**0.15**
20	$Concentration_{t-1}$	**0.08**	**−0.08**	**−0.07**	**0.24**	**0.08**	**0.04**	**0.20**	0.01	**0.13**	0.02	**−0.11**	−0.02	**−0.40**	0.01	**0.05**	**0.16**	**0.03**
21	$State_{t-1}$	**−0.03**	**−0.07**	**−0.07**	**0.13**	**−0.07**	**0.11**	**−0.06**	0.02	**0.08**	**0.12**	0.00	**−0.04**	**−0.04**	**−0.06**	**−0.07**	**0.04**	**0.11**
22	$Institution_{t-1}$	0.01	**0.04**	0.02	**0.08**	0.00	0.01	**0.11**	**−0.04**	−0.01	**−0.06**	**−0.09**	**0.06**	**−0.16**	**−0.02**	**0.05**	0.00	0.01
23	$Foreign_{t-1}$	−0.01	**−0.03**	**−0.03**	**0.14**	**−0.04**	**0.05**	**0.03**	**−0.04**	**−0.03**	**0.02**	0.00	**−0.02**	**−0.05**	−0.02	**0.03**	**0.23**	**0.06**
24	$MAge_{t-1}$	**−0.07**	**−0.10**	**−0.12**	**0.34**	**−0.09**	**0.12**	**0.08**	**−0.12**	**−0.07**	**0.12**	**−0.03**	**−0.12**	**−0.16**	**−0.03**	**0.11**	**0.15**	**0.18**
25	$Political\ Profile_{t-1}$	0.00	0.01	−0.01	**0.18**	0.01	**0.06**	**0.07**	**−0.04**	0.00	**−0.05**	**−0.03**	−0.01	**−0.10**	0.01	**0.05**	**0.11**	**0.07**
26	$Education_{t-1}$	0.01	**0.05**	**0.03**	**0.15**	0.01	**0.07**	**0.05**	−0.02	0.01	**−0.11**	−0.02	**0.03**	**−0.09**	**0.03**	0.01	**0.09**	**0.04**
27	$Acc.\ Profession_{t-1}$	**−0.02**	**−0.02**	**0.09**	0.02	**−0.06**	**0.12**	**−0.12**	**0.12**	**0.04**	**−0.08**	**0.05**	**−0.06**	**0.08**	**0.08**	**−0.05**	**0.04**	**−0.08**
28	$Gender_{t-1}$	−0.02	**−0.07**	**−0.09**	**0.19**	**−0.11**	**0.09**	0.02	**−0.04**	0.01	**0.13**	**0.03**	**−0.03**	**−0.06**	**−0.08**	0.01	**0.07**	**0.15**

		18	19	20	21	22	23	24	25	26	27	28
18	$Independence_{t-1}$	**1.00**										
19	$CEO\ Duality_{t-1}$	**−0.11**	**1.00**									
20	$Concentration_{t-1}$	0.02	0.01	**1.00**								
21	$State_{t-1}$	**−0.05**	**0.10**	**0.20**	**1.00**							
22	$Institution_{t-1}$	0.02	−0.01	−0.02	−0.01	**1.00**						
23	$Foreign_{t-1}$	0.01	0.02	**0.06**	**0.04**	**−0.03**	**1.00**					
24	$MAge_{t-1}$	−0.01	**0.14**	**0.09**	**0.09**	−0.02	**0.10**	**1.00**				
25	$Political\ Profile_{t-1}$	0.02	**0.04**	**0.08**	**0.05**	**0.05**	**0.04**	**0.15**	**1.00**			
26	$Education_{t-1}$	**0.06**	−0.01	**0.06**	**0.03**	**0.04**	**0.05**	**0.04**	**0.16**	**1.00**		
27	$Acc.\ Profession_{t-1}$	0.02	0.01	**−0.05**	**−0.03**	0.01	0.01	**−0.12**	0.02	**0.13**	**1.00**	
28	$Gender_{t-1}$	**−0.05**	**0.12**	**0.05**	**0.15**	−0.02	**0.02**	**0.23**	**0.06**	−0.01	**−0.17**	**1.00**

Notes.

This table presents the descriptive statistics of the main variables used in this study. Panel A describes the sampling process. Panel B describes the descriptive statistics. Panel C presents the Pearson correlation matrix. Correlations at 1% significance level are bolded. Detailed variable definitions are presented in Appendix 1.

Table 2
Baseline regression results.

Variables	Perk		Main relation		Corporate governance		Managerial characteristics		Firm fixed effects	
	(1)		(2)		(3)		(4)		(5)	
	Coefficient	T-test	Coefficient	T-test	Coefficient	T-test	Coefficient	T-test	Coefficient	T-test
$Perk_{t-1}$	0.929***	(4.89)	0.572***	(3.03)	0.570***	(3.07)	0.580***	(3.13)	0.448*	(1.70)
MTB_{t-1}			0.009***	(6.50)	0.008***	(6.20)	0.008***	(6.33)	0.010***	(5.80)
$Size_{t-1}$			−0.011**	(-2.29)	−0.011**	(-2.14)	−0.002	(-0.41)	0.060***	(3.06)
$Quick_{t-1}$			0.005**	(2.39)	0.004*	(1.76)	0.004*	(1.78)	−0.001	(-0.19)
$Leverage_{t-1}$			−0.059	(-1.32)	−0.041	(-0.90)	−0.050	(-1.12)	−0.057	(-0.73)
$Dividend_{t-1}$			0.017*	(1.94)	0.013	(1.45)	0.014	(1.51)	−0.014	(-1.15)
$\sigma\ CFO_{t-1}$			0.027	(0.24)	−0.009	(-0.08)	−0.031	(-0.28)	0.243	(1.26)
$\sigma\ Sales_{t-1}$			0.071**	(2.10)	0.051	(1.49)	0.047	(1.36)	−0.080	(-1.37)
PPE_{t-1}			−0.042	(-1.53)	−0.051*	(-1.85)	−0.048*	(-1.75)	0.051	(0.80)
$Loss_{t-1}$			−0.028**	(-2.36)	−0.028**	(-2.37)	−0.029**	(-2.44)	−0.004	(-0.28)
$\sigma\ Net\ Hire_{t-1}$			0.020***	(2.59)	0.019**	(2.54)	0.011	(1.38)	−0.313***	(-12.15)
$Labor\ Intensity_{t-1}$			−3.229***	(-9.97)	−2.822***	(-8.41)	−2.652***	(-8.21)	−3.831***	(-4.87)
$\lvert AB\ Other\ Invest\rvert_t$			0.007	(0.27)	0.002	(0.09)	0.004	(0.15)	0.029	(0.70)
AQ_{t-1}			−0.034**	(-2.23)	−0.035**	(-2.31)	−0.033**	(-2.17)	−0.042**	(-2.06)
$Big\ Four_{t-1}$					0.009	(0.46)	0.017	(0.85)	−0.022	(-0.40)
$Board\ Size_{t-1}$					0.000	(0.01)	0.012	(0.83)	0.038	(1.56)
$Independence_{t-1}$					−0.003	(-0.04)	−0.006	(-0.09)	−0.206*	(-1.72)
$CEO\ Duality_{t-1}$					−0.021**	(-2.12)	−0.015	(-1.45)	−0.004	(-0.22)
$Concentration_{t-1}$					0.151***	(4.86)	0.155***	(5.01)	0.026	(0.29)
$State_{t-1}$					−0.051*	(-1.91)	−0.035	(-1.30)	−0.064*	(-1.70)
$Institution_{t-1}$					−0.162**	(-2.24)	−0.158**	(-2.19)	−0.828***	(-5.75)
$Foreign_{t-1}$					−0.134**	(-2.14)	−0.102	(-1.61)	0.026	(0.25)
$Political\ Profile_{t-1}$							−0.013**	(-2.36)	−0.016	(-1.57)
$MAge_{t-1}$							−0.475***	(-6.36)	−0.210	(-1.13)
$Education_{t-1}$							−0.005	(-0.30)	0.000	(0.01)
$Acc.\ Profession_{t-1}$							−0.051	(-1.55)	0.087	(1.25)
$Gender_{t-1}$							0.012	(0.30)	0.143	(1.55)
Constant	0.332***	(64.77)	0.618***	(5.68)	0.583***	(5.09)	2.247***	(7.94)	−0.033	(-0.04)
N	12,818		12,818		12,818		12,818		12,818	
Adjusted R^2	0.002		0.171		0.173		0.176		0.268	
Industry	No		Yes		Yes		Yes		No	
Firm	No		No		No		No		Yes	
Year	No		Yes		Yes		Yes		Yes	

Notes.
This table presents the regression results for the effect of perks on labor investment efficiency. Detailed variable definitions are presented in Appendix 1. The dependent variable is $\lvert AB\ Net\ Hire\rvert_t$. *T*-test results are based on two-tailed tests, with standard errors clustered by firm. ***, **, * represent significance at 1 percent, 5 percent, and 10 percent, respectively.

managerial moral hazard and improve investment efficiency (for a literature review, see Roychowdhury et al. (2019)). Governance and ownership proxies include the Big Four auditors ($Big\ Four_{t-1}$) to control for auditing quality; the natural log of the number of directors ($Board\ Size_{t-1}$) to control for board size; the percentage of independent directors relative to the total number of directors ($Independence_{t-1}$) to control for board independence; and chairman–CEO duality ($CEO\ Duality_{t-1}$) to control for the monitoring of CEO power. We include the percentage of shares held by the largest shareholder ($Concentration_{t-1}$) to control for the effect of ownership concentration and the percentage of state shares ($State_{t-1}$), institutional shares ($Institution_{t-1}$), and foreign shares relative to the total number of shares ($Foreign_{t-1}$) to control for the effects of state, institutional, and foreign ownership, respectively, on future labor investment efficiencies.

Finally, we consider the effects of managerial characteristics such as position, age, profession, and education on labor investment efficiency.[4] We use the average political profile score ($Political\ Profile_{t-1}$) of the top management teams of firms to control for the effects of political visibility and the strength of political connections with the government. Chen et al. (2018) suggest that managers holding high political positions in China are more cautious about risky investment opportunities because the costs of investment failures are more significant for them than for low-profile managers. To assess the effect of political visibility, we classify the political background of a manager into four categories: 4 if the manager is a past or current member of People's Congress or People's Political Consultative Conference at the national level, 3 if at the provincial level, 2 if at the city level, 1 at below-the-city level, and 0 if firms have no politically connected managers. We use the average age of the top management team ($MAge_{t-1}$) to control for managerial age because

[4] Jung et al. (2014) use the measure of managerial ability developed by Demerjian et al. (2012). However, we do not have sufficient data to run the second-stage model outlined by Demerjian et al. (2012). As an alternative, we include managerial age, political profile, education, professional background, and gender to control for managerial characteristics and perform a DID test and two-stage least squares analysis to address possible omitted variable bias.

Table 3
Heckman selection.

Variables	Fist Stage: $Disclosure_t$ as the dependent		Second Stage: $\|AB\ Net\ Hire\|_t$ as the dependent	
	(1)		(2)	
	Coefficient	Z-score	Coefficient	T-test
$Perk_{t-1}$			0.590***	(3.15)
$Distance_t$	0.048***	(2.70)		
$Lambda_t$			−0.016	(-0.42)
MTB_{t-1}	0.005	(1.20)	0.008***	(6.31)
$Size_{t-1}$	−0.211***	(-12.89)	−0.001	(-0.22)
$Quick_{t-1}$	−0.009	(-1.33)	0.004*	(1.76)
$Leverage_{t-1}$	0.524***	(3.47)	−0.054	(-1.17)
$Dividend_{t-1}$	0.036	(1.10)	0.014	(1.53)
$\sigma\ CFO_{t-1}$	−1.159***	(-3.36)	−0.030	(-0.27)
$\sigma\ Sales_{t-1}$	0.258***	(2.63)	0.047	(1.36)
PPE_{t-1}	−0.476***	(-4.85)	−0.046*	(-1.67)
$Loss_{t-1}$	−0.049	(-1.03)	−0.029**	(-2.46)
$\sigma\ Net\ Hire_{t-1}$	0.096***	(3.07)	0.010	(1.25)
$Labor\ Intensity_{t-1}$	−5.394***	(-6.32)	−2.633***	(-7.82)
$\|AB\ Other\ Invest\|_t$	−0.200**	(-2.55)	0.007	(0.25)
AQ_{t-1}	0.032	(0.60)	−0.034**	(-2.24)
$Big\ Four_{t-1}$	0.030	(0.52)	0.017	(0.83)
$Board\ Size_{t-1}$	0.051	(0.95)	0.013	(0.88)
$Independence_{t-1}$	−0.147	(-0.67)	−0.006	(-0.09)
$CEO\ Duality_{t-1}$	−0.076**	(-2.14)	−0.014	(-1.36)
$Concentration_{t-1}$	−0.474***	(-4.75)	0.159***	(4.92)
$State_{t-1}$	0.363***	(3.85)	−0.033	(-1.19)
$Institution_{t-1}$	0.140	(0.51)	−0.166**	(-2.26)
$Foreign_{t-1}$	−0.166	(-0.57)	−0.081	(-1.16)
$Political\ Profile_{t-1}$	0.019	(1.02)	−0.013**	(-2.34)
$MAge_{t-1}$	−0.368	(-1.46)	−0.480***	(-6.42)
$Education_{t-1}$	−0.162***	(-2.84)	−0.002	(-0.14)
$Acc.\ Profession_{t-1}$	−0.239**	(-2.12)	−0.049	(-1.47)
$Gender_{t-1}$	0.480***	(3.41)	0.011	(0.27)
Constant	5.621***	(5.73)	2.255***	(7.93)
N	15,586		12,818	
Pseudo/Adjusted R^2	0.239		0.177	
Province	Yes		No	
Industry	Yes		Yes	
Year	Yes		Yes	

Notes.
This table presents the Heckman two-stage regression results. Detailed variable definitions are presented in Appendix 1. $Disclosure_t$ is a dummy variable equaling one if $Perk_{t-1}$ is non-missing and zero otherwise. *T*-test results are based on two-tailed tests, with standard errors clustered by firm. *Z*-score is reported if probit model is used. ***, **, * represent significance at 1 percent, 5 percent, and 10 percent, respectively.

Yim (2013) suggests that managerial willingness to overinvest declines with age. Similar to Lai and Liu (2018), we include the percentage of managers having a master's degree or above ($Education_{t-1}$) and the percentage of managers from an accounting or finance background ($Acc.\ Profession_{t-1}$) as controls because these managers are expected to make more sophisticated investment decisions. Finally, Faccio et al. (2016) show that male managers take more risks compared with female managers; therefore, we include the percentage of male managers as a measure of gender ($Gender_{t-1}$).

3.2. Sample and data

Panel A of Table 1 reports our sampling process. The sample used to estimate the labor investment efficiency model in Equation (1) from 2009 to 2017 is 18,111. We drop 3,265 firm–year observations without perks ($Perk_{t-1}$) data. We further exclude 2,028 observations without sufficient control variables to test our main hypotheses. The final sample includes 12,818 observations.[5]

Panel B shows that the mean (median) of $|AB\ Net\ Hire|_t$ is 0.346 (0.215). The mean (median) $Perk_{t-1}$ is 0.016 (0.007). Panel C presents the correlation coefficients of variables used in Equation (3), with correlations at the 1% significance level in bold. The result shows that the main variables, $Perk_{t-1}$ and $|AB\ Net\ Hire|_t$, are significantly correlated at the 1% significance level, providing initial support to the agency cost view of perks.

[5] The number of observations drops to 12,818 because of the availability of various explanatory variables. For example, AQ_{t-1} and $\sigma\ Sales_{t-1}$ need data from years $t-5$ to $t-1$.

Table 4
Difference-in-differences estimation.

Panel A: Main result

	Validation test:		DID results:	
	$Perk_{t-1}$ as the dependent		$\|AB\ Net\ Hire\|_t$ as the dependent	
	(1)		(2)	
Variables	Coefficient	T-test	Coefficient	T-test
Treat × *Post*	−0.005***	(-5.17)	−0.043***	(-2.80)
Treat	0.017***	(16.82)	0.038***	(3.48)
MTB_{t-1}	0.000	(0.10)	0.011***	(5.72)
$Size_{t-1}$	−0.002***	(-2.63)	−0.004	(-0.73)
$Quick_{t-1}$	0.001***	(3.82)	0.003*	(1.75)
$Leverage_{t-1}$	−0.004	(-0.85)	−0.057	(-1.23)
$Dividend_{t-1}$	−0.001	(-0.69)	0.017*	(1.88)
$\sigma\ CFO_{t-1}$	−0.009	(-0.64)	0.060	(0.51)
$\sigma\ Sales_{t-1}$	−0.009***	(-3.63)	0.059*	(1.91)
PPE_{t-1}	−0.017***	(-5.54)	−0.081***	(-2.85)
$Loss_{t-1}$	0.005***	(3.28)	−0.004	(-0.28)
$\sigma\ Net\ Hire_{t-1}$	−0.000	(-0.21)	0.011	(1.08)
$Labor\ Intensity_{t-1}$	0.124**	(2.11)	−2.216***	(-6.08)
$\|AB\ Other\ Invest\|_t$	0.001	(0.14)	0.024	(0.56)
AQ_{t-1}	0.002	(1.37)	−0.025	(-1.63)
$Big\ Four_{t-1}$	0.002	(1.00)	−0.018	(-1.09)
$Board\ Size_{t-1}$	0.003*	(1.72)	−0.001	(-0.08)
$Independence_{t-1}$	−0.002	(-0.26)	0.129*	(1.84)
$CEO\ Duality_{t-1}$	−0.001	(-0.79)	−0.028**	(-2.52)
$Concentration_{t-1}$	0.005	(1.37)	0.079***	(2.71)
$State_{t-1}$	−0.000	(-0.20)	0.027	(0.86)
$Institution_{t-1}$	0.028***	(2.95)	0.084	(1.05)
$Foreign_{t-1}$	0.002	(0.40)	0.059	(0.58)
$Political\ Profile_{t-1}$	0.002***	(2.78)	−0.003	(-0.55)
$MAge_{t-1}$	−0.015*	(-1.70)	−0.284***	(-3.94)
$Education_{t-1}$	0.003	(1.38)	0.019	(1.15)
$Acc.\ Profession_{t-1}$	−0.002	(-0.54)	−0.074**	(-2.17)
$Gender_{t-1}$	−0.004	(-0.87)	−0.023	(-0.56)
Constant	0.083**	(2.37)	1.381***	(4.79)
N	5,990		5,990	
Adjusted R^2	0.249		0.087	
Industry	Yes		Yes	
Year	Yes		Yes	

Panel B: Alternative sample specifications

	Time Trends		Balanced sample		Six-year window period		Three-year average perk as the treatment	
	(1)		(2)		(3)		(4)	
Variables	Coefficient	T-test	Coefficient	T-test	Coefficient	T-test	Coefficient	T-test
Treat × *Post*			−0.035**	(-2.13)	−0.052***	(-2.87)	−0.052***	(-2.84)
Treat	0.025**	(2.40)	0.042***	(3.53)	0.038***	(3.28)	0.038***	(3.24)
Treat × *Year11*	0.022	(1.16)						
Treat × *Year13*	−0.037**	(-2.55)						
Treat × *Year14*	−0.029	(-1.43)						
N	5,990		4,096		8,483		8,483	
Adjusted R^2	0.088		0.077		0.195		0.195	
Controls	Included		Included		Included		Included	
Industry	Yes		Yes		Yes		Yes	
Year	Yes		Yes		Yes		Yes	

Notes.
This table presents the regression results for the effect of the 2012 anti-corruption campaign on labor investment efficiency using a difference-in-differences model. Panel A presents the main results. Panel B presents the robustness checks. Detailed variable definitions are presented in Appendix 1. *T*-test results are based on two-tailed tests, with standard errors clustered by firm. ***, **, * represent significance at 1 percent, 5 percent, and 10 percent, respectively.

4. Results

4.1. Baseline evidence

The baseline empirical model to test our competing hypotheses is shown in Equation (2).

$$|AB\ Net\ Hire|_t = \beta_0 + \beta_1 Perk_{t-1} + Controls + Industry\ FE + Year\ FE + \varepsilon_t \quad (2)$$

Our main testable variable is $Perk_{t-1}$, which is the sum of individual perks scaled by sales revenue. We predict β_1 to be positive if perks increase agency costs and contribute to future labor investment distortions and negative if perks represent optimal incentives and curb future labor investment distortions. The control variables are those described in section 3.1.3. Finally, we add industry fixed effects (*Industry FE*) and year fixed effects (*Year FE*) into Equation (2). We run the model using robust regressions with standard errors clustered by firm to correct for heteroscedasticity (Petersen, 2009; White, 1980).

Table 2 reports the results of hypothesis testing. Column (1) shows the results of the baseline regression of $|AB\ Net\ Hire|_t$ on $Perk_{t-1}$ without controls. The coefficient on $Perk_{t-1}$ is significantly positive at the 1% level (0.929, $t = 4.89$, two-tailed), implying that perks are positively related to future labor investment inefficiencies, a result consistent with agency theory. We assess the economic significance of $Perk_{t-1}$ by multiplying the coefficient of $Perk_{t-1}$ by its standard deviation. A one standard deviation increase in $Perk_{t-1}$ is expected to be associated with an increase of 4.78% of a standard deviation in $|AB\ Net\ Hire|_t$ ($0.929 \times 0.025 \div 0.486$).[6]

Column (2) reports the results of Equation (2). The coefficient on $Perk_{t-1}$ continues to be positive and significant at the 1% level (0.570, $t = 3.02$, two-tailed) after including the standard control variables used in the labor investment efficiency literature. Consistent with Ben-Nasr and Alshwer (2016), market-to-book ratio (MTB_{t-1}) is positively associated with future labor investment inefficiency. Firms with higher total assets ($Size_{t-1}$) in the year $t-1$ experience lower future inefficient labor investments, consistent with Jung et al. (2014) and Khedmati et al. (2019). A higher quick ratio ($Quick_{t-1}$) is positively related to future labor investment distortions, consistent with Jung et al. (2014), Ben-Nasr and Alshwer (2016), and Khedmati et al. (2019). Sales volatility ($\sigma\ Sales_{t-1}$) is positively correlated with inefficient labor investment, consistent with Jung et al. (2014) and Khedmati et al. (2019). Net hiring volatility ($\sigma\ Net\ Hire_{t-1}$) is positively related to future labor investment inefficiency, while labor intensity ($Labor\ Intensity_{t-1}$) is negatively related to future labor investment inefficiency, consistent with Jung et al. (2014), Ben-Nasr and Alshwer (2016), and Khedmati et al. (2019). Finally, consistent with Jung et al. (2014), we find a negative relationship between AQ_{t-1} and $|AB\ Net\ Hire|_t$, suggesting that high-quality financial reporting alleviates future labor investment inefficiencies.

Column (3) of Table 2 reports our results after we integrate corporate governance and ownership proxies into our model. The positive effect of $Perk_{t-1}$ on future labor investment inefficiency remains significant. The coefficient on $Concentration_{t-1}$ is significantly positive at the 1% level, suggesting that ownership concentration exacerbates agency conflicts and thus hinders future labor investment efficiency. Consistent with Jung et al. (2014), we find a negative coefficient on $Institution_{t-1}$, suggesting that institutional ownership mitigates future inefficient investments. Finally, the coefficients on $CEO\ Duality_{t-1}$ and $Foreign_{t-1}$ are negative and significant at the 5% level; however, these effects become nonsignificant when further controls for managerial characteristics are added.

Column (4) shows that the coefficient on $Political\ Profile_{t-1}$ is significant and negative, suggesting that managers who are more politically visible make fewer investment distortions, supporting Chen et al. (2018). We report a significantly negative coefficient on $MAge_{t-1}$, suggesting that future labor investment distortions decrease with managerial age, confirming the findings of Yim (2013) in the context of labor investment.

To further mitigate omitted variable bias, we use firm fixed effects in lieu of industry fixed effects in Column (5). The coefficient on $Perk_{t-1}$ is positive and significant at the 10% level ($t = 0.448$, $t = 1.70$, two-tailed), implying that executive perks are positively related to labor investment inefficiencies. Overall, our results provide support for the agency cost hypothesis of perks, suggesting that perks incentivize managers to distort investments.

4.2. Selection bias

Our baseline regression is primarily based on firms that voluntarily disclose perks in their annual reports. However, these firms significantly differ from those that do not disclose perks in their reports, leading to potential sample selection bias. Following Hu et al. (2020), we employ Heckman (1979) two-stage regression method to correct this problem (Table 3).

In the first step, we estimate a probit model of whether a firm voluntarily discloses perks in its annual report. The dependent variable, $Disclosure_t$, is equal to 1 if $Perk_{t-1}$ is disclosed and 0 otherwise. The main identifying variable is the natural log of the geographical distance ($Distance_t$) between a firm's headquarters and the central government in Beijing. Given that Beijing is the center of political power and media agents, the disclosure of perks may attract heightened political and media scrutiny when the firm is closer to Beijing. We find a *positive* relationship between the likelihood of perk disclosure and distance to Beijing, consistent with Hu et al. (2020). We compute the inverse Mills ratio ($Lambda_t$) from the first-stage estimate and include $Lambda_t$ in the second-stage regression

[6] In untabulated robustness checks, we consider several alternative perk proxies. First, we use industry–year median adjusted perks as the main testable variable. Second, we adopt the perk model in Gul et al. (2011) to estimate abnormal perks, which is the deviation of the actual perks from their expected level. The expected perk level is a regression of perks on a set of economic fundamentals such as wages, size, and provincial resident income per capital. Given that these measures produce results that are consistent with those presented in our main analysis in section 4, in the following analysis, we focus on $Perk_{t-1}$ as the main independent variable.

Table 5
Overinvestment versus underinvestment.

Variables	Overinvestment		Underinvestment	
	(1)		(2)	
	Coefficient	T-test	Coefficient	T-test
$Perk_{t-1}$	1.061**	(2.31)	0.409***	(4.61)
MTB_{t-1}	−0.016	(-0.44)	−0.024***	(-3.34)
$Size_{t-1}$	0.008	(0.13)	0.013	(1.43)
$Quick_{t-1}$	0.033	(0.96)	0.009	(1.09)
$Leverage_{t-1}$	0.018	(0.81)	0.017***	(3.81)
$Dividend_{t-1}$	−0.003	(-0.02)	−0.006	(-0.20)
$\sigma\ CFO_{t-1}$	−0.014	(-0.55)	0.003	(0.61)
$\sigma\ Sales_{t-1}$	0.283***	(3.55)	0.096***	(6.72)
PPE_{t-1}	−0.045	(-0.66)	−0.009	(-0.68)
$Loss_{t-1}$	−0.693***	(-3.66)	0.317***	(7.93)
$\sigma\ Net\ Hire_{t-1}$	−0.052	(-0.27)	0.025	(0.56)
$Labor\ Intensity_{t-1}$	−0.031**	(-2.29)	−0.001	(-0.62)
$\lvert AB\ Other\ Invest\rvert_t$	−0.829***	(-4.64)	−0.039	(-1.10)
AQ_{t-1}	−0.025	(-0.62)	0.004	(0.54)
$Big\ Four_{t-1}$	−0.016	(-0.20)	−0.008	(-0.53)
$Board\ Size_{t-1}$	0.108	(1.14)	−0.004	(-0.23)
$Independence_{t-1}$	0.013***	(4.65)	0.003***	(3.36)
$CEO\ Duality_{t-1}$	−0.001	(-0.11)	0.018***	(7.11)
$Concentration_{t-1}$	0.001	(0.18)	0.005***	(4.13)
$State_{t-1}$	−0.066	(-0.63)	−0.094***	(-4.14)
$Institution_{t-1}$	−0.003	(-0.01)	0.055	(1.05)
$Foreign_{t-1}$	0.084	(0.95)	0.008	(0.52)
$Political\ Profile_{t-1}$	−0.120*	(-1.74)	0.018	(1.32)
$MAge_{t-1}$	−0.069***	(-2.63)	−0.012	(-1.64)
$Education_{t-1}$	−0.003	(-0.11)	0.037***	(8.67)
$Acc.\ Profession_{t-1}$	−5.908***	(-6.47)	1.352***	(7.44)
$Gender_{t-1}$	0.047	(0.70)	−0.002	(-0.23)
Constant	3.618***	(5.32)	−0.101	(-0.74)
N	4,601		8,217	
Adjusted R^2	0.204		0.408	
Industry	Yes		Yes	
Year	Yes		Yes	

Notes.
This table presents the regression results for the effect of perks on over- and under-investment in labor. Detailed variable definitions are presented in Appendix 1. The dependent variable is $\lvert AB\ Net\ Hire\rvert_t$. *T*-test results are based on two-tailed tests, with standard errors clustered by firm. ***, **, * represent significance at 1 percent, 5 percent, and 10 percent respectively.

in Column (2). The coefficient on $Lambda_t$ is nonsignificant, suggesting that our model does not suffer from significant selection bias. The positive relationship between perks and labor investment inefficiencies remains significant after correcting for potential selection bias.

4.3. *Difference-in-differences estimation*

We construct a quasi-natural experiment by using the 2012 anti-corruption campaign as an experimental setting. One of the explicit objectives of the anti-corruption campaign was to restrict corporate perks, which were considered indicators of corruption by Chinese regulators, leading to a significant reduction in perks (e.g., Griffin et al., 2021; Hu, 2021; Li, 2019). For example, Shu and Cai (2017), Li (2019), Griffin et al. (2021), and Hu et al. (2023) find that the central government's directive to closely monitor significant perk categories such as meals and banquets, entertainment expenses, meeting duration, conference venues, travel outlays, and vehicles directly caused a reduction in extravagant expenditures. The 2012 campaign has intensified the oversight of corporate activities. Prominent investigations, prosecutions, and penalties targeted at corrupt officials and corporate executives have considerably deterred unethical conduct and excessive indulgence. Managers are less inclined to engage in extravagant spending when they witness others experiencing severe consequences (Cao et al., 2018; Hope et al., 2020). The public support for the campaign in China has further amplified public scrutiny of companies, compelling them to uphold ethical standards and curb excessive perks to avoid public outrage (Hu et al., 2020). Consequently, the 2012 anti-corruption campaign has curbed excessive managerial perks, prompting managers to exercise greater prudence in their spending habits.

However, this campaign is not aimed at firm-specific labor investment decisions related to the hiring or firing of employees. In this regard, perks provide a reasonably clear channel through which the anti-corruption campaign has exerted its influence on labor investment distortions.

We argue that firms that offered a high number of perks prior to 2012 are more likely to be corrupt and thus were more affected by the anti-corruption campaign (*Treat* = *high-perk group*). Conversely, firms offering a low number of perks prior to 2012 were relatively

Table 6
Free cash flows.

Panel A: High free cash flows

	Full sample		Overinvestment		Underinvestment	
	(1)		(2)		(3)	
Variables	Coefficient	T-test	Coefficient	T-test	Coefficient	T-test
$Perk_{t-1}$	0.585**	(2.51)	1.175**	(2.07)	0.468***	(4.11)
N	6,459		2,371		4,088	
Adjusted R^2	0.162		0.187		0.388	
Controls	Included		Included		Included	
Industry	Yes		Yes		Yes	
Year	Yes		Yes		Yes	

Panel B: Low free cash flows

	Full sample		Overinvestment		Underinvestment	
	(1)		(2)		(3)	
Variables	Coefficient	T-test	Coefficient	T-test	Coefficient	T-test
$Perk_{t-1}$	0.500	(1.55)	0.938	(1.19)	0.306**	(1.99)
N	6,459		2,371		4,088	
Adjusted R^2	0.192		0.223		0.428	
Controls	Included		Included		Included	
Industry	Yes		Yes		Yes	
Year	Yes		Yes		Yes	

Notes.
This table presents the regression results for the effect of free cash flows on the relationship between perks and labor investment efficiency. Detailed variable definitions are presented in Appendix 1. The dependent variable is $|AB\ Net\ Hire|_t$. *T*-test results are based on two-tailed tests, with standard errors clustered by firm. ***, **, * represent significance at 1 percent, 5 percent, and 10 percent respectively.

clean and thus were less sensitive to the campaign (*Control* = *low-perk group*). If perks drive labor investment distortions, the exogenous political suppression of perks should reduce managerial incentives to distort labor investments. As a result, we should observe fewer labor investment inefficiencies following the anti-corruption campaign for high-perk firms relative to low-perk firms.

We define high-perk firms (*Treat* = 1) as those in which the average $Perk_{t-1}$ from 2011 to 2012 was above the industry median and low-perk firms (*Treat* = 0) as those in which the average $Perk_{t-1}$ was below the industry median.[7] We define the post-campaign period as 2013–2014 (*Post* = 1). We limit our event window to a 4-year period to avoid other noisy events that may have affected investment efficiency, such as the two major Chinese stock market crashes in 2015 and 2016. Our DID model is presented in Equation (3), where our primary interest is in the coefficients on *Treat* × *Post* and *Treat*.

$$|AB\ Net\ Hire|_t = \beta_0 + \beta_1 Treat \times Post + \beta_2 Treat + Controls + Industry\ FE + Year\ FE + \varepsilon_t \quad (3)$$

To validate our assumption that the anti-corruption campaign has had a greater influence on high-perk firms than on low-perk firms, we first regress $Perk_{t-1}$ on *Treat* × *Post* and *Treat* along with other control variables used in our baseline regressions. Column (1) of Panel A in Table 4 reports the results when $Perk_{t-1}$ is used as the dependent variable. We document a significant and negative coefficient on *Treat* × *Post*, confirming that the campaign had a more pronounced effect on high-perk firms compared with low-perk firms.

Given the above validation results, we should observe a more significant decrease in the extent of labor investment distortions for treatment firms relative to control firms following the anti-corruption campaign. We report our DID results in Column (2) of Panel A in Table 4, where $|AB\ Net\ Hire|_t$ is the dependent variable. The coefficient on *Treat* × *Post* is significantly negative, showing that high-perk firms experienced a more significant reduction in future labor investment distortions compared with low-perk firms following the anti-corruption campaign. A positive and significant coefficient on *Treat* shows that high-perk firms had more future labor investment distortions compared with low-perk firms in the precampaign period.

Panel B shows the additional analyses used to check the robustness of our DID estimation. Column (1) shows the results of the dynamic model used to assess parallel time trends. We use 2012 as the benchmark year and interact *Treat* with the year dummies. The coefficient on *Treat* × *Year2011* is nonsignificant, suggesting no significant pretreatment trends before the anti-corruption campaign. Column (2) presents a balanced sample that requires firms to have non-missing data in the periods before and after the anti-corruption campaign. Column (3) shows a 6-year period from 2010 to 2015, where 2013–2015 represents the post-campaign period. Column (4) defines high-perk firms as those whose 3-year average precampaign perk spending was above the industry median. We find that the

[7] Recall that the baseline regression uses $Perk_{t-1}$ to predict future labor investment efficiency. A firm's average $Perk_{t-1}$ in 2011 and 2012 is equivalent to its average $Perk_t$ in 2010 and 2011, when perks were unaffected by the anti-corruption campaign. Further, we use the 2-year average perk spending in the precampaign period rather than the year 2011 perk spending alone to determine the treatment group to help mitigate possible measurement errors arising from a perk spending surprise in a single year.

coefficient on *Treat* × *Post* continues to be significantly negative, confirming our previous findings. Overall, the DID results confirm that an exogenous reduction in executive perks curbs labor investment distortions, improving labor investment efficiency.

4.4. Split sample analyses

In this section, we investigate the effects of perks on different forms of labor investment inefficiencies. We explore several possible economic settings in which the effect of perks on labor investment inefficiencies varies cross-sectionally.

4.4.1. Overinvestment and underinvestment

The entrenchment hypothesis suggests that perks reflect a high degree of entrenchment, motivating managers to defend their position by hiring allies or firing fewer employees who are part of the alliance, leading to overinvestments in labor. The short-termism hypothesis suggests that high perks motivate myopic managers to underhire or overfire employees to inflate earnings, leading to underinvestment distortions. To test these hypotheses, we split labor investment distortions into labor overinvestment and underinvestment, consistent with Jung et al. (2014). Overinvestment is positive abnormal net hiring, where actual net hiring is above its predicted level, and underinvestment is negative abnormal net hiring, where actual net hiring is below its predicted level, based on Equation (1). We continue to use absolute values, $|AB\ Net\ Hire|_t$, for the dependent variable.

We find a positive relation between perks and labor overinvestment in Column (1) of Table 5, suggesting that perks incentivize managers to entrench themselves through overinvestments in labor. We also find a positive effect of perks on underinvestment in Column (2). The results suggest that perks incentivize managers to underinvest in labor to boost their short-term accounting performance, consistent with the myopia hypothesis. Overall, perks motivate managers to distort labor investments from their predicted optimal level to a greater extent in both directions.

4.4.2. Free cash flow

We examine the effect of free cash flow on the relationship between perks and various forms of labor investment inefficiencies. Our investigation is motivated by Jensen (1986), who suggests that overinvestment is more pronounced in firms with substantial free cash flow. In support of Jensen (1986), Richardson (2006) empirically shows that managers tend to squander more resources through overinvestments when they have excessive free cash flow. Further, perks are indicative of free cash flow problems because managers tend to spend money on themselves rather than distribute it to shareholders (Deb et al., 2017). As such, the positive relationship between perks and overinvestment should be mainly observed in firms with a large free cash flow. To test this conjecture, we split the sample into firms with high and low free cash flow, based on the industry–year median of free cash flow.

Table 6 reports the subsample analysis of firms with high and low free cash flow. Panel A shows that the positive effect of perks on overinvestment is significant only in cash-rich firms. This result strengthens the agency cost explanation that managers in firms that can afford perks tend to consume more perks and other resources for self-benefit. However, the difference in the coefficients on $Perk_{t-1}$ between high free cash flow and low free cash flow subsamples is nonsignificant. In contrast, the coefficients on $Perk_{t-1}$ are statistically significant in both high and low free cash flow. This result is unsurprising because underinvestment is unconstrained by free cash flow. Further, underinvestment is less observable than overinvestment, contributing to the prevalent relationship between perks and underinvestment (Stein, 2003).

4.4.3. State ownership

Political visibility substantially influences managers' incentives and ability to consume more perks and distort labor investment. One way that the Chinese government controls listed firms is through direct state ownership and the appointment of managers in state-owned enterprises (SOEs). In this system, performance evaluations and promotion decisions depend primarily on whether managers are acting in the interest of the government. Given these circumstances, SOEs are more sensitive than non-SOEs to political influence. Further, SOE managers are usually offered permanent positions and thus have greater job security compared with their private firm counterparts. Therefore, they have a lower incentive to make entrenchment-related investments.

We use different types of state ownership as a proxy for political visibility. We divide firms into central SOEs, which are owned by the central government, local SOEs, which are owned by local governments, and non-SOEs. Table 7 shows that the positive relationship between perks and labor investment distortions for both overinvestments and underinvestments exists mainly in local and non-SOEs. This does not apply to central SOEs, suggesting that firms with greater political visibility are less likely to be driven by perks to distort labor investment.

We examine the statistical differences in the coefficients on $Perk_{t-1}$ among subsamples, using central SOEs as the benchmark group. The positive effect of perks on labor investment inefficiencies is stronger for local SOEs ($\chi^2 = 9.38$, $p = 0.002$) and non-SOEs ($\chi^2 = 4.87$, $p = 0.027$) compared with central SOEs. These findings align with the political visibility hypothesis, indicating that increased political visibility mitigates the positive influence of perks on labor investment distortions.

4.4.4. Employee education

We investigate the effect of employee education on the relationship between perks and labor investment inefficiencies. If managers entrench themselves through overinvestment, they are expected to prioritize less-educated employees, who are less expensive, more obedient, and easier to manage, and thus can serve as allies against raiders and takeovers. Moreover, less-educated employees lack the incentive to challenge managerial decisions and the sophistication to monitor wasteful executive actions such as the consumption of perks. In contrast, more highly educated employees tend to believe that their position is attributable to their own abilities rather than a

Table 7
State ownership.

Panel A: Central SOEs						
	Full sample		Overinvestment		Underinvestment	
	(1)		(2)		(3)	
Variables	Coefficient	T-test	Coefficient	T-test	Coefficient	T-test
$Perk_{t-1}$	−0.267	(-1.09)	−0.039	(-0.05)	0.084	(0.44)
N	1,729		580		1,149	
Adjusted R^2	0.189		0.126		0.474	
Controls	Included		Included		Included	
Industry	Yes		Yes		Yes	
Year	Yes		Yes		Yes	
Panel B: Local SOEs						
	Full sample		Overinvestment		Underinvestment	
	(1)		(2)		(3)	
Variables	Coefficient	T-test	Coefficient	T-test	Coefficient	T-test
$Perk_{t-1}$	0.839***	(3.13)	1.309*	(1.65)	0.734***	(3.97)
N	4,183		1,457		2,726	
Adjusted R^2	0.217		0.115		0.569	
Controls	Included		Included		Included	
Industry	Yes		Yes		Yes	
Year	Yes		Yes		Yes	
Panel C: Non-SOEs						
	Full sample		Overinvestment		Underinvestment	
	(1)		(2)		(3)	
Variables	Coefficient	T-test	Coefficient	T-test	Coefficient	T-test
$Perk_{t-1}$	0.492**	(1.99)	1.106*	(1.91)	0.405***	(3.66)
N	6,906		2,564		4,342	
Adjusted R^2	0.160		0.203		0.306	
Controls	Included		Included		Included	
Industry	Yes		Yes		Yes	
Year	Yes		Yes		Yes	

Notes.
This table presents the regression results for the effect of state ownership on the relationship between perks and labor investment efficiency. Detailed variable definitions are presented in Appendix 1. The dependent variable is $|AB\ Net\ Hire|_t$. *T*-test results are based on two-tailed tests, with standard errors clustered by firm. ***, **, * represent significance at 1 percent, 5 percent, and 10 percent, respectively.

favor by the manager and thus may be more reluctant to be the manager's allies.

We collect the educational background information of employees from the RESSET database. We define highly educated employees as those holding a master's degree or above, medium-educated employees as those holding a bachelor's degree or other college-level qualification, and low-educated employees as those with a qualification below college level. We use Equation (1) to estimate the abnormal net hiring of high-, medium-, and low-educated employees. The results of Equation (1) are tabulated in Panel B of Appendix 2. We then employ Equation (2) to examine the types of employees that are influenced by managerial perks.

Table 8 reports that the positive relationship between perks and overinvestment is significant only when managers overinvest in low-educated employees. This implies that managerial entrenchment through overinvestment in labor is selective. Given that low-educated employees are less expensive, more obedient to managerial authority, and easier to control, they are more likely to be the natural allies of managers for the purpose of entrenchment. However, the positive effect of perks on labor underinvestment is significant across all educational levels, in line with prior findings that the effect of perks on underinvestment is more prevalent than its effect on overinvestment.

Using the highly educated employees as our benchmark group, we assess statistical variances in coefficients related to $Perk_{t-1}$ across different subsamples. The positive effect of perks on labor investment inefficiencies is more pronounced when employees have less education ($\chi^2 = 5.88$, $p = 0.015$). Additionally, perks appear to incentivize managers to overinvest more in low-educated employees than in high-educated employees ($\chi^2 = 6.12$, $p = 0.013$). However, we do not identify significant differences in the effect of perks on underinvestment distortions across subsamples.

4.5. Additional tests

4.5.1. Economic consequences of perks and labor investment distortions

The agency literature shows that perks and suboptimal investments negatively affect firm value in the long term (Jensen &

Table 8
Labor education.

Panel A: High-educated labor						
	Full sample		Overinvestment		Underinvestment	
	(1)		(2)		(3)	
Variables	Coefficient	T-test	Coefficient	T-test	Coefficient	T-test
$Perk_{t-1}$	−0.049	(-0.16)	−0.775	(-0.99)	0.588**	(2.21)
N	7,433		2,622		4,811	
Adjusted R^2	0.042		0.067		0.060	
Controls	Included		Included		Included	
Industry	Yes		Yes		Yes	
Year	Yes		Yes		Yes	
Panel B: Medium-educated labor						
	Full sample		Overinvestment		Underinvestment	
	(1)		(2)		(3)	
Variables	Coefficient	T-test	Coefficient	T-test	Coefficient	T-test
$Perk_{t-1}$	0.446*	(1.68)	0.699	(0.99)	0.604***	(3.13)
N	9,285		3,766		7,251	
Adjusted R^2	0.032		0.068		0.067	
Controls	Included		Included		Included	
Industry	Yes		Yes		Yes	
Year	Yes		Yes		Yes	
Panel C: Low-educated labor						
	Full sample		Overinvestment		Underinvestment	
	(1)		(2)		(3)	
Variables	Coefficient	T-test	Coefficient	T-test	Coefficient	T-test
$Perk_{t-1}$	0.891***	(3.69)	1.573**	(2.42)	0.565***	(5.15)
N	10,965		3,928		7,037	
Adjusted R^2	0.174		0.210		0.404	
Controls	Included		Included		Included	
Industry	Yes		Yes		Yes	
Year	Yes		Yes		Yes	

Notes.
This table presents the regression results for the effect of labor education on the relationship between perks and labor investment efficiency. Detailed variable definitions are presented in Appendix 1. The dependent variable is $|AB\ Net\ Hire|_t$. *T*-test results are based on two-tailed tests, with standard errors clustered by firm. ***, **, * represent significance at 1 percent, 5 percent, and 10 percent, respectively.

Meckling, 1976; Narayanan, 1985; Shleifer & Vishny, 1989; Stein, 1989). Jung et al. (2014) empirically show that labor investment distortions are harmful to firms' future operating performance. We extend Jung et al. (2014) by examining whether labor investment inefficiencies damage firms' long-term stock returns. We use abnormal annual return (*AB Return*) as the main dependent variable, defined as the difference between stock returns and the return on the total value-weighted market index.

Table 9 presents the findings. In Columns (1) and (2), we present the results based on the *AB Return* for the fiscal year t. In Column (1), we observe a significant negative coefficient on $Perk_{t-1}$ (−0.002, t = −5.73, two-tailed), indicating that perks have an adverse effect on future firm value. Column (2) adds $|AB\ Net\ Hire|_t$ as an additional control variable. The negative and significant coefficient on $|AB\ Net\ Hire|_t$ suggests that labor investment inefficiencies contribute to lower firm value (−0.128, $t = -13.81$, two-tailed). Because the previous findings show a significant and positive effect of perks on labor investment inefficiencies, the results in Column (2) imply that labor investment distortions serve as a viable channel through which perks exert a negative influence on future firm value. Column (3) tabulates the results using 2 years of *AB Return* (years t and $t + 1$) as the main dependent variable. The negative effects of $Perk_{t-1}$ and $|AB\ Net\ Hire|_t$ on future firm value persist over longer time horizons.

Overall, these results align with the agency theory literature, providing support for the notion that perks have a detrimental effect on firm value. Additionally, our findings suggest that labor investment inefficiency serves as a pathway through which perks negatively affect firm value.

4.5.2. Labor and other investments

Despite controlling for the effect of abnormal nonlabor investments ($|AB\ Other\ Invest|_t$) in our primary analysis, we take additional steps to ensure that our main findings are not driven by other nonlabor investments, in line with Jung et al. (2014). We show the following four types of nonlabor investments in Table 10: total nonlabor investments in Panel A, capital investments in Panel B, acquisition investments in Panel C, and other investments in Panel D. Similar to Jung et al. (2014), for each of these four types, we divide the sample based on the relationship between net hiring and specific investment type. If a firm increases or decreases its labor

Table 9
Stock performance.

Variables	AB Return (t)		AB Return (t)		AB Return (t, t+1)	
	(1)		(2)		(3)	
	Coefficient	T-test	Coefficient	T-test	Coefficient	T-test
$Perk_{t-1}$	−0.002***	(-5.73)	−0.002***	(-5.02)	−0.004***	(-4.77)
$\|AB\ Net\ Hire\|_t$			−0.113***	(-6.04)	−0.225***	(-13.10)
$AB\ Return_{t-1}$	−0.141***	(-15.38)	−0.128***	(-13.81)	0.642***	(34.54)
MTB_{t-1}	−0.007***	(-5.69)	−0.006***	(-5.39)	−0.014***	(-5.68)
$Size_{t-1}$	−0.055***	(-10.55)	−0.055***	(-10.56)	−0.090***	(-9.29)
$Quick_{t-1}$	−0.007***	(-4.06)	−0.007***	(-3.72)	−0.018***	(-5.55)
$Leverage_{t-1}$	0.072	(1.50)	0.066	(1.38)	−0.003	(-0.04)
$Dividend_{t-1}$	−0.070***	(-7.69)	−0.068***	(-7.45)	−0.154***	(-10.10)
$\sigma\ CFO_{t-1}$	0.140	(1.40)	0.134	(1.35)	0.187	(0.98)
$\sigma\ Sales_{t-1}$	−0.087***	(-3.02)	−0.082***	(-2.88)	−0.152***	(-2.87)
PPE_{t-1}	0.055**	(2.01)	0.047*	(1.76)	0.030	(0.63)
$Loss_{t-1}$	0.063***	(3.98)	0.061***	(3.85)	0.051**	(2.24)
$\sigma\ Net\ Hire_{t-1}$	−0.058***	(-6.68)	−0.055***	(-6.39)	−0.059***	(-4.24)
$Labor\ Intensity_{t-1}$	1.095***	(3.22)	0.834**	(2.52)	2.113***	(3.50)
$\|AB\ Other\ Invest\|_t$	−0.013	(-0.61)	−0.013	(-0.59)	0.027	(0.73)
AQ_{t-1}	0.001	(0.09)	−0.003	(-0.19)	0.038	(1.47)
$Big\ Four_{t-1}$	0.071***	(4.18)	0.073***	(4.26)	0.160***	(5.15)
$Board\ Size_{t-1}$	−0.014	(-0.81)	−0.013	(-0.72)	−0.008	(-0.31)
$Independence_{t-1}$	0.037	(0.52)	0.036	(0.51)	0.185	(1.64)
$CEO\ Duality_{t-1}$	0.012	(1.22)	0.010	(1.05)	0.029*	(1.72)
$Concentration_{t-1}$	0.044	(1.49)	0.062**	(2.16)	−0.006	(-0.11)
$State_{t-1}$	−0.017	(-0.56)	−0.020	(-0.69)	0.011	(0.26)
$Institution_{t-1}$	1.162***	(10.62)	1.139***	(10.59)	0.521***	(4.06)
$Foreign_{t-1}$	0.039	(0.49)	0.028	(0.35)	0.251*	(1.86)
$Political\ Profile_{t-1}$	0.005	(1.00)	0.003	(0.71)	0.023***	(2.71)
$MAge_{t-1}$	0.019	(0.28)	−0.034	(-0.50)	0.112	(0.82)
$Education_{t-1}$	0.016	(1.08)	0.015	(1.07)	0.043*	(1.67)
$Acc.\ Profession_{t-1}$	0.019	(0.61)	0.012	(0.40)	0.108*	(1.87)
$Gender_{t-1}$	−0.013	(-0.34)	−0.012	(-0.34)	−0.065	(-0.98)
Constant	1.574***	(5.67)	1.824***	(6.61)	1.785***	(3.42)
N	12,818		12,818		12,815	
Adjusted R^2	0.303		0.312		0.328	
Industry	Yes		Yes		Yes	
Year	Yes		Yes		Yes	

Notes.
This table presents the regression results for the effect of perks and labor investment efficiency on future stock returns. Detailed variable definitions are presented in Appendix 1. The dependent variable is *AB Return*. *T*-test results are based on two-tailed tests, with standard errors clustered by firm. ***, **, * represent significance at 1 percent, 5 percent, and 10 percent, respectively.

Table 10
Labor and other investment.

Panel A: Total investment

	Positive		Negative	
	Coefficient	T-test	Coefficient	T-test
$Perk_{t-1}$	0.346	(1.48)	0.858***	(2.93)
N	6,621		6,197	
Adjusted R^2	0.169		0.187	
Controls	Included		Included	
Industry	Yes		Yes	
Year	Yes		Yes	

Panel B: Capital investment

	Positive		Negative	
	Coefficient	T-test	Coefficient	T-test
$Perk_{t-1}$	0.376	(1.43)	0.788***	(2.88)
N	6,660		6,158	
Adjusted R^2	0.171		0.186	
Controls	Included		Included	
Industry	Yes		Yes	
Year	Yes		Yes	

Panel C: Acquisition

	Positive		Negative		Nil	
	Coefficient	T-test	Coefficient	T-test	Coefficient	T-test
$Perk_{t-1}$	0.196	(0.43)	1.084*	(1.80)	0.467***	(2.91)
N	2,452		2,523		7,843	
Adjusted R^2	0.188		0.156		0.179	
Controls	Included		Included		Included	
Industry	Yes		Yes		Yes	
Year	Yes		Yes		Yes	

Panel D: Other investment

	Positive		Negative		Nil	
	Coefficient	T-test	Coefficient	T-test	Coefficient	T-test
$Perk_{t-1}$	0.381	(0.87)	0.619	(1.30)	0.628***	(2.60)
N	3,198		3,279		6,341	
Adjusted R^2	0.172		0.199		0.167	
Controls	Included		Included		Included	
Industry	Yes		Yes		Yes	
Year	Yes		Yes		Yes	

Notes.
This table presents the regression results for the effect of perks and non-labor investment. Detailed variable definitions are presented in Appendix 1. The dependent variable is $|AB\ Net\ Hire|_t$. *T*-test results are based on two-tailed tests, with standard errors clustered by firm. ***, **, * represent significance at 1 percent, 5 percent, and 10 percent, respectively.

and nonlabor investments in the same direction, we consider these types of investments to be positively associated ("Positive" in Table 10). If a firm increases one and decreases the other, we consider them to be negatively associated ("Negative" in Table 10). If a firm has zero increase in labor or does not report any nonlabor investments, we consider that firm as nil ("Nil" in Table 10).

Following Jung et al. (2014), we predict that if the positive effect of perks on labor investment distortions is attributable to nonlabor investments, it should only occur in subsamples with a positive relationship between labor and other investments. In Table 10, we group the Negative and Nil subsamples together because we have insufficient data to estimate the regression for the Nil sample. However, Table 10 shows that the positive effect of perks on labor investment distortion is concentrated in subsamples with a negative or nil relationship between labor and other investments. Therefore, the labor investment inefficiencies revealed in our main results are less likely to be driven by contemporaneous investments.

5. Conclusion

The principal–agent model predicts that perks lead to a divergence between the interests of shareholders and managers, incentivizing managers to distort investment. Consistent with the agency cost hypothesis, we provide evidence that perks are positively related to suboptimal future labor investments. The positive effect of perks on future labor investment distortions is robust after addressing endogeneity problems. Additional analyses show that the effect of perks on overinvestment is significant only when firms have a large free cash flow, low political visibility, and less-educated employees, while their effect on underinvestment is

unconstrained by free cash flow or employees' education level. Finally, executive perks and labor investment inefficiencies are destructive to shareholder value.

Our findings indicate that perks compromise the ability of managers to make optimal investment decisions, ultimately reducing firm value in the long term. These findings are more consistent with the agency perspective than the incentive contract perspective of perks. There are several potential reasons for this. First, a significant number of Chinese listed firms originated from SOEs. Because SOEs are integral to government functions (Lin et al., 1998), the government oversees managerial remuneration, which is aligned with the government's payment scale (Gul et al., 2011). Consequently, both cash compensation and stock options for SOE managers tend to be less than those in private firms. However, SOE managers often have the authority to grant themselves perks and enjoy perks with limited accountability. Second, China's business environment has historically been characterized as having a lack of transparency and corporate governance standards, making it more likely for managers to misappropriate company resources for their own benefit.

While our study emphasizes the agency perspective of perks, it is crucial to acknowledge the evolving nature of China's business environment and the potential for a shift toward more market-oriented compensation practices. Future researchers could investigate whether higher managerial remuneration and increased stock options reduce managerial incentives to seek perks, in turn enhancing labor investment efficiency. Finally, China's unique historical context and institutional setting may contribute to the link between managerial perks and agency problems. We recognize that our findings may not be generalizable to other contexts.

Author statement

We declare that there are no conflicts of interest to disclose. All authors of this work have contributed significantly to the research, writing, and preparation of the manuscript.

Data availability

Data will be made available on request.

Acknowledgements

We are grateful to Tom Smith, Yao Lu, Scott Holmes, Keith Duncan, Simone Kelly, Janice Hollindale, Tim Hasso, Mark Brosnan, Bruce Vanstone, Jessica Xu, and the seminar participants in the Bond Business School research seminar for their helpful comments. Ben Hu acknowledge the financial support from Bond University for data collection. Xiaorong Li acknowledges the financial support from the National Natural Science Foundation of China (Project No. 71972192, 72272166). Data are available from sources identified in the main report. All remaining errors are our own.

Appendix 1. Variable definitions

Labor model variables

Variable	Description
Net Hire	Percentage change in the number of employees.
Sales Growth	Percentage change in sales revenue.
ROA	Net income excluding perk items divided by total assets.
Return	Annual stock return, calculated as the difference between close and open price share price, divided by open share price at fiscal year *t*.
MV Rank	Percentile rank of market capitalization.
Quick	Ratio of current assets to current liabilities.
Leverage	Ratio of non-current debt to total assets.
LossBin	LossBin variables are indicators for each 0.05 interval of lagged *ROA* from 0 to −0.025.

Main model variables

Variable	Description
|*AB Net Hire*|	The absolute value of the residual term generated by equation (1). See equation (1) for details.
Perk	Sum of business entertainment expenses, traveling expenses, oversea training expenses, meeting expenses, board of directors' expenses, and vehicle-related expenses, scaled by sales revenue.
MTB	Market to book ratio, calculated as market capitalization divided by shareholders' equity.
Quick	Ratio of current assets to current liabilities.
Dividend	Dummy variable: 1 if the firm pays dividends and 0 otherwise.
σ CFO	Standard deviation of cash flow from operations divided by total assets over a five-year rolling window.
σ SALE	Standard deviation of sales revenue divided by total assets over a five-year rolling window.
PPE	Ratio of gross value of property, plant, and equipment to total assets.

(*continued on next page*)

(*continued*)

Variable	Description
Loss	Dummy variable: 1 if the firm reports a loss and 0 otherwise.
σ Net Hire	Standard deviation of the percentage change in number of employees.
Labor Intensity	Ratio of total number of employees to total assets times 1000.
|AB Other Invest|	Absolute value of the residual from the model: $Other\ Invest_t = \beta_0 + \beta_1 Sales\ Growth_t + \varepsilon_t$, where *Other Invest*$_t$ is the sum of capital, acquisition and other expenditure, less cash inflows from the sale of property, plant, and equipment.
AQ	The decile rank of the standard deviation of the residuals generated by the cash flow model of Dechow and Dichev (2002) combined with the variables in discretionary accrual model of modified Jones (1991), over a five-year rolling window.
Industry	Industry dummy variables.
Year	Year dummy variables.

Other variables

Variable	Description
Big Four	Dummy variable: 1 = big-four auditors and 0 otherwise.
Board Size	Natural log of the number of board directors.
Independence	Ratio of independent directors to total number of directors.
CEO Duality	Dummy variable: 1 = CEO and chairman are different persons and 0 otherwise.
Concentration	Percentage of shares held by the largest shareholder to total number of shares.
State	Percentage of state shares to total number of shares.
Institution	Percentage of shares held by financial institutions to total number of shares.
Foreign	Percentage of shares held by foreign investors to total number of shares.
MAge	Natural log of the average age of top managers.
Political Profile	Average political rank score of top managers: 4 = national level; 3 = provincial level; 2 = city level; 1 = below city level; 0 = no politically connected managers.
Education	Percentage of managers having a doctor or master's degree to total number of top managers.
Acc. Profession	Percentage of managers from accounting or finance background to total number of top managers.
Gender	Percentage of male managers to total number of top managers.
AB Return	Difference between annual stock returns and total value weighted market index returns.
Treat	Dummy variable: 1 = firms whose average perk spending in years 2010-2011 is above the industry median and 0 otherwise.
Post	Dummy variable: 1 = years after 2012 (not including year 2012) and 0 otherwise.
Disclosure	Dummy variable: 1 if $Perk_{t-1}$ is non-missing and 0 otherwise
Distance	Natural log of the geographical distance between the firm's location and central government in Beijing.
Province	Province dummy variables.
Lambda	Inverse Mills ratio generated by the first stage probit model using the Heckman (1979) two stage method.

Appendix 2. Regression results of expected labor model

Variables	Full sample		High-educated labor		Medium-educated labor		Low-educated labor	
	(1)		(2)		(3)		(4)	
	Coefficient	T-test	Coefficient	T-test	Coefficient	T-test	Coefficient	T-test
$Sales\ Growth_t$	0.059***	(8.71)	0.344***	(28.94)	0.407***	(46.65)	0.058***	(6.64)
$Sales\ Growth_{t-1}$	0.067***	(10.05)	0.021*	(1.93)	0.022***	(2.62)	0.073***	(8.72)
ΔROA_t	−0.058	(-0.59)	−0.399**	(-2.15)	−0.390***	(-3.06)	0.016	(0.12)
ΔROA_{t-1}	−0.027	(-0.40)	0.041	(0.31)	−0.008	(-0.08)	−0.027	(-0.29)
ROA_t	0.723***	(7.75)	0.311*	(1.88)	0.356***	(2.99)	0.906***	(7.63)
$Return_t$	−0.367***	(-36.84)	0.065***	(3.82)	0.020	(1.57)	−0.434***	(-35.04)
$MV\ Rank_{t-1}$	0.063***	(3.14)	0.094***	(2.66)	0.033	(1.26)	0.071***	(2.74)
$Quick_{t-1}$	0.003	(1.57)	−0.006*	(-1.78)	−0.006**	(-2.35)	0.003	(1.29)
$\Delta Quick_{t-1}$	−0.008***	(-3.21)	0.011***	(2.61)	0.003	(0.96)	−0.011***	(-3.44)
$\Delta Quick_t$	−0.000	(-0.01)	−0.023***	(-3.92)	−0.022***	(-5.10)	0.001	(0.34)
$Leverage_{t-1}$	−0.098**	(-2.05)	−0.124	(-1.48)	−0.101*	(-1.65)	−0.112*	(-1.83)
$LossBin1_{t-1}$	−0.014	(-0.49)	0.067	(1.34)	−0.052	(-1.40)	−0.020	(-0.54)
$LossBin2_{t-1}$	−0.049	(-1.54)	−0.039	(-0.68)	−0.044	(-1.06)	−0.041	(-1.00)
$LossBin3_{t-1}$	−0.095**	(-2.57)	−0.055	(-0.81)	−0.066	(-1.36)	−0.126***	(-2.60)
$LossBin4_{t-1}$	−0.054	(-1.17)	−0.136	(-1.52)	−0.111*	(-1.80)	−0.069	(-1.13)
$LossBin5_{t-1}$	−0.066*	(-1.93)	−0.073	(-1.06)	−0.036	(-0.77)	−0.073	(-1.58)
Constant	0.466***	(12.22)	0.069	(1.07)	0.157***	(3.36)	0.554***	(11.86)
Adj. R^2	18,111		10,069		15,234		15,139	
N	0.193		0.094		0.144		0.195	
Industry	Yes		Yes		Yes		Yes	
Year	Yes		Yes		Yes		Yes	

Notes.
This table presents the regression results of expected labor model. Detailed variable definitions are presented in Appendix 1. The dependent variable is *Net Hire*$_t$. *T*-test results are based on two-tailed tests. ***, **, * represent significance at 1 percent, 5 percent, and 10 percent respectively.

References

Becker, G. S. (1962). Investment in human capital: A theoretical analysis. *Journal of Political Economy, 70*, 9–49.
Ben-Nasr, H., & Alshwer, A. A. (2016). Does stock price informativeness affect labor investment efficiency? *Journal of Corporate Finance, 38*, 249–271.
Bernanke, B. (2004). Monetary policy and the conomic outlook. In *Federal reserve board speech delivered at the meetings of the*. San Diego, California: American Economic Association.
Biddle, G. C., Hilary, G., & Verdi, R. S. (2009). How does financial reporting quality relate to investment efficiency? *Journal of Accounting and Economics, 48*, 112–131.
Black, S. E., & Lynch, L. M. (1996). Human-capital investments and productivity. *The American Economic Review, 86*, 263–267.
Cai, H., Fang, H., & Xu, L. C. (2011). Eat, drink, firms, government: An investigation of corruption from the entertainment and travel costs of Chinese firms. *The Journal of Law and Economics, 54*, 55–78.
Cao, Z., & Rees, W. (2020). Do employee-friendly firms invest more efficiently? Evidence from labor investment efficiency. *Journal of Corporate Finance, 65*, Article 101744.
Cao, X., Wang, Y., & Zhou, S. (2018). Anti-corruption campaigns and corporate information release in China. *Journal of Corporate Finance, 49*, 186–203.
Chen, C., Jiang, D., Lan, M., Li, W., & Ye, L. (2022). Does environmental regulation affect labor investment efficiency? Evidence from a quasi-natural experiment in China. *International Review of Economics & Finance, 80*, 82–95.
Chen, D., Kim, J.-B., Li, O. Z., & Liang, S. (2018). China's closed pyramidal managerial labor market and the stock price crash risk. *The Accounting Review, 93*, 105–131.
Cheng, L. T. W., Chan, R. Y. K., & Leung, T. Y. (2018). Impact of perk expenditures and marketing expenditures on corporate performance in China: The moderating role of political connections. *Journal of Business Research, 86*, 83–95.
Deb, P., David, P., & O'Brien, J. (2017). When is cash good or bad for firm performance? *Strategic Management Journal, 38*, 436–454.
Dechow, P. M., & Dichev, I. D. (2002). The quality of accruals and earnings: The role of accrual estimation errors. *The Accounting Review, 77*, 35.
Dechow, P. M., Sloan, R. G., & Sweeney, A. P. (1995). Detecting earnings management. *The Accounting Review, 70*, 193–225.
Demerjian, P., Lev, B., & McVay, S. (2012). Quantifying managerial ability: A new measure and validity tests. *Management Science, 58*, 1229–1248.
Dixit, A. (1997). Investment and employment dynamics in the short run and the long run. *Oxford Economic Papers, 49*, 1–20.
Dixit, A. K., & Pindyck, R. S. (1994). *Investment under uncertainty*. Princeton University Press.
Do, T. K., & Le, A.-T. (2022). Shareholder litigation rights and labor investment efficiency. *Finance Research Letters, 46*, Article 102296.
Erosa, A., Koreshkova, T., & Restuccia, D. (2010). How important is human capital? A quantitative theory assessment of world income inequality. *The Review of Economic Studies, 77*, 1421–1449.
Faccio, M., Marchica, M.-T., & Mura, R. (2016). CEO gender, corporate risk-taking, and the efficiency of capital allocation. *Journal of Corporate Finance, 39*, 193–209.
Fama, E. F. (1980). Agency problems and the theory of the firm. *Journal of Political Economy, 88*, 288–307.
Griffin, J. M., Liu, C., & Shu, T. (2021). Is the Chinese anticorruption campaign authentic? Evidence from corporate investigations. *Management Science, 68*, 7248–7273.
Gu, L., Ni, X., & Tian, G. (2022). Controlling shareholder expropriation and labor investment efficiency. *International Review of Economics & Finance, 82*, 261–274.
Gul, F. A., Cheng, L. T. W., & Leung, T. Y. (2011). Perks and the informativeness of stock prices in the Chinese market. *Journal of Corporate Finance, 17*, 1410–1429.
Hamermesh, D. S. (1993). *Labor demand*. Princeton, NJ: Princeton University Press.
Heckman, J. J. (1979). Sample selection bias as a specification error. *Econometrica, 47*, 153–161.
Hellwig, M. (2000). On the economics and politics of corporate finance and corporate control. In *Corporate governance: Theoretical and empirical perspectives* (pp. 95–136). Cambridge: Cambridge University Press.
Hope, O.-K., Yue, H., & Zhong, Q. (2020). China's anti-corruption campaign and financial reporting quality. *Contemporary Accounting Research* (in press).
Hu, J. (2021). Do facilitation payments affect earnings management? Evidence from China. *Journal of Corporate Finance, 68*, Article 101936.
Hu, J., Li, X., Duncan, K., & Xu, J. (2020). Corporate relationship spending and stock price crash risk: Evidence from China's anti-corruption campaign. *Journal of Banking & Finance, 113*, Article 105758.
Hu, J., Li, X., & Wan, Z. (2023). Corporate corruption and future audit fees: Evidence from a quasi-natural experiment. *Journal of Contemporary Accounting and Economics*, Article 100367.
Huisman, K. J. M., & Kort, P. M. (2015). Strategic capacity investment under uncertainty. *The RAND Journal of Economics, 46*, 376–408.
Jensen, M. C. (1986). Agency costs of free cash flow, corporate finance, and takeovers. *The American Economic Review, 76*, 323–329.
Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics, 3*, 305–360.
Jia, J., & Li, Z. (2024). Opioid abuse and labor investment efficiency. *International Review of Economics & Finance, 89*, 1267–1285.
Jones, J. J. (1991). Earnings management during import relief investigations. *Journal of Accounting Research, 29*, 193–228.
Jung, B., Kang, T., Lee, W.-J., & Zhou, G. (2022). Pro-labor institutions and corporate employment efficiency. *Journal of Accounting, Auditing and Finance, 37*, 547–561.
Jung, B., Lee, W.-J., & Weber, D. P. (2014). Financial reporting quality and labor investment efficiency. *Contemporary Accounting Research, 31*, 1047–1076.
Karami, G., Mehrani, S., Beik Boshrouyeh, S., Ezadpour, M., Mohebbi, M., & Samavat, M. (2024). Political connections and labor investment efficiency. *International Review of Economics & Finance, 89*, 568–580.
Khedmati, M., Sualihu, M. A., & Yawson, A. (2019). CEO-director ties and labor investment efficiency. *Journal of Corporate Finance*, Article 101492 (in press).
Kong, D., Liu, S., & Xiang, J. (2018). Political promotion and labor investment efficiency. *China Economic Review, 50*, 273–293.
Kryscynski, D., Coff, R., & Campbell, B. (2020). Charting a path between firm-specific incentives and human capital-based competitive advantage. *Strategic Management Journal*. Article (in press).
Lai, S.-M., & Liu, C.-L. (2018). Management characteristics and corporate investment efficiency. *Asia-Pacific Journal of Accounting & Economics, 25*, 295–312.
Lazear, E. P. (2009). Firm-specific human capital: A skill-weights approach. *Journal of Political Economy, 117*, 914–940.
Li, L. (2019). Politics of anticorruption in China: Paradigm change of the party's disciplinary regime 2012–2017. *Journal of Contemporary China, 28*, 47–63.
Lin, J. Y., Cai, F., & Li, Z. (1998). Competition, policy burdens, and state-owned enterprise reform. *The American Economic Review, 88*, 422–427.
Luo, J., Li, X., & Chan, K. C. (2020). Political uncertainty and labour investment efficiency. *Applied Economics, 52*, 4677–4697.
Marino, A. M., & Zábojník, J. (2008). Work-related perks, agency problems, and optimal incentive contracts. *The RAND Journal of Economics, 39*, 565–585.
Moretti, E. (2004). Workers' education, spillovers, and productivity: Evidence from plant-level production functions. *The American Economic Review, 94*, 656–690.
Narayanan, M. P. (1985). Managerial incentives for short-term results. *The Journal of Finance, 40*, 1469–1484.
Pagano, M., & Volpin, P. F. (2005). Managers, workers, and corporate control. *The Journal of Finance, 60*, 841–868.
Pan, X., & Tian, G. G. (2020). Political connections and corporate investments: Evidence from the recent anti-corruption campaign in China. *Journal of Banking & Finance, 119*, Article 105108.
Petersen, M. A. (2009). Estimating standard errors in finance panel data sets: Comparing approaches. *Review of Financial Studies, 22*, 435–480.
Pinnuck, M., & Lillis, A. M. (2007). Profits versus losses: Does reporting an accounting loss act as a heuristic trigger to exercise the abandonment option and divest employees? *The Accounting Review, 82*, 1031–1053.

Rajan, R. G., & Wulf, J. (2006). Are perks purely managerial excess? *Journal of Financial Economics, 79*, 1–33.
Richardson, S. (2006). Over-investment of free cash flow. *Review of Accounting Studies, 11*, 159–189.
Roychowdhury, S., Shroff, N., & Verdi, R. S. (2019). The effects of financial reporting and disclosure on corporate investment: A review. *Journal of Accounting and Economics, 68*, Article 101246.
Schultz, T. W. (1961). Investment in human capital. *The American Economic Review, 51*, 1–17.
Shleifer, A., & Vishny, R. W. (1989). Management entrenchment: The case of manager-specific investments. *Journal of Financial Economics, 25*, 123–139.
Shu, Y., & Cai, J. (2017). "Alcohol Bans": Can they reveal the effect of Xi Jinping's anti-corruption campaign? *European Journal of Political Economy, 50*, 37–51.
Stein, J. C. (1989). Efficient capital markets, inefficient firms: A model of myopic corporate behavior. *Quarterly Journal of Economics, 104*, 655–669.
Stein, J. C. (2003). Agency, information and corporate investment. In *Handbook of the economics of finance*. Amsterdam: North Holland.
Watts, R. L., & Zimmerman, J. L. (1986). *Positive accounting theory*. Englewood Cliffs: Prentice-hall.
White, H. (1980). A heteroskedasticity-consistent covariance matrix estimator and a direct test for heteroskedasticity. *Econometrica, 48*, 817–838.
Xu, N., Li, X., Yuan, Q., & Chan, K. C. (2014). Excess perks and stock price crash risk: Evidence from China. *Journal of Corporate Finance, 25*, 419–434.
Yermack, D. (2006). Flights of fancy: Corporate jets, CEO perquisites, and inferior shareholder returns. *Journal of Financial Economics, 80*, 211–242.
Yim, S. (2013). The acquisitiveness of youth: CEO age and acquisition behavior. *Journal of Financial Economics, 108*, 250–273.
Zhang, H., Song, Y., & Ding, Y. (2015). What drives managerial perks? An empirical test of competing theoretical perspectives. *Journal of Business Ethics, 132*, 259–275.