

A Study of the Impact of the Internal Pay Gap of Executives on the Financialization of Firms

Chunxiao Tian and Tingting Cao¹

School of Economics and Management, Lanzhou University of Technology, Lanzhou, Gansu, 730000, China

Abstract. This paper investigates the role of the executive internal pay gap and corporate financialization using a sample of A-share listed non-financial firms in Shanghai and Shenzhen from 2013 to 2022. The regression results show that the executive internal pay gap is negatively related to corporate financialization; the heterogeneity test finds that the inhibitory effect of the executive internal pay gap on corporate financialization is more pronounced in firms whose executives have financial backgrounds and growth periods.

Keywords. Executive internal pay gap, corporate financialization, tournament theory, branding theory

1. Introduction

China's economy is at a critical stage from high-speed growth to high-quality development, so it is necessary to realize the transformation and upgrading of the real economy. The core of the real economy is the real enterprise, and the real business of the real enterprise is the key to support the real economy. However, the real enterprises are also facing problems such as compression of profitability space and declining profits in the main business, which make the real enterprises face the dilemma of transformation. In this unfavorable background to the real economy, corporate executives will take new paths to complete the short-term performance appraisal. The rapid development of the financial market seems to provide a new investment direction for real enterprises, compared with high-risk and high-input physical investment, financial investment has the advantages of low cost and high yield (Cai et al., 2021)[1], which ultimately leads to enterprise executives are generally keen on increasing short-term financial asset investment by reducing long-term investment (An et al., 2018)[2], which, although it can improve the short-term. Although this can improve the capital flow of enterprises in the short term, in the long term, the financialization of enterprises will produce a “siphoning” effect on their internal resources, and make enterprises gradually lose the competitiveness of the industry, which will ultimately harm the interests of shareholders and enterprise value. This phenomenon has also caused great concern to the government, and General Secretary Xi has repeatedly emphasized on important occasions that the

¹ Cao Tingting (1998-), Yulin, Shaanxi, Master of Management, Accounting Theory and Method, Lanzhou University of Technology, Lanzhou, Gansu, 730000, China; E-mail: 212120201008@lut.edu.cn

focus of high-quality development should be placed on the real economy, to avoid the “deconstruction” of the real economy.

Currently, there are fewer studies conducted by scholars on the relationship between the internal pay gap of executives and the financialization of enterprises, which can be mainly divided into two views, one viewpoint suggests that there is a linear relationship between the pay gap and corporate financialization, e.g., Chen (2022) found that the pay gap of executive employees can significantly inhibit corporate financialization [3], and Li and Wei (2023) argued that the pay gap of executives can also inhibit corporate financialization [4]. Another viewpoint suggests that the pay gap has a non-linear effect on corporate financialization, for example, Zhu et al.(2022) argued that the pay gap has a U-shaped relationship with corporate financialization and that both too-high and too-low pay gaps promote corporate over-financialization [5]. Wang (2022) classifies compensation into monetary and equity compensation and argues that executive monetary compensation first inhibits and then promotes the monetary financialization of firms, and executive equity compensation significantly inhibits the investment financialization of firms [6]. Based on this, this paper selects A-share non-financial listed enterprises in Shanghai and Shenzhen as the research object, and analyzes the relationship between executive internal pay gap and enterprise financialization, to provide reference and reference to inhibit enterprise excessive financialization. The main contributions of this paper are: (1) at present, no scholars in China have specifically studied the impact of the executive internal pay gap on corporate financialization, and this paper verifies the inhibitory effect of the executive internal pay gap on corporate financialization, which further confirms the applicability of the tournament theory in China; (2) heterogeneity test is carried out for the financial background of the executives and the life cycle of the enterprises, which enriches the relevant research results.

2.Literature Review and Research Hypotheses

The executive pay gap, as an effective incentive in addition to paying level and pay structure, has an impact on the daily financial decisions as well as the allocation of financial assets of a company (Li and Wei., 2023)[4].According to the tournament theory, the larger the pay gap is, the more effective it is in curbing the short-term speculative behavior of executives, which can make executives pay more attention to the long-term development of the enterprise. Gu and Zhu (2021) argued that the executive pay gap can form an effective incentive for executives, which in turn enhances the level of corporate innovation investment [7]. Wang and Yang (2019) found that the internal pay gap of executives can motivate firms to invest in research and development (R&D) [8], which is an investment in future growth, which contributes to firm performance and establishes a sustainable competitive advantage (Nathan and Rosso, 2022)[9]. Under the constraint of limited resources, firms' increased investment in R&D and innovation will inevitably crowd out financial investment, which prevents firms from being financialized under the “investment substitution” theory. As the pay gap increases, executives will be more and more inclined to think that there is a certain gap between the actual performance of the enterprise and the target expectation level (Shao and Li, 2017)[10], so they will work hard and eventually improve the performance of the enterprise (Cao et al., 2017)[11]. Corporate behavior reflects management's strategic decisions to a great extent, so if executives make decisions based more on shareholders' interests and corporate value, then even in the context of financial investment's contribution to performance is greater

than that of industrial investment, executives will avoid making the short-sighted behavior of blindly promoting financial investment due to self-interested motives, to bring the enterprise's focus back to its main business, and ultimately inhibit corporate Financialization.

Accordingly, the hypotheses of this paper are formulated:

H1. There is a negative relationship between the internal pay gap of executives and the financialization of firms

3 Research Design

3.1 Sample Selection

This paper takes the non-financial enterprises listed in Shanghai and Shenzhen A-shares from 2013 to 2022 as samples, downloads the relevant data from the Cathay Pacific database, and screens the data as follows:(1) Exclude the financial industry and real estate industry with financial attributes; (2) Exclude the enterprises with missing values of the indexes and incomplete data omissions. (3) All continuous variables were subjected to 1% and 99% shrinkage. Stata17 and Excel are used as the main statistical and analytical software of this paper.

3.2 Variable Selection

3.2.1 Explained Variables

Corporate Financialization. In this paper, we refer to the research results of Du et al. (2017) and Zhu et al.(2023) to define corporate financialization by the ratio of financial assets to total assets [12][13]. In the robustness test, reference is made to Gu et al.(2020)and Li et al.(2023) to change the items of financial assets, and then the ratio of them to total assets is used to measure corporate financialization[14][4].

3.2.2 Explanatory Variables

Internal executive pay gap: this paper draws on Li and Jiao (2021) to measure the internal executive pay gap by taking the natural logarithm of the difference between the average pay of the top three executives/supervisors/directors and the average pay of other executives [15]. In the robustness test, reference is made to Niu et al. (2019) and Gu et al.(2021), where the absolute difference between the core executives' compensation and the non-core executives' compensation is used to indicate the internal pay gap of executives. The executive team in this paper includes all personnel including directors, supervisors, and executives [16][7].

3.2.3 Control Variables

In addition to the main variables studied in this paper, variables such as fixed asset ratio[17], cash ratio[18], gearing ratio[19],corporate free cash flow[20], Tobin's Q value[21], liquidity ratio[19] and management shareholding ratio[21] were chosen to be controlled to prevent the interference of other extraneous variables.

Table 1. Definition of variables and calculation method

Variable type	Variable name	Variable symbol	Variable Definition
explanatory variable	Financialization of enterprises	fin	(Trading financial assets + Derivative financial assets + Net loans and advances granted + Net available-for-sale financial assets + Net held-to-maturity + Net investment property investments) / Total assets
explanatory variable	internal pay gap of executives	Paygap	ln(average remuneration of the top three executives/supervisors/directors - average of the remuneration of all executives minus the remuneration of the top three executives/supervisors/directors)
control variable	Fixed asset ratio	Fixar	Net fixed assets/total assets
	gearing ratio	Lev	Total liabilities/total assets
	cash ratio	Cash	Closing balance of cash and cash equivalents/current liabilities
	corporate free cash flow	Cf	EBIT + depreciation and amortization - increase in working capital - capital expenditure
	Tobin's Q value	Q	Market capitalization/total assets
	liquidity ratio	LIQ	Current assets/current liabilities
	Management shareholding ratio	Mshare	Number of shares held by management as a percentage of total shares

3.3 Model construction

Do the F test and Hausman test judge which model is more suitable to be used by this paper, the results show that this paper should use the fixed effect model to carry out regression analysis, due to the different years will also have a certain impact on the data, so the final choice of the two-way fixed effect model to test the relationship between the internal pay gap of the executives and the financialization of the enterprise, to establish the following model (1):

$$\begin{aligned} \text{fin}_{i,t} = & \beta_0 + \beta_1 \text{paygap}_{i,t} + \beta_2 \text{Fixar}_{i,t} + \beta_3 \text{Cash}_{i,t} + \beta_4 \text{Lev}_{i,t} + \beta_5 \text{Cf}_{i,t} + \beta_6 \text{Q}_{i,t} \\ & + \beta_7 \text{LIQ}_{i,t} + \beta_8 \text{Mshare}_{i,t} + \varepsilon_{i,t} \end{aligned} \quad (1)$$

Where *fin* represents the financialization of the firm, *pay gap* represents the internal pay gap of executives, β_0 represents the constant term, ε is the residual term, and the control variables mainly include the fixed asset ratio, the cash ratio, the gearing ratio, the corporate free cash flow, the Tobin's Q value, the liquidity ratio, and the management shareholding ratio.

4. Empirical Analysis

4.1 Descriptive statistics analysis

From the results of descriptive statistics, it can be seen that the mean value of the financialization of enterprises is 0.051, and the minimum and maximum values are 0 and 0.475 respectively, which indicates that there is a large gap in the degree of financialization of enterprises; and the mean value of the internal pay gap of executives is 13.199, and the minimum and maximum values are 11.487 and 15.287 respectively, which suggests that at present the pay gap of the internal pay gap of executives of enterprises in China is relatively small.

Table 2. Results of descriptive statistics of variables

Variable	N	Mean	p50	SD	Min	Max
fin	30444	0.051	0.012	0.089	0.000	0.475
paygap	30444	13.199	13.159	0.740	11.487	15.287
Fixar	30444	0.207	0.175	0.153	0.003	0.679
Cash	30444	0.880	0.418	1.354	0.018	8.647
Lev	30444	0.407	0.395	0.203	0.054	0.926
Cf	30444	0.074	0.026	1.371	-5.264	7.509
Q	30444	2.125	1.671	1.423	0.849	9.442
LIQ	30444	2.617	1.749	2.635	0.306	16.614
Mshare	30444	15.141	2.421	20.001	0.000	68.463

4.2 Regression Analysis

Table 3 presents the effect of the internal pay gap of executives on the financialization of firms. The empirical results in (1) show that the internal pay gap between executives and corporate financialization are significantly negative at the 5% level without controlling for other variables; column (2) shows that the internal pay gap between executives and corporate financialization is significantly negative at the 1% level after the introduction of control variables, which suggests that widening the internal pay gap of executives does inhibit corporate financialization, and H1 is verified. As the internal pay gap of executives widens, it will motivate executives to work more aggressively to improve firm performance, and will also cause them to increase their investment in R&D and innovation, etc. Since the resources of firms are limited, this will cause firms to squeeze out their investment in financial assets, which will inhibit the financialization of firms.

Table 3. Intra-Executive Compensation Gap and Financialization of Firms

	(1)	(2)
	fin	fin
paygap	-0.00342**	-0.00405***
	(-2.20)	(-2.66)
controls	no	control
_cons	0.0660***	0.101***
	(3.33)	(4.93)
N	30444	30444

r2	0.105	0.156
r2_a	0.104	0.156
F	138.5	93.32

*** 1% ** 5% * 10%

4.3 Robustness test

To verify the above conclusions, this paper adopts the following three methods to test: (1) replacing the explanatory variables; (2) replacing the explanatory variables; and (3) lagging one period, and then regressing the model, and the conclusions are found to be consistent.

Table 4. Robustness test

	(1)	(2)	(3)
	fin	fin2	fin
paygap2	-0.00387*** (-2.89)		
Paygap		-0.00518** (-2.43)	
L.paygap			-0.00475*** (-3.10)
controls	control	control	control
_cons	0.0507*** (10.20)	0.222*** (7.79)	0.115*** (5.62)
N	30444	30444	25202
r2	0.156	0.229	0.141
r2_a	0.156	0.228	0.141
F	93.32	110.2	82.80

*** 1% ** 5% * 10%

4.4 Heterogeneity test

4.4.1 Financial context

According to the stigma theory, the subject in a special environment will gradually form a mark that is suitable for it, and the mark will continue to have an impact on the subject's behavior (Marquis and Tilcsik, 2013)[22]. The financial industry has been dealing with "money" for a long time, and is used to money generating money, coupled with the fierce competition and high work intensity in this industry, the financial industry has certain special characteristics, which can make the subject form an imprint adapted to the environment. Therefore Chang et al. (2022) believe that executives with financial backgrounds will be more inclined to make financial investments [23]. In this paper, we define executive financial background according to the criteria of the Cathay Pacific database, set dummy variables, which are recorded as 1 if the corporate executives have a financial background and 0 otherwise, and accordingly divide the sample into two groups, and the regression results are shown in Table 5. In the group where executives have a financial background, the internal pay gap of executives is negatively correlated with the financialization of enterprises at the 1% level; in the group where executives do not have a financial background, the coefficient of the internal pay gap of executives is

not significant. The regression results indicate that whether executives have a financial background or not can affect the relationship between the internal pay gap of executives and the financialization of enterprises.

4.4.2 Life cycle

At present, academics generally divide enterprises into four stages based on their business strategies and stages of economic growth. Since most of the listed enterprises in China have usually passed the start-up period and investors are unlikely to choose enterprises in the recessionary period, this paper focuses on enterprises in the growth and maturity periods. In the growth stage, the scale of the enterprise is expanding, the reputation mechanism of the enterprise is gradually formed, and the investment opportunities available for the executives to choose become more. At the maturity stage, the profitability of the enterprise is stronger, but various problems come and go, such as the principal-agent problem, etc. The expansion of the enterprise scale may also cause redundancy, and the investment opportunities are decreasing, at this time, to keep their positions, most of the executives will choose to maintain the status quo, and it may be difficult to expand the gap between the remuneration of the executives in the enterprise at this stage to play a corresponding effect. This paper draws on Yuan et al. 's (2021) approach, when “financing cash flow > 0; operating cash flow > 0 or < 0; investment cash flow < 0”, the enterprise is considered to be in the growth period. When “financing cash flow < 0; operating cash flow > 0; investment cash flow < 0”, the enterprise is considered to be in the maturity stage [24]. Then the model is regressed, and the results are shown in Table 5, in the growth period group, the internal pay gap of executives is negatively correlated with the financialization of enterprises at the 5% level; in the maturity group, the coefficient of the internal pay gap of executives is not significant. The empirical results indicate that the life cycle in which a firm is located affects the relationship between the internal pay gap of executives and the financialization of the firm.

Table 5. Heterogeneity test

	Executives with financial background	Executives do not have a financial background	growth period	maturity period
	fin	fin	fin	fin
paygap	-0.00598*** (-3.06)	-0.00234 (-0.96)	-0.00433** (-2.46)	-0.00318 (-1.18)
controls	control	control	control	control
_cons	0.126*** (4.75)	0.0893*** (2.72)	0.108*** (4.34)	0.0820** (2.29)
N	17901	12543	13669	10615
r2	0.152	0.176	0.115	0.189
r2_a	0.151	0.174	0.114	0.188
F	66.03	33.40	35.60	37.86

*** 1% ** 5% * 10%

5. Findings and discussion

This paper agrees with Chen (2022) and Li et al.(2023) that the relationship between pay gap and corporate financialization is linear[3][4], that the pay gap within executives can inhibit corporate financialization, and that the findings remain robust after replacing the core variables and controlling for endogeneity. In addition, this paper illustrates through the heterogeneity test that when the executives of an enterprise have a financial background, they will be more inclined to choose financial investment, however, with the increase of the executive pay gap, this investment opportunity of the executives is weakened; when the enterprise is in the growth period, the development prospect is broad, and the investment opportunities become more, and the behaviors of the executives can directly determine the enterprise's future business performance, therefore, with the incentive effect of the pay gap. Therefore, with the incentive effect of pay gap, the short-sighted behavior of executives will be greatly curbed. According to the conclusion, the following insights are drawn: first, enterprises should formulate the salary assessment system with the times, and effective incentives for executives can reduce their short-sighted behavior and increase their work enthusiasm, which is conducive to the future development of the enterprise; second, enterprises should also improve the mechanism of executive selection and hiring, and appropriately select diversified backgrounds of executives, to avoid the decision-making bias caused by homogenization of the selection and hiring, to achieve the purpose of taking the strengths of the complementary shortcomings. Third, enterprises should consider their life cycle when designing the pay gap and make corresponding adjustments accordingly.

The shortcomings of this paper are the following two points: (1) this paper concludes that the larger the pay gap, the stronger will be the inhibition of the financialization of the enterprise, however, the enterprise's resources are limited, and it is unlikely that it will always increase the pay of the executives, and too much executive pay may bring new problems to the enterprise. However, this paper does not address the upper limit of the internal pay gap of executives; (2) when the enterprise has idle funds, financial investment in a small area will not affect the development of the main business, but what kind of standard enterprises can meet the financial investment, this paper does not conduct research. The source of bias in this paper: this paper is only based on the relevant financial data of listed enterprises for research, but listed enterprises are only a part of China's enterprises, and do not represent the overall situation of China's enterprises.

References

- [1] Cai,H.J., Xie,Q.X., Zhang,H.M. Power change or profit-seeking: the institutional logic of financialization of real enterprises under the perspective of environmental regulation[J]. Accounting Research,2021(04):78-88.
- [2] An,L., Shen,Y., Yu,R.H. Relationship between Executive Incentives and Corporate Financial Asset Allocation-Based on Comparative Perspectives of Compensation Incentives and Equity Incentives [J]. Journal of Shanxi University of Finance and Economics,2018,v.40;No.314(12):30-44.
- [3] Chen,J.Q. Research on the impact of internal pay gap on financialization of enterprises[D]. Shandong University of Finance and Economics,2022.
- [4] Li,L,Wei,W.J.. Executive pay gap and corporate financialization--Heterogeneity characteristics, mechanism test and economic consequences[J]. Finance and accounting newsletter,2023(02):49-56.
- [5] Zhu,G.P., Hu,W.X., Mu,Q.B.. A study on the nonlinear impact mechanism of pay gap and corporate financialization[J]. Operations Research and Management,2022,31(08):210-216.

- [6] Wang,Y.Z. Research on the Impact of Executive Compensation on Corporate Financialization[D]. Northeast University of Finance and Economics,2022.
- [7] Gu,H.F.,Zhu,H.P. Does the executive compensation gap promote firms' investment in innovation--evidence based on Chinese A-share listed companies[J]. Accounting Research,2021(12):107-120.
- [8] Wang,X.F.,Yang,X.X. Executive pay gap, managerial tenure and R&D investment intensity[J]. Finance and Accounting Monthly,2019(08):20-28.
- [9] Nathan, M., & Rosso, A. (2022). Innovative events: Product launches, innovation and firm performance. *Research Policy*, 51(1), 104–137.
- [10] Shao,J.B., Li,W. Executive pay gap, strategic change and corporate performance:The moderating role of management power[J]. Business Research,2017(11):88-96.
- [11] Cao,H.L.,Liu,X.X.,Li,J.F.. Executive compensation gap and corporate performance - based on corporate life cycle perspective[J]. Finance and accounting newsletter,2017(29):26-29.
- [12] Du,Y., Zhang,H., Chen,J.Y., CHEN Jianying. The impact of financialization on the future main business development of real enterprises:Promotion or inhibition[J]. China Industrial Economy,2017(12):113-131.
- [13] Zhu, R. Y., K. H. Tan & X. H. Xin. 2023. Can the Opening of High-Speed Railway Restrain Corporate Financialization? Sustainability 15.
- [14] Gu,L.L., Guo,J.L., Wang,H.Y. Corporate social responsibility, financing constraints and corporate financialization [J]. Financial Research, 2020(2):109-127.
- [15] Li,Q.,Jiao,H.. Compensation gap and firm performance within the executive team - A dual perspective of customer demand uncertainty and firm growth[J]. Economic Management,2021,43(06):53-68.
- [16] Niu,J.B., Li,S.N., Yang,Y.L. Dong Chenxie. Executive pay gap, governance model and corporate innovation [J]. Management Science, 2019, 32(2):77-93.
- [17] Jiang,S.L.,Zhang,X.Y. Corporate financialization and business performance: inhibition and heterogeneity[J]. Research World,2022(08):13-21.
- [18] Duan,Y. Research on the impact of intellectual capital on corporate performance [D]. Beijing University of Posts and Telecommunications,2022.
- [19] Chen,L.J., Financing constraints, internal control and corporate financialization[D]. Yangzhou University,2023.
- [20] Wang,Y. Huang,X.H. Internal control and financialization of real enterprises: governance effect or boosting effect[J]. Financial Science,2020(02):26-38.
- [21] Chen,W.J., Cao H.M.. Has financialization of real firms suppressed financial irregularities? --Based on the perspective of regional peer effect research[J]. Zhejiang Finance,2022(09):29-43+80.
- [22] Marquis C,Tilcsik A. 2013. Imprinting:Toward a Multilevel Theory [J].Academy of Management Annals,7(1).
- [23] Chang,Y.Y., Zhou,Y.Y., Zhu,X.A.. An empirical test of the relationship between CEO financial background and asset financialization in real enterprises[J]. Statistics and Decision Making,2022,38(06):164-168.
- [24] Yuan,Z.M.,Ji,R.H.,Liu,S.Y.. Executive external compensation gap and corporate innovation level and innovation efficiency[J]. Finance and Accounting Monthly,2021(14):48-55.