

Employees Earn More if the Boss Donates More—— Evidence from Chinese Listed Firms

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Abstract. Using data from Chinese listed firms from 2010 to 2020, this paper examines the impact of corporate philanthropic donation on the executive-employee pay gap and its mechanism. Research has found that corporate philanthropic donations have an inhibitory effect on the internal income gap of enterprises, and are moderated by business performance, strengthening the constraints on the internal income gap of enterprises. The degree of market competition serves as a "catalyst" to enhance the regulatory effect of corporate charitable donations on suppressing internal income disparities through business performance, making the relative increase in income of employees in enterprises with higher levels of market competition more prominent. This conclusion is long-term and stable, revealing the win-win situation of corporate charitable donations, which is both "self-interest" and "altruism".

Keywords: corporate philanthropic donation; executive-employee pay gap; moderating effect; corporate profitability; market competition; China

1 Introduction

Corporate donation has long been viewed as a business tool driven by “self-interest” motives [1] [2] [3] and is seen as a “tax radical” that significantly reduces the tax burden on corporations [4]. It reinforces the stereotype that corporate philanthropic donation is “self-interest” from a utilitarian perspective. The impact of philanthropic donation on the pay gap within the firm itself is rarely mentioned. In fact, firms are driven by “altruistic” motives at the same time. Philanthropic donation that reflects their social responsibility and improves employee welfare is not only a way to improve their economic status, but also redistribute employee income, reflecting the values of corporate citizenship [5].

This paper wants to investigate the causal relationship between corporate philanthropic donation and intra-firm income disparity. The basic logic is that corporate philanthropy is a decision made by executives to maximize corporate benefits based on a principal-agent framework. We focus on whether the enterprise maximize the income through donation while improving the relative salary level of employees, rationalize the internal salary gap. Achieve the "altruistic" effect driven by the "self-interest" motivation.

2 Literature Review and Research Hypotheses

Whether driven by “altruistic” or “self-interest” motives, donation is beneficial to business. Many literatures reveal “remunerative” motives for corporate philanthropy donation. Whether it is for corporate salvation or reasonable tax avoidance, donations are instrumentally used for corporate benefit [6] [7]. By replacing advertising expenses with charitable donations, enterprises can gain market awareness and consumer reputation, establish brand image, and strategic charitable donations can improve production efficiency, reduce production and operating costs, alleviate resource dependence, and gain key resource advantages [8].

Meanwhile, some scholars argue that corporate philanthropic donation is indeed a fulfillment of social responsibility and an altruistic act of good citizenship without expecting anything in return [9]. In particular, Chinese firms, influenced by the inherent motives and social norms of Confucianism's “goodness of nature” theory[10], are more likely to show altruistic preferences when engaging in philanthropic donation. Donations can bring redistribution of production factors to enterprises. Enterprises with altruistic preferences are also more willing to benefit all employees with the "rewards" brought by donations.

Based on the above literature studies, this paper proposes the following hypothesis.

H1: Corporate philanthropic donation affects the redistribution of value among factors of production. Corporate philanthropic donation relatively improves employees' salary and benefits, which reduce the executive-employee pay gap.

Literature similar to this paper also focus on the relationship between donation and business performance. First, philanthropic donation increases profits and improves long-term business performance [7]. Meanwhile, donation is a channel for firms to establish political connections [11], so as to seek political resources in this way [10]. Therefore, it is almost a consensus in the academic community that corporate charitable donations can improve business performance.

Based on the above literature, this paper proposes the following hypotheses.

H2: Corporate philanthropic donations promote the improvement of business performance and have a positive moderating effect on the salary gap between executives and employees, strengthening the relative increase in employee compensation.

Relevant studies based on Chinese data reveal that the nature of corporate ownership affects donations and employee salary systems. State-owned enterprises (SOEs) have more policy advantages and more formal and official “connections” with government [12] than non-state-owned enterprises (non-SOEs), which blurs the causal relationship between SOE performance and the efforts and talents of those in charge, thus weakening the effectiveness of performance-based compensation systems[13].

SOEs' donations are more subject to government intervention and are “apportioned” in nature [14]. Non-SOEs use bureaucratic relationships to cushion government donations, especially in highly competitive industries. Non-SOEs, less subject to government intervention and support, face a highly competitive market environment, which makes the salary naturally more performance-related[13].

Meanwhile contribution of philanthropic donation to business performance is greater when firms are located in regions that are more market-oriented [14]. The moderating effect of marketization on donation behaviour and internal income disparity needs to be transmitted through corporate business performance. Non-SOEs are in a more competitive market environment, and are willing to offer higher salaries to their employees in order to increase motivation. Based on this, the following hypotheses are proposed.

H3: There are subjective competitive differences in the effect of corporate philanthropic donation on the executive-employee earnings gap. The suppressive effect of philanthropic donation on internal income disparity is more pronounced for firms in higher competitive markets (non-SOEs).

3 Methodology and data

3.1 Data Sources

The research object of this paper is Chinese listed firms. Since the behaviour of firms in philanthropic donation is significantly enhanced in the past decade, so we collect data of A-share listed firms from 2010 to 2020 from CSMAR database. We eliminate the sample of firms with missing data and obvious abnormalities. After processing, the study sample consisted of 1842 firms with unbalanced panel data.

3.2 Definition and Measurements of variables

3.2.1 Income Level of the Firm's Employees

This paper takes the executive-employee pay gap as a proxy variable for the change in the relative income level of employees. The Theil index is sensitive to the changes of income at both ends (high-income and low-income classes). Thus, this paper measures the income disparity within enterprises by decomposing the overall disparity into intra-group disparity and inter-group disparity using the Theil index and mean log deviation.

$$TI = \sum_{j=1}^2 \left[\frac{P_{ij,t}}{P_{i,t}} \right] \ln \left[\frac{P_{ij,t}/Z_{ij,t}}{P_{i,t}/Z_{i,t}} \right] = \frac{supr*sups}{toti} * \ln \left(\frac{supr*sups}{toti} / supr \right) + \frac{empr*emps}{toti} * \ln \left(\frac{empr*emps}{toti} / empr \right) \quad (1)$$

$$toti = supr * sups + empr * emps \quad (2)$$

where TI is the Theil index. $j=1,2$ denotes executives and employees, respectively. Z_{ij} and P_{ij} is the number and income of executive ($j=1$) or employee ($j=2$) population of enterprise I. $supr$ and $empr$ are the percentage of executives and employees. $sups$ and $emps$ are the average salaries of executives and employees. $toti$ represents the overall income level. This paper also focuses on whether the dynamics of employee income is influenced by corporate philanthropic donation. Using the growth rate of employee salary as another indicator reflecting relative changes in income.

3.2.2 Corporate Donations

There are two ways to measure corporate philanthropic donation: the absolute level and the relative level. The relative level of donation reflects the dynamic changes of donation more suitable. Referring to Wu et al. [15] and Chan et al. [14], we adopt the relative indicator of the ratio of donation to corporate net profit to reflect the level of corporate philanthropic donation, and use the amount of donation to the natural logarithm to measure the absolute level of corporate philanthropic donation.

3.2.3 Control Variables

The control variables are constructed at two levels. One is the control for the basic characteristics of enterprises, such as firm size, leverage, gearing, and years on market in terms of operating income growth, affect the internal revenue gap of firms[16] [17]. The other one is the control for the influence on the sense of social responsibility performed by enterprises. Literature studies find that variables affecting the sense of corporate social responsibility include the education degree of executives, the percentage of independent directors, the percentage of ownership interests in the parent firm, and the type of corporate ownership[18] [19].

3.3 Empirical model

Given the effects of macroeconomic fluctuations and policy changes [4], this paper argues that the effects of temporal heterogeneity and omitted variables need to be distinguished. The model is constructed using individual time double fixed effects for regression:

$$TI_{it} = \delta_0 + \delta_1 \ln(\text{donation})_{it} + \delta_2 X_{it} + \varphi_t + c_i + \varepsilon_{it} \quad (3)$$

where i refers to all observed firms. t is the time of observation, from 2010-2020 for a total of 11 years. $\ln(\text{donation})_{it}$ is the corporate philanthropic donation ratio taken as logarithm. X_{it} are control variables. φ_t is the year effect. c_i is the firm fixed effect. ε_{it} is the random disturbance term. δ_1 indicates the effect of corporate philanthropic donation on corporate pay gap.

4 Empirical analysis

4.1 Overall regression

Considering the trend characteristics of individuals without intervention, a dual fixed effects model of individual and year was used to analyze imbalanced panel data. Table 1 reports the baseline estimation results of the impact of corporate philanthropic donations on internal pay gap. Under different settings in columns (1) to (4), the coefficients of the main explanatory variable donation level are all negative and pass the test at a significance level of 1%. The regression results reveal the convergence effect of corporate donations on internal income inequality, and hypothesis 1 holds.

Table 1 Double fixed effects regression results

| | (1) | (2) | (3) | (4) |
|-------------------------|----------------------|----------------------|-----------------------|-----------------------|
| Variables | TI | TI | TI | TI |
| LnDonation | -0.016*** (-2.82) | -0.022*** (-3.82) | -0.018*** (-2.98) | -0.023*** (-3.58) |
| Proprietary | | | -0.863*** (-12.10) | -0.813*** (-11.19) |
| Control variables | | Control | | Control |
| Corporate fixed effects | Control | Control | Control | Control |
| Year fixed effects | | | Control | Control |
| Observations | 4,993 | 4,993 | 4,178 | 3,876 |
| Number of ID | 1,842 | 1,842 | 1,625 | 1,548 |

Note: *, **, *** indicate significant at the 10%, 5%, and 1% levels, respectively; standard errors are reported in parentheses. Same as below.

4.2 Endogenous problem

Although previous literature has addressed endogeneity problems through the fixed effects of panel models, this paper still chooses appropriate instrumental variables as a more effective method to solve endogeneity problems. Selected as the instrumental variables, the ownership concentration ratio and the donation ratio of the previous period reflect the management structure and decision-maker structure of the enterprise[20], it has an important impact on the selection and level of corporate donations, but has no direct impact on the pay gap [21].

Table 2 Regression results of instrumental variables

| | (1) | (2) |
|--|----------------------|----------------------|
| Variables | TI | TI |
| LnDonation | -0.154*** (-3.18) | -0.150*** (-3.00) |
| Constant | 4.507*** (5.45) | 5.171*** (4.94) |
| Control variables /Year /Corporate fixed effects | - | Control |
| Observations | 1,803 | 1,686 |
| 2SLS Weak id test | 18.86 | 17.17 |
| Sagan test p-value | 0.9292 | 0.9825 |
| Hausmann Inspection | 5.01676 | 3.41881 |
| Hausman test p-value | 0.0252 | 0.0645 |

The regression results of 2SLS after adding IV are shown in Table 2. The Hausman test indicates that the original equation does indeed have estimation errors caused by endogenous problems. The Wald F statistic of the first stage regression is greater than the critical value at the 10% level of the Stock Yogo weak identification test. This indicates that IV is not a weak instrumental variable and satisfies exogeneity. The Sagan test indicates that there is no over recognition problem, proving the effectiveness of the instrumental variable.

4.3 Robustness Tests

Empirical judgments often assume that the motivation to donate comes from exogenous pressures and episodic events[18]. To test whether episodic events affect the stability of

corporate philanthropic donations that inhibit intra-firm income disparity, a model is constructed as follows.

$$TI_{it} = \delta_0 + \delta_1 \ln(donation)_{it} + \delta_2 \ln(donation)_{it} \times covid_t + \delta_3 X_{it} + \varphi_t + c_i + \varepsilon_{it} \quad (4)$$

where $covid_t$ is a dummy variable for whether there is an outbreak or not. If the sample period falls in 2019-2020, it is set $covid_t=1$. if the sample period falls within 2019-2020, otherwise $covid_t=0$. In Model (4) " $\ln(donation)_{it} \times covid_t$ " indicates donation has an interactive effect on the outbreak. This is to observe whether the exogenous impact of the epidemic will have an impact on the phenomenon that corporate charitable donations narrow the pay gap. If the finding is consistent and stable, then δ_2 Both positive and negative should be insignificant.

Table 3 Robustness tests

| | (1) | (2) | (3) | (4) |
|---|--------------------------|--------------------------|------------------------|--------------------|
| Variables | TI | TI | EmployeeSalary | SalaryIncrease |
| Donate | - | - | 8,951.549*** (8.42) | 0.073*** (4.75) |
| LnDonation | - 0.023*** (-3.58) | - 0.041*** (-4.39) | - - | - - |
| Covid | - - | 0.723*** (10.36) | - - | - - |
| LnDonation*Covid | - - | -0.018 (-1.11) | - - | - - |
| Control variables /Year /Corporate fixed effects | Control | | | |
| Observations | 3,876 | 3,876 | 5,015 | 2,899 |
| Number of ID | 1,548 | 1,548 | 1,845 | 1,382 |

Table 3 reports the regression results of Model (4). Compared with Column (1), the coefficient of $\ln(donation)_{it} \times covid_t$ is not significant. The coefficient of δ_1 does not change significantly on the premise of significance. This means that the impact of the epidemic does not change the situation that corporate donations affect the internal income gap. In addition, we replaced the explanatory variables with average annual salary and employee wage growth rate. The regression results are shown in column (3) of Table 3, indicating that the previous conclusion is long-term and robust.

5 Additional Analyses

5.1 Moderating Role of Corporate Profitability

It is difficult to imagine that a struggling firm can afford to make philanthropic donations and improve employee welfare. In the principal-agent framework, entrusted by the capital holders to operate the firm for profit maximization, executives will choose the factors with high returns as the optimal investment decision of the firm. Compared to capital inputs, labor inputs are more correlated with productivity. Firms are more likely to adjust labor inputs based on their judgment of productivity[22].

There is an interaction between corporate profitability and the increase of corporate philanthropic donation on the intra-firm pay gap. Corporate profitability acts as a moderating variable in the process of narrowing the intra-firm pay gap by corporate philanthropic donation, according to which the moderating effect model is constructed as follows.

$$TI_{it} = \delta_0 + \delta_1 \ln(donation)_{it} + \delta_2 netprofit_{it} + \delta_3 \ln(donation)_{it} \times netprofit_{it} + \delta_4 X_{it} + \varphi_t + c_i + \varepsilon_{it} \quad (5)$$

$\ln(donation)_{it} \times netprofit_{it}$ indicates the interaction between the two. Model (5) indicates the moderating effect of corporate profitability on corporate philanthropy to narrow the internal income gap. We are more concerned with the marginal effect of donation on intra-firm income disparity after the inclusion of moderating variables $ME_{donation}$. According to model (5)

$$ME_{donation} = \frac{\partial TI}{\partial donation} = \delta_1 + \delta_3 \times netprofit_{it} \quad (6)$$

In Model (5), the impact of corporate philanthropy on the internal income gap changes dynamically. The coefficient of $\ln(donation)_{it}$ is no longer a constant, but changes with the value of corporate business performance.

Table 4 Moderating Roles of Corporate Profitability

| | (1) |
|--|----------------------|
| Variables | TI |
| LnDonation | -0.044*** (-4.84) |
| NetProfitRatio | 7.020*** (3.83) |
| LnDonation×NetProfitRatio | 0.382*** (3.26) |
| Constant term | 6.332*** (15.03) |
| Control variables /Year /Corporate fixed effects | Control |
| Observations | 3,876 |
| Number of ID | 1,548 |

Table 4 reports the estimation of this model by stepwise regression. According to the value of $netprofit_{it}$ definition field, $ME_{donation}$ is significantly negative. The impact of corporate philanthropy donation on the internal income gap will change with each unit of the increase in corporate net profit ratio δ_3 units. With the improvement of business performance, donation has a stronger suppressive effect on the internal income gap of enterprises. Hypothesis 2 holds.

5.2 The Catalytic Effect of Market Competition

In the special environment of China's market economy, the difference of corporate profitability is closely related to the nature of property rights. The donation behaviour of non-SOEs plays a stronger role in improving future performance [23]. This is rooted in the nature of enterprise property rights, so the motivation and impact of donations are different due to different property rights.

The underlying logic of the variability of corporate property rights is the difference between the degree of political affiliation and the degree of market integration of firms. Listed non-

SOEs, which operate with the purpose of obtaining profits, are less subject to government intervention and support and face a highly competitive market environment [13]. Improving the salary level and benefits of employees becomes an inevitable requirement for firms to improve their business ability and sustainable development. Therefore, under the difference of market competitiveness, the suppressive effect of corporate philanthropic donation on internal income disparity is stronger in non-SOEs.

For mechanism testing, a triple adjustment model is developed in this paper. It is possible to test whether the individual differences between the binding effect of corporate philanthropy on income disparity and the moderating effect of corporate business performance are determined by market competition. The models are constructed as follows.:

$$TI_{it} = \delta_0 + \delta_1 \ln(donation)_{it} + \delta_2 netprofit_{it} + \delta_3 HHI_{it} + \delta_4 \ln(donation)_{it} \times netprofit_{it} + \delta_5 \ln(donation)_{it} \times netprofit_{it} \times HHI + \delta_6 X_{it} + \varphi_t + c_i + \varepsilon_{it} \quad (7)$$

$$TI_{it} = \delta_0 + \delta_1 \ln(donation)_{it} + \delta_2 netprofit_{it} + \delta_3 SOE_{it} + \delta_4 \ln(donation)_{it} \times netprofit_{it} + \delta_5 \ln(donation)_{it} \times netprofit_{it} \times SOE_{it} + \delta_6 X_{it} + \varphi_t + c_i + \varepsilon_{it} \quad (8)$$

HHI is the degree of market competition calculated by Herfindahl index. The value range is 0-1. When the market is in complete monopoly, HHI=1. The closer the value is to 1, the higher the market concentration is, the enterprises are in the lower competitive market, and vice versa. SOE is a dummy variable for the type of enterprise, which takes the value of 1 when the sample enterprise is a private ownership enterprise and 0 for others.

Table 5 The adjustment model of introducing market competition

| | (1) | (2) |
|--|----------------------|----------------------|
| Variables | TI | TI |
| LnDonation | -0.044*** (-4.90) | -0.045*** (-4.91) |
| NetProfitRatio | 7.007*** (3.83) | 7.408*** (3.98) |
| HHI | -0.125 (0.91) | - - |
| SOE | - - | -0.771*** (-9.68) |
| LnDonation×NetProfitRatio | 0.424*** (3.54) | 0.376*** (3.21) |
| LnDonation×NetProfitRatio×HHI | 0.176* (1.75) | - - |
| LnDonation×NetProfitRatio×SOE | - - | 0.047* (1.77) |
| Constant term | 6.419*** (15.20) | 6.279*** (14.83) |
| Control variables /Year /Corporate fixed effects | Control | |
| Observations | 3,858 | 3,876 |
| Number of ID | 1,544 | 1,548 |

Table 5 reports the regression results of Model(7) and (8). δ_5 is significantly positive. When a firm faces higher market competition, the incentive to increase the income level of the employees is more urgent. It proves that the higher the degree of competition in the market in which the firm is located, the stronger the adjustment of the firm's business performance.

As previously inferred, the type of ownership does affect the causal relationship. The philanthropic donations of non-SOEs narrow the pay gap to a greater extent and at a higher significance level. There is a higher competitive market pressure in the operation of non-SOEs. Listed non-SOEs tend to increase the income level of employees more quickly rather than executive salary and benefits, moderated by the level of business performance. The profit brought by donation is more inclined to employee salary, to improve competitiveness for long-term sustainable development. The binding effect of corporate philanthropic donation on the pay gap within the enterprise will be more significant. Hypothesis 3 holds.

6. Conclusion

This study found that donations can suppress pay gap within the enterprise, and this inhibitory effect is sustained and not affected by occasional shocks. The interaction between donations and corporate performance strengthens the inhibitory effect of charitable donations on internal income disparities. Further discovering that the degree of market competition serves as a “catalyst”, especially in companies with higher levels of market competition, donations have a more effective consistent effect on the internal pay gap of the enterprise. This paper re-examines the motivation and benefits of corporate donation behavior from the perspective of common prosperity, providing Chinese evidence for corporate donation to achieve a win-win situation of "benefiting oneself" and "benefiting others" at the same time.

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