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Empirical study on the relationship between executive compensation dispersion and firm performance: the moderating role of technology intensity

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ABSTRACT

This paper examines the moderating effect of technology intensity on the relationship between executive compensation dispersion (ECD) and firm performance in Chinese manufacturing industry. And the multiple linear regression results do confirm that the relationship between the two is sensitive to technology intensity. Specifically, for the publicly listed manufacturing companies with lower technology intensity in China, ECD plays a tournament role and motivates top managers to achieve higher performance. However, for the publicly listed manufacturing companies with higher technology intensity, ECD does not show any significant effect on firm performance. Our finding suggests that technology intensity negatively moderates the relationship between ECD and firm performance which can reconcile the extant disagreements on performance consequences of ECD among scholars to a large degree. We also draw a conclusion that firms with better performance and higher technology intensity tend to have smaller ECD. Meanwhile, the relationship between technology intensity and firm performance is, on average, negative.

1. Introduction

Executive compensation is the key topic of corporate governance in China which is receiving more and more attention from scholars across the world (Lam, McGuinness, & Vieito, 2013). Of all the important dimensions of executive compensation, i.e., executive compensation level, executive compensation–performance sensitivity, executive compensation dispersion (ECD) and executive–employees compensation gap, research conclusions on ECD in present literature are the most controversial. ECD, sometimes also termed as executive pay gap or CEO pay gap, mainly refers to the compensation difference between CEO and the other top executives, which also simultaneously reflects the compensation change caused by executives' promotion (Lee, Lev, & Yeo, 2008). ECD itself and its effect on firm performance express the distribution pattern and distribution efficiency of total executive compensation, so it can be argued that ECD actually reflects both mechanisms of benefit incentive and career advancements (Hu, Pan, & Tian, 2013). ECD has key effects on top managers' behavior and attitudes, which would make great significance to improve organizational performance. According to the opinion of Henderson and Fredrickson (2001), there are two main competing theoretical views on the topic of performance consequences of ECD, respectively organizational justice theory proposed by Adams (1963) from the behavioral view and tournament theory proposed by Lazear and Rosen (1981) from the economic view. Tournament theory argues that lager ECD can improve firm performance significantly due to the tournament incentive effect of ECD (Hu et al., 2013; Laura, 2000; Lee et al., 2008; Melton & Zone, 2000), while organizational behavioral theory argues that larger ECD would lead to executives turnover (Bloom & Michel, 2002) and poor firm performance (Siegel & Hambrick, 2005) due to executives' feelings of being

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exploited or sense of unfairness caused by pay inequality within top management teams. Though the two theories both have confirmed that the substantial influence of ECD upon firm performance does exist, it is obvious that, at present, scholars have not reached a consensus on the nature of the influence, i.e., positive performance consequences or negative performance consequences of ECD are still unclear.

Based on the previous literature, it can be found that ECD is a double-edged sword which can improve or harm firm performance. That means the function mechanism of ECD's performance consequences is complicated and it is difficult to grasp accurately. Logically inferring, ECD does have both positive effect argued by tournament theory and negative effect argued by behavioral theory on firm performance simultaneously, and each effect has its prerequisites for reaching a dominant position compared with the other effect. That is to say, different contingent factors will moderate the relative strength of the two opposite effects. Under certain condition, positive effect due to interpersonal competition and material incentive derived by higher ECD will overcome the negative effect, just as the facts that have been confirmed by the tournament theory literature; On the other hand, under other conditions, negative effect due to counterproductive behavior and dissatisfaction derived by higher ECD will exceed the positive effect, just as the results that have been proved by the behavioral theory literature. Consequently, for scholars, it is critical to find out such contingent factors and further investigate its moderating effect on the relationship between ECD and firm performance. This study takes technology intensity as the critical contingent variable and tries to discuss the moderating effect of technology intensity on the relationship between ECD and firm performance.

2. Literature review and hypothesis

2.1. Performance consequences of ECD in economic view

Traditional economic theory argues that agent's compensation should be determined according to his marginal output by the principal in order to make agent reach his optimal effort level. If it can be realized in practice, the principal can make the compensation decisions according to the agent's marginal contribution, and thus such decision-making behavior is rather easy. However, the effectiveness of such behavior needs a prerequisite described as that the supervision of executive is accurate with a lower cost, which cannot be satisfied at all. Therefore, shareholders and the boards, as the principal, begin turning to the incentive of tournament.

Tournament theory demonstrates that when the monitoring cost on the agents is rather high, the principal would try to motivate the agents adopting their relative performance instead of the absolute performance. Since the winner in the tournament will get most of the prizes, while the losers will even get nothing, the high ECD will provide the competitors great motivation to try to win. In TMT, top executives should try to do better than others to get promotion. Eventually, the competition results will improve firm performance. Therefore, in order to induce higher effort level from the executives, a relative higher ECD is necessary. All in all, the tournament theory regards that with the increase of the monitoring cost under the conditions of more popular teamwork, higher ECD can lower the monitoring cost and thus provide strong incentives for the alignment of shareholders' and executives' interests. That is to say, higher ECD can lead to higher firm performance.

Since the appearance of tournament theory by Lazear and Rosen (1981), many scholars have empirically tested the positive performance consequences of ECD (Chen, Ezzamel, & Cai, 2011). For example, Tor (1999) takes Denmark firms as the sample, adopting coefficient of variation and CEO–employees pay gap as the measurement of ECD, and confirms that ECD is positively with firm performance. Main, O'Reilly, and Wade (1993) take 200 American firms as the sample, adopting the sum of cash compensation and prizes as the base of calculating ECD, and finally proves that ECD is positively both with the financial performance and market performance. By adopting the method of ordinary least squares (OLS) regression analysis, Lin and Lu (2009) have shown that, for the publicly traded companies in China, compensation gap between senior executives, another term of ECD, plays a tournament role and motivates managers to achieve higher level of performance.

2.2. Performance consequences of ECD in behavioral view

Behavioral view focuses on the influence of ECD on team cooperation. Different with the tournament theory which supports large ECD, from the perspective of psychology, behavioral theory regards that ECD is one of the important components of social psychological and social political environment, which have effects on individual's intention choice between pursuing his own benefits and cooperating with others for shared goals.

According to social comparison theory, a branch of behavioral view, executives intend to seek for distribution justice at the preconditions of both overestimating their own output and capability and weakening the input of their peers, especially CEO (Fredrickson, Davis-Blake, & Sanders, 2010; O'Reilly, Main, & Crystal, 1988). Therefore, even CEO or some executives really do more contributions than others, an objectively fair ECD would still lead to the sense of unfairness. Once the dissatisfaction emerges, the work effort will decrease, and the counterproductive effort will occur, eventually the firm performance would be damaged. According to relative deprivation theory, another branch of behavioral theory, if executives find that their compensation is lower than expected, they will feel a sense of being exploited, which will naturally lead to negative workplace behavior, such as free riding, sabotage, strike, and negative attitudes, including carelessness on organizational objectives and the decrease of cohesion and commitment to the firms (Sweeney, McFarlin, & Inderrieden, 1990). That is to say, ECD is the base of comparison among executives, and if they feel being exploited, they will not cooperate and do some negative behavior which is harmful to teamwork. Consequently, firm performance will be affected negatively. According to organizational political theory, the third branch of behavioral view, since the too fierce competition among executives will be full of political behaviors, which will weaken the cooperation conversely, so too large ECD is not good to firm