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How Can the Sustainable Motivational Effect of Equity Incentives on Corporate Performance Be Exploited?—A Study Based on the Moderating Effect of Aspiration Level

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Abstract: How equity incentives affect corporate performance has become a consensus. However, the question of how to maximize the sustainable incentive effect of equity incentives on corporate performance and avoid "short-sighted" behavior under equity incentives has not yet been resolved. This research re-examines the sustainable incentive of equity incentives and examines the moderating role of aspiration levels based on the behavioral theory of the firm and the prospect theory. Applying panel data comprised 9588 observations from Chinese A-share listed companies spanning the period from 2011 to 2019, this study found that there is an inverted U-shaped relationship between equity incentives and corporate performance. Aspiration surplus negatively moderates the curvilinear inverted U-shaped relationship. As the level of aspiration surplus changes from low to high, the curvilinear relationship between equity incentives and corporate performance is weakened. Aspiration loss positively moderates the curvilinear inverted U-shaped relationship. As the level of aspiration loss changes from low to high, the curvilinear relationship between equity incentives and corporate performance is enhanced. This study demonstrates the importance of aspiration level between equity incentives and corporate performance, guiding firms to focus on the implementation scenario as an influencing factor in order to improve the sustainable incentive effect of equity incentives.

Keywords: sustainable incentives; aspiration surplus; aspiration loss; equity incentive; corporate governance

1. Introduction

Corporate performance is the result of an executive's cognitive processing and behavioral decision-making. That is, an executive's behavior-based decisions have a direct impact on corporate performance. Agency problems exist between executives and shareholders based on the agency theory. In their decision-making process, executives will prioritize their own interests and possible losses, rather than the overall interests of the company and the maximization of shareholder value [1,2]. This will lead to a decline in corporate performance. Thus, equity incentives, as a necessary institutional arrangement, are introduced into the corporate governance to balance the conflicts of benefits between management and shareholders and to promote their interest alignment and risk sharing [3]. Previous research has found that an effective equity incentive mechanism can prevent executives from taking short-sighted actions that harm their company's interests. The principal–agent problem can also be reduced by deferring part of the executive's salary to the future, thereby improving corporate performance [1,3,4].

Focus on the sustainable incentive effect of equity incentives is an unresolved issue. According to the "the interests of managers and shareholders are consistent interests" [1] hypothesis, some scholars have suggested that equity incentives can effectively solve the agency problem, so firm value is positively correlated with management incentives. Nevertheless, under the managerial entrenchment hypothesis, the equity incentive itself

can become a new agency problem, effectively being manipulated to become a tool used by management to seek personal gain. Finally, equity incentives can cause performance losses [5–7]. In addition, some literature has demonstrated that only controlling the proportion of senior management shareholding within a particular range can have an incentive effect [8]. Based on the behavioral theory of the firm [9], the decision-maker may assess the actual performance and aspiration level that must be reached to make follow-up decisions. This implies that introducing equity incentives at different aspiration levels may lead to varying results. In other words, there may be a nonlinear relationship between equity incentives and corporate performance. This complex relationship between them may be a black box and there have been relatively few studies on this aspect [10]. Although the inverted U-shaped relationship can explain to some extent the divergence in the conclusions of the positive and negative relationships, this argument itself is also inadequate. Kuo et al. (2014) and Chen (2018) also concluded that the same inverted U-shaped relationship exists, but their respective research has different equity incentive intervals and distinct inflection points [11,12]. This implies that the relationship between equity incentives and corporate performance remains unstable and inconsistent. This research attempts to develop a nonlinear model between equity incentives and corporate performance to explain the sustainability incentive effect of equity incentives.

In the "goal-oriented" incentive model of equity incentives, senior managers can unlock the terms of equity incentives only after achieving expected performance [4]. When boards design "targets" (aspiration level), they often choose performance as a reference point for the manager's evaluation. This reference point can be understood as the expected business aspiration level. However, the executive managerial incentives and corporate performance are inconsistent associations [13,14]. This may be due to neglecting the aspiration level, which is the reference point used by executives to judge the "success" of the firm's operating status. According to this perspective, the decision-maker may assess the actual performance and aspiration level necessary to make follow-up decisions. In this case, the incentive will reach a state of "saturation"; even if the equity incentive to the executive team continues to increase, this will not lead to a sustainable improvement in the company's performance.

Since the heterogeneous effects of equity incentives are influenced by the cognitive and decision-making behavior of executives [15], our research argues that executive perceptions of the organizational context such as different aspiration levels need to be taken into account between equity incentives and corporate performance, which is advantageous to identify the underlying drivers of change in incentive mechanism. Based on the BTOF, we further use the prospect theory to understand the paradoxical question. Prospect theory proposes a psychological model of people's risky decisions in uncertain situations; decision makers will be risk-averse when faced with gains and will seek high-risk behaviors when faced with losses [16]. According to this perspective, the decision-maker may assess the actual performance and aspiration level necessary to make follow-up decisions. On the one hand, when the current outcome is lower than the expected level, the decision-maker may define this state as a "loss", and they may engage in risk-seeking behavior under equity incentives, increase R&D investment [17], new market expansion [18], and firm innovation [19]. On the other hand, if the outcome is higher than the expected level, the decision-maker may define this state as a "benefit". When faced with equity incentives, executives tend to take a conservative approach to maintain corporate wealth. For example, in high-performing companies with an expected aspiration surplus, executives will adopt conservative and prudent strategies to avoid potential risks rather than actively investing in innovation, when faced with certain benefits. These pieces of research reflect the behavioral decision-making mechanism of executives at the different levels of aspiration "adversity leads to survival; affluence leads to ruin". Accordingly, this research addresses aspiration levels as a personal orientation embedded in an individual's behavioral decision-making process and investigates how this orientation interacts with equity incentives.

Based on BTOF and the prospect theory, this research seeks to answer the following questions: (1) how do equity incentives affect a firm's performance? Although there have been some empirical studies on the relationship between equity incentives and corporate performance, there is no unanimity in the research findings. We advance current research related to the role of equity incentives in differentially influencing corporate performance across levels of aspiration by adopting a curvilinear perspective; and (2) under different aspiration levels, are there any differences in how equity incentives affect corporate performance and the mechanism that generates this inconsistency? The current study puts the main focus on exploring "how" top management team (TMT) equity incentive impacts firm value [20]. However, the question of when equity incentives work better has not been resolved. This study integrates the convergence of interest effect and managerial entrenchment assumption in equity incentive literature through the perspective of aspiration, which identifies the mechanism of the effect of motivation at different aspiration levels.

Our study offers several significant contributions. Firstly, the literature has focused on exploring "how" TMT equity incentive impacts a firm's value. However, what is missing is an answer to the crucial theoretical question regarding "when" TMT equity incentive has more or less impact. We believe this is a significant omission. Specifically, our research establishes a nonlinear relationship between equity incentives and performance. By researching the extent to which performance below different aspiration levels has different consequences, this study makes up for the gaps in previous research, which paid too much attention to the direct effect of equity incentives, while paying insufficient attention to the situation mechanism. Secondly, according to the prospect theory, this research integrates the convergence of interest effect and managerial entrenchment assumption under equity incentive studies through the perspective of aspiration, which identifies the mechanism of the effect of motivation at different aspiration levels. Our study enriches the cognition of executive behavior in decision-making, putting the specific situation of executive motivation into the framework of influencing corporate motivation and emphasizing that more attention should be paid to motivation. In particular, scenarios for incentive program implementation also have more critical implications.

2. Theory and Hypotheses

2.1. Equity Incentive and Corporate Performance

Management has recognized the importance of aligning the interests of managers with the companies employing them [21]. Regulators cannot directly evaluate the behavior of managerial teams and the incentive alignment hypothesis indicates that combining the interests of executives with those of the company is one important way to reduce agent problems [22]. Effective incentives should align the interests of managers, who are inherently self-interested, by increasing the company's interest and thus their own wealth [23]. According to Mcanally and Srivastava (2008) [24], "stock option is an effective compensation mechanism that can motivate corporate executives, ensure the well-being of employees and shareholders, and lead to the firm's long-term success".

Research on the relationship between equity incentives and corporate performance falls into two main categories which are the convergence of interest hypothesis and the managerial entrenchment hypothesis. According to Jasen and Meckling's research, equity incentive links executive interests to the future value of the company, which will promote managers to take actions that are potentially conducive to maximizing company performance [1,25]. At the same time, with regard to the potential importance of such a positive function of equity incentives, a large body of literature has revealed this view. Firstly, equity incentives maximize the coordination and balance between the interests of the executive team and shareholders, thus guaranteeing that both parties will work hard to protect the interests of shareholders, thereby reducing agency costs and opportunistic behavior and improving overall agency efficiency [26]. Second, equity incentives can play a "golden handcuff" role in attracting and retaining executives. Effectively, equity incentives can stabilize the firm's management team on the one hand [27] and motivate

executives to develop their talents to improve the company's performance on the other. Third, equity incentives enhance the "profit motivation" of executives to work harder [28]. The executives are driven to improve company performance by self-interested motives, such as compensation packages and power enhancement. Fourth, previous studies have revealed that equity incentives can reduce risk aversion by restraining inefficient investment, such as over-investment and under-investment. Equity incentives also encourage executives to be explorative and innovative, both of which are conducive to improving a firm's performance [29].

Meanwhile, some scholars have advocated breaking the traditional view of equity incentives, arguing that such incentives may not always be effective under certain circumstances, as represented by Fama and Jensen (1983), who have proposed the 'managerial entrenchment' hypothesis [5]. With the asymmetry of information and moral hazard, the board of directors may find it difficult or impossible to supervise as the management's controlling interest grows. In such cases, the management team tends to choose to maintain their position and maximize their benefits, which leads to an intrinsic motivation to grab private profits and negatively affects the company's value by increasing duty consumption or misappropriating shareholders' interests [5]. Summarizing the state of the empirical literature, a recent study states this viewpoint. Brown and Liang (2007) suggested that, with the increase in management shareholding, there is a risk of encroachment on shareholders' interests, which in turn increase in the firm's agency costs [30]. This ultimately shows that executive shareholding is not conducive to improving company performance. Similarly, Ohad and Jun (2016) also concluded that equity incentives do not enhance corporate performance [31]. This clearly shows that equity incentives are not always positively related to a firm's performance; such incentives may also have negative effects.

This heterogeneous effect of equity incentives implies an inverted U-shaped relationship between equity incentives and corporate performance. Some scholars suggest that this is actually based on the core argument that equity incentives are positively correlated with a firm's performance within a certain percentage of management's equity holdings and negatively correlated with firm performance beyond a specific percentage interval. Chen and Hexter (1993), using Tobin's Q, found an inverted U-shaped relationship between executive shareholding and corporate performance through research on Fortune 500 companies [32]. This study indicates that when executive shareholding was between 5–12%, equity incentives positively related to firm performance. However, when executive shareholding was over 12%, equity incentives again reduced corporate performance. We consider that the shift in the relationship depends on the convergence of interest hypothesis and the managerial entrenchment hypothesis, which have changed their dominance. According to the BOTF, the company strategy decision-makers tend to choose a psychological relative satisfaction value as a reference point in formulating business strategies and significant tactics. Changes in this psychological reference point may lead to different changes in corporate behavior under equity incentives, which may have a heterogeneous impact on a firm's performance. [9]. The convergence of interest mechanism can play a vital role and motivate managers to work and improve their performance for the benefit of the company when the equity incentive reaches a certain threshold, while the managerial entrenchment mechanism comes into play when the equity incentive reaches saturation and induces managers to adopt risk aversion to hoard more personal benefits. Therefore, we infer that equity incentives have a two-sided effect on corporate performance; the relationship between them shows an ascending and then descending curve. Moreover, we hypothesize the following:

Hypothesis 1 (H1). *There is an inverted U-shaped relationship between equity incentives and corporate performance, that is, the positive relationship between equity incentives and firm performance will turn negative at very high levels of equity incentives.*

Next, we analyze the impact of equity incentives on corporate performance at different aspiration levels to understand the situational factors affecting the effectiveness of equity incentives. Meanwhile, social psychological research has found that situational factors influence individuals' motivations and processes of self-interested behavior [33]. Therefore, we focus on two hypotheses regarding situational factors: aspiration surplus and aspiration loss, both of which act as potential factors influencing the effectiveness of the implementation of equity incentives.

2.2. Contingency of Aspiration Surplus on the Inverted U-Shaped Relationship

"Aspiration" was initially proposed by Dembo (1931) to capture changes in what individuals expect to achieve in an experiment [34]. Dembo described aspiration as a power-oriented behavior that changes an individual's behavior and attitudes on the path to a specific goal, once an individual sets that goal. This concept was developed in experiments and is widely used in real-life scenarios. Simon introduced the concept of "goal aspiration level", which is a concept whereby decision-makers usually classify goals into satisfactory and unsatisfactory outcomes, based on goal aspiration level. In effect, goal aspiration impacts an individual's goal-driven perception and behavior [35,36]. In the performance-feedback model, rational managers make subsequent behavioral choices by assessing the gap between the firm's current actual performance and the "expected level of performance". This also means that the level of performance aspiration is "the reference point for the rational decision-makers to make subsequent behavioral decisions".

When the corporation's actual performance is higher than the expected performance sustainably, the bounded-rational manager defines the "above target expectation" state as an "aspiration surplus". In the curvilinear relationship between equity incentives and corporate performance, when the financial results rise gradually with the increase in equity incentives, the increase in equity incentives implies the continuous accumulation of resources available to executives, and decision-makers tend to protect definite gains by being risk-averse and operate conservatively in the company's strategy from the perspective of prospect theory [16,37]. With the continuous expansion of aspiration surplus, the board of directors will grant higher equity to executives in this resource-endowed state of the company. When executives own excessive shares, management entrenchment will occur, and executives may have a stronger incentive to manipulate short-term profits to increase their benefits and decrease the company's value. In this conflict, the curvilinear relationship between the equity incentive and the growth of the company's performance will be weakened. This means that good-performing firms tend to experience the phenomenon of "affluence makes people comfortable with the status quo". We have four reasons for expecting executives who perceive business surplus to be more insensitive to the motivational effect of equity incentives on company performance.

Firstly, a business surplus may lead to a "path dependence" that reinforces previous successes, thus making equity incentives ineffective in terms of improving a firm's performance. When a corporation's actual performance level is better than the expected level, the firm may be less responsive to the market environment. The executive team may choose to maintain the status quo and operate conservatively [38]. This approach also creates a state of inertia in organizational resources, making the firm inflexible in the resource formation, flow, and transformation process [39]. In this case, an executive team that is overly reinforced with previous successes will lead the firm to a "dead end". In these cases, equity incentives will be unable to motivate executives in a business surplus situation; therefore, the convergence of interests between equity incentives and company performance will be limited and the incentive effect of equity incentives will be weakened.

Secondly, the "red queen" effect may prevent equity incentives from working as well as the business surplus. Based on the prospect theory, when executives achieve (and even exceed) a predetermined level of expected performance after a period of effort, there is an "aspiration surplus". This becomes a reference point for the company to set performance targets for the next stage. This reference point may be based on previous performance

levels [40]. However, as equity incentives increase and the level of board expectations for organizational performance also continues to rise, and the likelihood of higher desired performance not being achieved increases for executives. The red queen effect occurs in a cycle in which executives may need to expend more energy to maintain their current level of performance [41]. In this case, the incentive will reach a state of "saturation"; even if the equity incentive to the executive team continues to increase, this will not lead to a sustainable improvement in the company's performance.

Thirdly, for the executive team, in a surplus situation, the uncertainty of future earnings and the sensitivity to future losses will also affect the enhancing effect of equity incentives on corporate performance. Put simply, for the executive team, higher equity incentive intensity also means higher pressure to meet performance targets. Nevertheless, performance is unlikely to grow at the same rapid rate; performance levels may peak after a certain point and then become stable. In this case, when evaluating the executive team's performance, the board feels that a loss has occurred, even though the company's absolute level of performance is high, but the relative performance has declined [42,43]. At this point, the executive team may face punitive measures from the board for not achieving the desired level of performance. Although higher equity incentives may lead to higher potential returns, prospect theory suggests that the executive team will assign less value to potential future returns and will exhibit risk-avoiding behavior [44,45]. In the meantime, given that people are more sensitive to losses than to gains [46], executive teams prefer to try harder to retain their current compensation status than to receive a higher package that they have never had [47]. Thus, equity incentives can create the phenomenon of the "marginal diminishing" incentive effect under conditions of aspiration surplus, which cannot motivate executives to work harder to improve the company's performance.

Furthermore, since aspiration surplus means that individuals maintain an optimistic expectation of benefits, this has a substitution effect with the positive incentives provided by equity incentives. In other words, managers with a high aspiration surplus are more likely to reach the saturation point of equity incentives than those with a low aspiration surplus. Business surpluses imply that the firm's previous business practices were temporarily effective; any prior success can lead to executive ego [47–49]. As executives become satisfied with the achieved operating results, they indulge in their previous transient successes. They then lose the pressure of performance targets after reaching the pre-determined goals of operating expectations. This scenario may cause executives to become self-centered, with continuously inflated egos, reinforcing their sense of self and success and thus reducing their sensitivity to rapidly changing market information. Therefore, in the context of a large aspiration surplus, it is difficult for the incentive mechanism to be effective, the risk of executives adopting interest-defensive behaviors under equity incentives increases, and executives may develop strategic risk-taking behaviors that are not in line with the current operation and even bring about a decline in corporate performance.

Hypothesis 2 (H2). *Aspiration surplus will moderate the curvilinear inverted U-shaped relationship between equity incentives and a firm's performance. As the level of aspiration surplus changes from low to high, the relationship between equity incentives and a firm's performance is gradually weakened.*

2.3. Contingency of Aspiration Loss on the Inverted U-Shaped Relationship

When the actual corporate performance of the organization is lower than the expected target level, bounded rationality managers define the "below target expectation" state as a state of "loss" for the organization, that is, "aspiration loss". Based on the behavioral theory of the firm, when company performance falls below expected targets, companies often address underperformance through organizational change [50,51]. Meanwhile managers will be more motivated and put more effort into improving operations under such poor aspiration levels [52]. In conclusion, equity incentives can always closely relate executives' interests to the firm when the convergence of interest hypothesis dominates in the rela-

tionship between equity incentives and corporate performance under aspiration loss. We suggest that the managerial defense mechanism between equity incentives and corporate performance will be curtailed as aspiration loss widens, when managers remain sensitive to the availability of equity incentives, making the curve relationship between them stronger.

Under the conditions of aspiration loss, self-interest motivation will drive executives to make continuous efforts to improve corporate performance. When a company is operating at a level of expectation deficit, the company is not operating at the previously predicted level. This is, in part, a reflection of a crisis scenario. Prospect theory states executives may adopt risk-seeking behavior such as strategic change behaviors to address the current dilemma [50,52]. These behaviors could include increasing R&D investment, introducing new equipment and technology, and expanding production scale [38,48]. Although such strategic changes in behavior are risky, high-risk behaviors can also be accompanied by high benefits. As a result, equity incentives implemented in a loss scenario are more likely to create positive expectations among executives about their own ability to achieve performance appraisal targets and improve corporate performance levels. In such cases, it is easier for executive teams to establish the terms of the equity incentives and to obtain higher salaries. This means that equity incentives have exerted a good incentive effect. When there is little or no aspiration loss, the executive team will engage in risk aversion behavior and will be afraid to use existing technology and processes to further improve the firm's productivity [16,51]. Then, however, the difficulty of reaching the unlocked equity incentive terms will increase, and when this occurs, the implementation of equity incentives will not improve corporate performance.

The more significant the aspiration loss is, the more it reduces, threatens, and affects the executives' reputation in the external labor market. Therefore, when expectations of loss are expanding, the executive team may adopt more aggressive and effective governance behaviors in order to enhance corporate performance and thereby avoid losing their interests and benefits [13]. Equity incentives for executives satisfy executives' need to maintain their prestige in the labor market and also provide an opportunity for executives to demonstrate their superior management capabilities. New executives in particular will not only be paid more if they are able to achieve performance that satisfies the board in a context of aspiration loss, but they also gain a sense of self-fulfillment and board recognition.

Accordingly, we hypothesize:

Hypothesis 3 (H3). *Aspiration loss will moderate the curvilinear inverted U-shaped relationship between equity incentives and firm performance. As the level of aspiration surplus changes from low to high, the relationship between equity incentives and firm performance is gradually strengthened.*

3. Methods

3.1. Data and Sample

We gathered Chinese A-share listed companies over the 2011–2019 period to test our hypotheses. The survey data of the sample come from the CSMAR database through the companies' annual reports and other professional websites, such as Sina Finance Net. Multiple methods were employed to verify the data. In order to ensure that the research objects were sufficiently representative, this research strictly screened the samples, requiring them to meet the following conditions at the same time: (1) exclude financial class listed companies; (2) eliminate ST and PT companies and companies missing a severe amount of data; (3) exclude extreme sample values. After sorting, this research obtained 9588 annual sample values from 1467 A-share listed companies.

3.2. Model Setting

According to the research hypothesis of the second part, and with reference to Haans et al. (2016) [53], the following models were designed to be tested:

H1:

$$ROE_{i,t+1} = \alpha_0 \quad +\beta_1 SEI_{i,t} + \gamma_0 (SEI_{i,t})^2 + \alpha_1 Size_{i,t} + \alpha_2 Life_{i,t} + \alpha_3 Dual_{i,t} + \alpha_4 Inst_{i,t}$$
$$+\alpha_5 Own_{i,t} + \alpha_6 Dire_{i,t} + \alpha_7 Stor_{i,t} + \alpha_8 Lev_{i,t} + \varepsilon_{i,\,t} \tag{1}$$

H2:

$$ROE_{i,t+1} = \alpha_0 + \quad \beta_1 SEI_{i,t} + \gamma_0 (SEI_{i,t})^2$$
$$+\gamma_1 SEI_{i,t} * PosAd_{i,t} + \gamma_2 (SEI_{i,t})^2 * PosAd_{i,t} + \theta_1 PosAd_{i,t}$$
$$+\theta_2 NegAd_{i,t} + \alpha_1 Size_{i,t} + \alpha_2 Life_{i,t} + \alpha_3 Dual_{i,t} + \alpha_4 Inst_{i,t}$$
$$+\alpha_5 Own_{i,t} + \alpha_6 Dire_{i,t} + \alpha_7 Stor_{i,t} + \alpha_8 Lev_{i,t} + \varepsilon_{i,t} \tag{2}$$

H3:

$$ROE_{i,t+1} = \alpha_0 + \quad \beta_1 SEI_{i,t} + \gamma_0 (SEI_{i,t})^2$$
$$+\gamma_1 SEI_{i,t} * NegAd_{i,t} + \gamma_2 (SEI_{i,t})^2 * NegAd_{i,t} + \theta_1 PosAd_{i,t}$$
$$+\theta_2 NegAd_{i,t} + \alpha_1 Size_{i,t} + \alpha_2 Life_{i,t} + \alpha_3 Dual_{i,t} + \alpha_4 Inst_{i,t}$$
$$+\alpha_5 Own_{i,t} + \alpha_6 Dire_{i,t} + \alpha_7 Stor_{i,t} + \alpha_8 Lev_{i,t} + \varepsilon_{i,t} \tag{3}$$

Equation (1) is used to test the inverse U effect between equity incentives and firm performance. In order to test the moderating effects of business aspiration surplus and business aspiration loss, Equations (2) and (3) are constructed to identify the heterogeneous effects of different business aspirations.

3.3. Measure

3.3.1. Dependent Variables

Firm performance: following the research of Belghitar et al. (2019) [54], this paper takes the one-year return on assets (ROE) after equity incentive as a measure of a firm's performance. The index reflects an enterprise's ability to make profits and has the characteristics of easy access and wide application.

3.3.2. Independent Variables

Following previous studies [55], this research chooses the ratio of the number of shares held by executives to the total number of shares as the means to measure the strength of executive equity incentives.

According to the firm behavior theory and performance feedback theory, aspiration mainly includes the historical performance aspiration gap and industry performance aspiration gap [56]. The historical aspirations refer to the exponentially weighted moving average of that firm's past performance [41]. This research chose $P_{i,t-1}$ to denote performance in terms of the market share of firm i at time $t - 1$, which is relative to the dependent variable. Then, we take the performance level of the lag period [57]. The formula is as follows:

$$HE_{i,t} = (1 - \alpha)P_{i,t} - 1 + \alpha HE_{i,t-1}$$

$$EG_{i,t} = P_{i,t} - HE_{i,t}$$

The historical aspiration is given by $HE_{i,t} = (1 - \alpha)P_{i,t-1} + \alpha HE_{i,t-1}$, where α is an adjustment parameter. A higher α implies that greater weight is given to more recent performance than to more distant past performance. The weight α was determined by searching all possible values (in increments of 0.1) and then using the value that yielded the maximum log-likelihood in a baseline model that includes only control variables [41]. Given John's (2014) research, the test result of $\alpha = 0.6$ is reported in this paper [41]. If $(P_{i,t} - HE_{i,t}) < 0$, this indicates that the actual operating performance I in year T is lower than the performance aspiration. In this case, the enterprise is in the aspiration loss state. If $(P_{i,t} - HE_{i,t}) > 0$, this indicates that the actual operating performance of enterprise I in year T is higher than the performance aspiration. In this case, the enterprise is in the aspiration surplus state.

3.3.3. Control Variables

The rationale for selecting control variables in this research is as follows: The independent director system provides a safer governance measure for the company's equity capital and management employment contracts [58]. CEO and board chair duality is represented as a dichotomous variable coded 1 if a firm's CEO and chairperson are the same person [59]. Ownership concentration is the share of the major shareholder, and this has a significant impact on management decisions [60]. In the socialist economy, Chinese characteristics and firms can vary greatly depending on their property rights, and the effect of this factor is taken into account in our model. large-scale firms have a substantial resource orchestration advantage in terms of capital and management and can have a more critical impact on corporate performance, which is not available to small firms [61]. Enterprise life cycle theory points out that firms have unique management models and growth paths at different stages of development, with pronounced differences in financial characteristics, agency problems, and incentive goals [62]. The asset–liability ratio reflects the risk level of the corporation, and the risk appetite of different managers varies [63], so the variable needs to be controlled for in the model. Institutional Shareholding: institutional investors are mainly composed of industry experts with more professional knowledge and management experience, and when they are dissatisfied with the management's decisions, they can try to stop them through shareholder resolutions, proxy voting rights, etc., so as to better monitor the company [64].

The variable definitions are shown in the following table, Table 1.

Table 1. Measurement methods for variable definitions.

Variable Symbol	Variable Meaning	Method of Measurement
$ROE_{i,t+1}$	Return on equity	Net Profit/Net assets
$SEI_{i,t}$	Equity Incentives	Number of shares held by senior executives/Total share capital
$PosAd_{i,t}$	Aspiration Surplus	$P_{i,t} - HE_{i,t}$ Actual business level higher than aspiration
$NegAd_{i,t}$	Aspiration Loss	$P_{i,t} - HE_{i,t}$ Actual business level lower than aspiration, absolute value
$Size_{i,t}$	Enterprise Scale	Logarithm of total assets
$Life_{i,t}$	Corporate Life	The age of the company up until 2020
$Dual_{i,t}$	CEO And Board Chair Duality	When the company's chairman and CEO are the same person, take 1, otherwise take 0
$Indboard_{i,t}$	Independent Directors	Number of independent directors/board members
$Inst_{i,t}$	Institutional Shareholding	Number of institutional shareholding/Total share capital
$Owncon_{i,t}$	Ownership Concentration	Share of the largest shareholder
$Storig_{i,t}$	Ownership Property	The final controlling shareholder takes 1 for the state-owned entity, 2 for the private enterprise, 3 for the foreign capital, and 4 for the others
$Lev_{i,t}$	Asset–Liability Ratio	Ratio of total liabilities to total assets at the end of the period

4. Result

4.1. Descriptive Statistics and Correlations Coefficient

We display the results of the descriptive statistics and correlation analysis for all variables in Table 2. The mean values of NegAd and PosAd are 0.045 and 0.024, respectively, indicating that aspiration loss and surplus show a significant difference in performance feedback between firms. The mean value of Life is 18.897, indicating that the sample companies have a long operating time. The mean values of Indboard and Owncon are 0.378 and 0.329, respectively, suggesting that the degree of specialization and the dispersion of equity in the sample firms is approximately the same. The mean value of Lev is 0.324,

which indicates that the business risk of the sample companies is not high and is within a reasonable range. The mean value of Size is 21.529, showing that the sample companies have strong operational strength, which provides support for the implementation of the equity incentive.

Table 2. Means, standard deviations, and correlations for the variables.

Variables	1	2	3	4	5	6	7	8	9	10	11	12
$SEI_{i,t}$	1.000											
$NegAd_{i,t}$	−0.019 *	1.000										
$PosAd_{i,t}$	−0.003	−0.008	1.000									
$ROE_{i,t+1}$	0.048 ***	−0.031 ***	0.030 ***	1.000								
$Dual_{i,t}$	0.499 ***	−0.015	−0.016	−0.007	1.000							
$Life_{i,t}$	−0.006	−0.022 **	−0.012	0.025 **	−0.030 ***	1.000						
$Indboard_{i,t}$	0.125 ***	0.005	−0.012	−0.008	0.120 ***	0.008	1.000					
$Owncon_{i,t}$	0.048 ***	−0.045 ***	−0.02 **	0.094 ***	0.059 ***	0.014	0.071 ***	1.000				
$Storig_{i,t}$	0.229 ***	0.013	0.005	−0.007	0.182 ***	−0.087 ***	0.099 ***	−0.101 ***	1.000			
$Lev_{i,t}$	−0.156 ***	0.102 ***	0.021 **	−0.090 ***	−0.065 ***	−0.035 ***	−0.029 ***	−0.018 *	−0.114 ***	1.000		
$Size_{i,t}$	−0.215 ***	0.028 ***	0.023 **	−0.003	−0.116 ***	−0.068 ***	−0.060 ***	−0.016	−0.127 ***	0.486 ***	1.000	
$Inst_{i,t}$	−0.324 ***	−0.026 ***	−0.006	0.072 ***	−0.099 ***	−0.006	−0.078 ***	0.203 ***	−0.278 ***	0.178 ***	0.332 ***	1.000
Mean	0.145	0.045	0.024	0.061	0.395	18.897	0.378	0.329	1.903	0.324	21.529	0.286
SD	0.179	0.417	0.340	0.154	0.489	4.798	0.055	0.136	0.296	0.183	0.916	0.234

Note: * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

Table 2 also demonstrates the correlation of the variables. The correlations show that there is a significant positive correlation between executive shareholding and corporate performance. The aspiration loss and aspiration surplus are significantly correlated with corporate performance. Meanwhile, most control variables are significantly related to a firm's performance, indicating that the above control variables are related to a firm's performance and justifying the model design.

4.2. Variable Multicollinearity Test

Before the multivariate regression analysis, to avoid the effect of co-linearity between variables, we conducted the variance inflation factor (VIF) test for all explanatory variables and the results are shown in Table 3. The results are between 1.00 and 1.52, and the average VIF was 1.210. Referring to the Qing et al. [65], we can infer that there is no multicollinearity problem among the variables selected in this research.

Table 3. VIF test.

Variables	VIF
$SEI_{i,t}$	1.520
$NegAd_{i,t}$	1.020
$PosAd_{i,t}$	1.000
$Dual_{i,t}$	1.360
$Life_{i,t}$	1.020
$Indboard_{i,t}$	1.030
$Owncon_{i,t}$	1.080
$Storig_{i,t}$	1.140
$Lev_{i,t}$	1.330
$Size_{i,t}$	1.450
$Inst_{i,t}$	1.350
Mean	1.210

4.3. Model Test

Model I shows that among the control variables, corporate life is positively correlated with corporate performance, which indicates that the stronger the firm and the longer the operating period, the better the firm's performance. Concentrated shareholding of major shareholders and institutional shareholding are conducive to improving corporate performance. The asset–liability ratio is negatively correlated with corporate performance, which indicates that firms with high operating risks have relatively lower performance. The regression results are shown in Table 4.

Table 4. Multivariate OLS regression model results.

	Model I	Model II	Model III	Model IV
$Size_{i,t}$	0.009 ***	0.009 ***	0.010 ***	0.009 ***
$Dual_{i,t}$	−0.001	−0.013 ***	−0.012 ***	−0.013 ***
$Life_{i,t}$	0.001 **	0.001 **	0.001 **	0.001 **
$Indboard_{i,t}$	−0.023	−0.029	−0.024	−0.025
$Owncon_{i,t}$	0.084 ***	0.087 ***	0.089 ***	0.089 ***
$Storig_{i,t}$	0.006	0.001	0.000	0.001
$Lev_{i,t}$	−0.103 ***	−0.100 ***	−0.109 ***	−0.099 ***
$Inst_{i,t}$	0.034 ***	0.049 ***	0.047 ***	0.048 ***
$PosAd_{i,t}$			−0.047 **	0.018
$NegAd_{i,t}$			0.000	0.026 **
$SEI_{i,t}$		0.098 ***	0.097 ***	0.099 ***
$(SEI_{i,t})^2$		−0.116 **	−0.100 *	−0.149 ***
$PosAd_{i,t} * SEI_{i,t}$			−1.012 ***	
$PosAd_{i,t} * (SEI_{i,t})^2$			2.319 ***	
$NegAd_{i,t} * SEI_{i,t}$				0.145
$NegAd_{i,t} * (SEI_{i,t})^2$				−0.859 ***
Industry	control	control	control	control
Year	control	control	control	control
Constant	−0.203	−0.216	−0.239	−0.226
Adj R-squared	0.044	0.049	0.056	0.052
ΔR		0.005	0.007	0.003
F	13.560	14.210	14.860	13.750

Note: * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

Model II tests the inverse U-shaped relationship between equity incentives and corporate. $SEI_{i,t} > 0$, $p < 0.01$ and $(SEI_{i,t})^2 < 0$, $p < 0.05$, and the coefficients of executive shareholding and the square of executive shareholding are $\beta_1 = 0.098$, $\beta_2 = -0.116$, respectively. According to Aiken and West (1991), for a nonlinear relationship, if the primary term is significantly positive and the secondary term is significantly negative, it suggests that the dependent variable decreases gradually as the independent variable increases [66]. Thus, hypothesis 1 is initially tested. Meanwhile, Lind and Mehlum (2010) improved this judgment method and developed the U-test method to verify the robustness of the inverted U-shaped curve relationship [67]. We also used the U-test for robustness testing of the inverted U model. It was found that the U-test test rejected the null hypothesis at the 5% statistical level ($p = 0.116$, t = 1.250), thus verifying again the existence of the inverted U model and H1 was again validated.

Model III shows the moderating effect of equity incentives on a firm's performance under aspiration surplus. The product terms $PosAd_{i,t} * SEI_{i,t}$ and $PosAd_{i,} * (SEI_{i,t})^2$ are significant ($\beta_3 = -1.012$, $p < 0.01$; $\beta_4 = 2.319$, $p < 0.05$). According to Haans (2016) [53], the turning point is $0.124 > 0$, indicating that the inverted U-shaped relationship becomes flattened when the aspiration surplus increases. This suggests that aspiration surplus negatively moderates the relationship between equity incentives and corporate performance and H2 is initially supported.

Model IV shows the moderating effect of equity incentives on corporate performance under aspiration loss. The $NegAd_{i,t} * SEI_{i,t}$ coefficient is insignificant and the $NegAd_{i,} * (SEI_{i,t})^2$ coefficient is significant ($\beta_5 = 0.145$, n.s; $\beta_6 = -0.859$, $p < 0.01$). The turning point is $-0.063 < 0$, indicating that the inverted U-shaped relationship becomes steeper as the aspiration loss increases. This suggests that aspiration loss positively moderates the relationship between equity incentives and corporate performance and H3 is initially supported.

4.4. Robustness Test Analysis

This research uses the supplementary variables method for robustness testing. Referring to James (2005) [68] and Jaskiewicz (2007) [69], we add the board size and the increase

rate of main business revenue as supplementary variables to the control variables. Adding more control variables can make our model more robust. In model 1, $SEI_{i,t} > 0$, $\beta_1 = 0.097$, $p < 0.01$ and $(SEI_{i,t})^2 < 0$, $\beta1 = -0.117$, $p < 0.1$, which initially verifies the existence of the inverted U model. The U-test results reject the null hypothesis ($p = 1.10$, t = 1.280), the inverse U model holds, and H1 is verified. The $PosAd_{i,t} * (SEI_{i,t})$ coefficient is -0.997 and $p < 0.01$,the $PosAd_{i,t} * (SEI_{i,t})^2$ coefficient is 2.271, $p < 0.05$. The turning point is $0.116 > 0$, indicating that the inverted U-shaped relationship becomes flattened as the aspiration surplus increases. This indicates that when corporate performance is higher than the target level, the curve relationship between equity incentives and corporate performance gradually tends to level off as the aspiration surplus continues to widen and the management team gradually tends to be conservative or even solidifies its operations under the high aspiration surplus, and H2 is verified. The $NegAd_{i,t} * (SEI_{i,t})^2$ coefficient is significant ($\beta = -0.863$, $p < 0.01$) and the $NegAd_{i,t} * (SEI_{i,t})$ coefficient is significant ($\beta = -0.147$, n.s). The turning point is -0.063, which mean the inverted U-shaped relationship becomes steeper. This indicates that when corporate performance is lower than the expected level of performance, aspiration loss positively moderates the relationship between equity incentives and corporate performance as aspiration loss continues to widen, and H3 is verified. The results of the robustness test are shown in Table 5.

Table 5. Multivariate OLS regression model results (robustness test analysis).

	Model I	Model II	Model III	Model IV
$Size_{i,t}$	0.008 ***	0.008 ***	0.010 ***	0.008 ***
$Dual_{i,t}$	0.000	−0.013 ***	−0.012 ***	−0.013 ***
$Life_{i,t}$	0.001 **	0.001 **	0.001 **	0.001 **
$Indboard_{i,t}$	0.029	0.016	0.022	0.023
$Owncon_{i,t}$	0.086 ***	0.089 ***	0.090 ***	0.091 ***
$Storig_{i,t}$	0.007	0.003	0.001	0.002
$Lev_{i,t}$	−0.104 ***	−0.100 ***	−0.109 ***	−0.100 ***
$Inst_{i,t}$	0.033 ***	0.048 ***	0.047 ***	0.047 ***
Rate of main business revenue	0.003 ***	0.003 ***	0.003 ***	0.003 ***
Board size	0.003 **	0.003 *	0.003 *	0.003 *
$PosAd_{i,t}$			0.001	0.018 ***
$NegAd_{i,t}$			−0.046 **	0.027 **
$SEI_{i,t}$		0.097 ***	0.096 ***	0.098 ***
$(SEI_{i,t})^2$		−0.117 **	−0.102 **	−0.150 ***
$PosAd_{i,t} * SEI_{i,t}$			−0.997 ***	
$PosAd_{i,t} * (SEI_{i,t})^2$			2.271 ***	
$NegAd_{i,t} * SEI_{i,t}$				0.147
$NegAd_{i,t} * (SEI_{i,t})^2$				−0.863 ***
Industry	control	control	control	control
Year	control	control	control	control
Constant	−0.230	−0.238	−0.239	−0.251
Adj R-squared	0.045	0.050	0.056	0.057
ΔR		0.005	0.006	0.007
F	13.270	13.870	14.860	13.450

Note: * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

5. Conclusions

Based on the behavior theory of a firm and the prospect theory, this paper examines the different effects of equity incentives on a firm's performance under different aspirations. Under conditions of aspiration loss, the implementation of equity incentives can significantly improve performance. In contrast, in the case of aspiration surplus, an equity incentive scheme cannot continue to enhance performance. This study takes the A-share panel data from 2011 to 2019 and finally obtains the following findings.

First, our research finds that equity incentives do not always improve a firm's performance and implementing more equity incentives under aspiration surplus instead

has a negative impact on corporate performance. The implementation of equity incentives significantly improves corporate performance during the initial period of aspiration surplus. However, with a widening surplus, a strong equity incentive also means a high-performance target, and the pressure of maintaining high-performance may lead to the "red queen effect", "loss aversion behavior", resource inertia, and egotism. Therefore, implementing an equity incentive in the case of aspiration surplus is not conducive to the promotion of performance.

In addition, when the actual performance does not reach the expected level, the aspiration loss stimulates the psychological needs of executives to maintain their reputation and prove their self-excellence in management. In this case, the implementation of an equity incentive will more easily improve enterprise performance. Aspiration loss symbolizes a crisis scenario; this reinforces corporate risk-taking and stimulates problem searching to get out of performance difficulties [36,70]. Therefore, the implementation of equity incentives in an aspiration loss scenario has a more significant effect on improving corporate performance.

6. Discussion

6.1. Theoretical Contribution

Our research is mainly concerned with three theoretical contributions. Firstly, we moved beyond knowledge about the linear perspective that dominates equity incentives literature through the study of complex inverted U-shaped relationships. We found that the positive effect of equity incentives on corporate performance occurs before, rather than after, the optimal aspiration level is reached. This curve relationship is different from the view that "executives with more equity incentives will continue to engage in their work" [15,29]. As the Pierce and Aguinis (2013) [71] and Chen and Hexter (1993) [32] study found, some good things, such as motivation or support, can be counterproductive when overprovided.

Second, this research makes up for the lack of previous research on the consideration of equity incentive play scenarios and provides a framework for exploring the sustainability effects of equity incentives. Specifically, our finding not only contributes to clarifying the boundary of the scenario in which the aspiration level is applied to the effect of equity incentives within the firm, but also provides a new path for improving the marginal diminishing effect of equity incentives. We offer an integrative theoretical framework based on BTOF and the prospect theory to specify with more accuracy a curvilinear relationship between equity incentives and corporate performance. The findings are conducive to further revealing the boundary conditions of incentive mechanisms, and they provide a sufficient theoretical explanation for the "adversity leads to survival; affluence leads to ruin" effect of equity incentives in reality.

Third, our study examines the mechanism by which equity allocated to top management affects firm value at different levels of aspiration, and to provide insights for exploring how individual cognitive biases affect the decisions of executive teams [72,73].

6.2. Practical Contributions

The conclusions provide the following insights for regulators and the board of directors. First, considering the aspiration level as a crucial situational factor in equity incentives can guide companies to develop reasonably and effectively. The board of directors should endeavor to monitor the firm that continues to expand aspiration surplus and prevent the executive team from doing what is detrimental to shareholders' interests. The board can reduce external monetary incentives and instead consider other ways to motivate executives internally, such as increasing their autonomy and sense of responsibility and commitment. These steps can be taken to align the interests of individuals and enterprises. Additionally, for companies under aspiration loss, the board may need to emphasize providing strategic support and resource support to executives rather than reducing incentives to control costs, as such actions could be directly destructive to company performance. At this point, the board of directors may consider increasing the share of equity incentives for executives. In

general, companies should always be sensitive to changes in aspiration level and regard this as a chance to adjust equity incentive programs.

The efficiency of executive equity incentives depends on whether the company's resources are reasonably allocated. At the enterprise level, resource allocation can reduce transaction costs and improve the efficiency of corporate capital operations. This will lead the enterprise to develop its own unique competence. Enterprises should focus on the updated allocation and adjustment of organizational resources. Since executives' salaries and equity are limited, the enterprises can refer to the actual operation condition and operation expectation level when granting equity to the executives. The limited equity resources should also be allocated to the corresponding executives in a scientific and reasonable way; this is also a means to improve the efficiency of the firm's resource allocation. Enterprises should grasp the appropriateness of equity incentives when granting such incentives to executives in order to prevent the phenomenon of "too much water drowned the miller".

6.3. Limitations and Future Research

Future research can also explore the following aspects in depth. First, this research is based on the analysis of A-share listed companies, but in fact, different property rights are also different in enterprises' business decision-making [74]. Future research could explore whether there are differences in management behavior between private and state-owned enterprises under different aspirations.

Second, this research assumes that senior management teams are comprised bounded rational decision-makers, but the aspiration loss grows. If senior executives cannot see any hope of unlocking the clause for equity incentives, will this stimulate the senior management team members to show more irrational behavior? For example, will they "throw the handle after the blade"? Therefore, future research can relax these strict assumptions and use qualitative research methods to overcome the problems.

Third, the cognitive behavioral characteristics of executives are not only influenced by the limited level of rationality [35], but more importantly also by the personality traits of executives [75]. In addition, personality traits such as CEO humility, CEO overconfidence, and CEO narcissism can affect managers' level of rationality and thus have a heterogeneous impact on corporate performance [76,77]. Therefore, future research could consider the impact of personality traits such as CEO humility and narcissism on equity incentives.

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