

Pay Gap, Employee Motivation, and Corporate Financial Performance: An Inverted-U Mediation Framework

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Abstract: How large should the income gap between executives and ordinary employees be within the same firm? This question has drawn growing attention from investors and regulators in recent years and genuinely troubles many compensation committees. The question this paper aims to answer is simple: what is the relationship between this gap and corporate financial performance, and what role does employee motivation play in it? The study places tournament theory, equity theory, and expectancy theory within a single framework and tests it using public data from listed companies. The overall finding is that when the gap is too small, incentives are insufficient; once the gap grows beyond a certain point, perceptions of fairness are damaged, turnover rises, collaboration deteriorates, and performance declines instead. In other words, the relationship is broadly an inverted U, with employee motivation serving as the intervening transmission channel. For compensation design, this implies neither excessive compression nor unlimited widening of the gap, but rather a balance between efficiency and fairness.

Keywords: Pay Gap; Employee Motivation; Corporate Financial Performance; Tournament Incentives; Organizational Justice

1. Introduction

How pay is divided inside a company has never been merely a financial matter. Over the past few decades, the ratio of executive pay to ordinary employee income has risen steadily in most countries, and emerging markets are no exception [1]. As the gap widens, boards face an unavoidable question: the more rewards differ across hierarchical levels, the harder will employees work-or the more disheartened will

they become? Two camps hold sharply opposing views. Tournament theory treats promotion as a championship contest: the thicker the prize pool, the more effort contestants are willing to invest [2]. Equity theory makes the opposite prediction: employees compare their own input-output ratio with that of executives, and when the ratio is extremely unequal, psychological imbalance follows, manifesting as shirking, sabotage, or quitting [3]. Three decades of empirical research have produced no consensus-positive, negative, and insignificant results all coexist [4]. The root of the disagreement probably lies in the fact that most studies bypass the intermediate link of “motivation,” tying pay structure directly to performance without explaining how the former step by step becomes the latter.

This is precisely the entry point of the present study. The research unfolds around three progressively deepening questions: How does the pay gap itself affect corporate financial performance? Does employee motivation carry part of the transmission? Which contextual conditions alter the relative strength of the two mechanisms? Methodologically, this paper does not seek to construct new data; instead, it integrates the three theoretical threads of tournaments, equity, and expectancy into a testable mediation model and then confronts it with secondary evidence from listed companies. The value of this approach is that, rather than choosing between “incentives work” and “fairness matters,” it shows where each prevails along the gap continuum-which is exactly the intent of the inverted-U hypothesis developed below.

2. Literature Review

2.1 Pay Gap and Firm Performance

Before reviewing the literature, the core construct must be defined. Throughout this paper, the pay gap refers strictly to the vertical pay gap

between the CEO and ordinary employees—that is, the reward differential across organizational hierarchical levels. This definition corresponds directly to tournament theory, which regards the pay differential between adjacent levels as the prize spread of a promotion tournament; the very existence of the spread is the source of contestants' incentives [2]. The vertical pay gap must be strictly distinguished from horizontal pay dispersion—the pay differences among members within the same hierarchical level, which mostly arise from individual performance pricing and carry different theoretical meanings and empirical consequences. The literature on the pay gap-performance relationship falls roughly into two camps. The tournament camp views the corporate promotion system as a continuous elimination contest: the reward differential between adjacent levels is the prize spread, and the larger the spread, the greater the cost employees are willing to bear to win promotion [2]. Representative evidence comes from Denmark—using Danish firm panel data, Eriksson found that pay differentials among top managers move together with firm performance, in the direction predicted by tournament models [5]. Following this logic, compressing the pay gap dilutes the return to effort and may cost the firm its ability to attract outstanding managers.

The other camp approaches the issue from distributive fairness and reaches the opposite conclusion. Their basic observation is that employees carry an internal scale that weighs not only absolute wages but also the relative gap between themselves and executives; once the gap breaches an acceptable range, a judgment of “unfairness” forms. Cowherd and Levine provided classic evidence: the greater the pay disparity between lower-level employees and top management within a firm, the lower the product quality, which the authors attribute to frontline workers stung by unfairness withdrawing their extra effort [3]. Bloom and Michel noted another facet—the greater the pay dispersion within the management ranks, the more frequent managerial turnover, a phenomenon especially pronounced in firms that rely on teamwork and mutual monitoring [6]; it should be noted, however, that this study measures horizontal pay dispersion within the management team, which is not the same construct as the CEO-employee vertical pay gap examined here, and this paper cites it only as adjacent evidence while the empirical measurement remains based on the

vertical gap. A review spanning three decades gathered the assorted results and concluded that the net effect of pay gaps is indeterminate, depending on task interdependence, monitoring technology, and the firm's life-cycle stage [4]. Stringing these findings together yields a judgment: the relationship between the gap and performance is most likely not a straight line but a curve that rises first and then falls—this is the direct basis for the inverted-U hypothesis proposed in this paper.

2.2 Employee Motivation as the Mediating Channel

For pay structure to affect performance, there must be an intermediate link, and this paper argues that the link is motivation. Adams's equity theory states it plainly: people compare their own input-output ratio with those of others [7]. Once employees conclude that executives take too much, the sense of imbalance does not vanish on its own; it is usually released in one of three ways—working less, cooperating less, or leaving. Vroom's expectancy theory dissects the process more finely: motivation depends on the product of three terms—“whether effort leads to performance,” “whether performance leads to rewards,” and “whether the rewards are worthwhile” [8]. The multiplicative relationship means that if any term approaches zero, motivation collapses: pay compression strikes the middle term—no matter how well one performs, the reward is barely greater; an excessive gap strikes the first term—promotion becomes like winning the lottery, and most people see no chance for themselves. Akerlof and Yellen's fair wage-effort hypothesis offers a similar account: employees who feel underpaid “settle the balance” by reducing work intensity [9]. Deci and Ryan's research points to yet another possibility: when pay decisions appear arbitrary and unfair, extrinsic incentives are not only useless but may crowd out intrinsic motivation [10].

These mechanisms all echo in empirical research. Directly observable indicators such as satisfaction, organizational commitment, and turnover fluctuate with perceived fairness, and these indicators have long been leading signals of productivity and profitability. Viewed this way, motivation stands between the gap and performance: pay structure first alters the strength of fairness perceptions and incentives, then acts on effort, collaboration, and retention,

and only finally settles into outcome variables such as ROA and Tobin's Q.

3. Theoretical Framework and Research Hypotheses

3.1 An Integrative Framework

Placing the two opposing views side by side, this paper's position is that which side dominates depends on the level of the gap. When the gap is relatively small, widening the reward differential between levels activates the tournament mechanism—employees perceive a tighter link between effort and promotion or pay raises, motivation strengthens, and performance rises. Once the gap crosses a critical point, the situation reverses: further widening is read as unfair, the expectancy of promotion fades, the costs of unfairness accumulate, and motivation falls back. Superimposing the two sides traces out an inverted-U curve. Motivation occupies the center of the framework because it translates the pay structure on paper into the reading on employees' internal scale, and then into visible effort and behavior.

3.2 Research Hypotheses

Three testable propositions follow. H1: The internal pay gap has an inverted-U relationship with corporate financial performance, with a moderate gap corresponding to the best performance. H2: Employee motivation is the transmission channel of this relationship; both excessive pay concentration and excessive dispersion damage motivation. H3: The higher the task interdependence, the more pronounced the negative effect of an excessive gap; participatory arrangements such as profit sharing and employee stock ownership can attenuate this effect.

4. Research Methods

4.1 Research Design and Data

This paper adopts a quantitative strategy based on secondary data. The sample consists of manufacturing and service companies listed on major stock exchanges over the past decade. Pay figures are taken from annual reports and dedicated corporate-governance disclosures, financial indicators from standardized databases, and company background information from public registration records. Econometrically, a two-way fixed-effects panel model is employed:

firm fixed effects absorb time-invariant firm characteristics, and year fixed effects absorb common macro-level shocks.

4.2 Variables and Measurement

The dependent variables fall into two categories: accounting performance is measured by return on total assets (ROA), and market performance by Tobin's Q. The core explanatory variable is strictly defined as the vertical pay gap between the CEO and employees (Gap), computed as the natural logarithm of the ratio of the CEO's total annual compensation to the median employee compensation—the logarithmic transformation is applied because the pay distribution is heavily right-skewed and becomes more symmetric after transformation; this measure corresponds directly to the "inter-level prize spread" construct in tournament theory. It should be emphasized that Gap does not include horizontal pay dispersion within the same hierarchical level (such as pay differences within the top management team), which belongs to a different construct and is included only as a benchmark measure in robustness checks. As for the mediating channel, employee motivation is a latent variable that cannot be observed directly; moreover, as the reviewer's concern notes, the three behavioral indicators used in this paper may not measure the same motivational construct, and output per employee may conceptually overlap with firm performance. As a short-term remedy, this paper renames the three indicators "motivation-related proxies," no longer combining them into a single index but instead entering them into the model separately and reporting the results one by one: employee turnover (reverse-scored), available employee satisfaction scores, and per-capita labor productivity; for specifications including per-capita productivity, robustness results excluding this indicator are additionally reported to alleviate concerns about its overlap with performance measurement. Control variables include firm size, leverage, sales growth, industry dummies, ownership concentration, and board independence.

4.3 Model Specification

The mediation effect is estimated following the classic three-step procedure. In the first step, Gap and its squared term are entered simultaneously into the performance equation to test whether the direct effect is an inverted U:

$Perf_{it} = \beta_0 + \beta_1 Gap_{it} + \beta_2 Gap_{it}^2 + \phi' Controls_{it} + \mu_i + \lambda_t + \varepsilon_{it} \quad (1)$
In the second step, the same specification is used to estimate the effect of the gap on each motivation-related proxy (denoted M, estimated separately):

$M_{it} = \alpha_0 + \alpha_1 Gap_{it} + \alpha_2 Gap_{it}^2 + \delta' Controls_{it} + \mu_i + \lambda_t + \varepsilon_{it} \quad (2)$
In the third step, the motivation-related proxy M is added back into the performance equation:

$Perf_{it} = \gamma_0 + \gamma_1 Gap_{it} + \gamma_2 Gap_{it}^2 + \gamma_3 M_{it} + \theta' Controls_{it} + \mu_i + \lambda_t + \varepsilon_{it} \quad (3)$
The decision rules are as follows: if α_1 and α_2 are

$Perf_{it} = \pi_0 + \pi_1 Gap_{it} + \pi_2 Gap_{it}^2 + \pi_3 Gap_{it} \times Mod_{it} + \pi_4 Gap_{it}^2 \times Mod_{it} + \pi_5 Mod_{it} + \omega' Controls_{it} + \mu_i + \lambda_t + \varepsilon_{it} \quad (4)$
Here Mod denotes the moderator-task interdependence (TI) or participatory pay (PP, i.e., profit sharing or employee stock ownership)-each entered into equation (4) and estimated separately. π_3 captures the moderator's effect on the slope of the curve, while π_4 captures its effect on the curvature. To test H3 faithfully, this paper reports conditional curves at different levels of the moderator: Mod is set to the mean minus one standard deviation, the mean, and the mean plus one standard deviation, yielding three conditional inverted-U curves, and the turning point at each level is computed as follows:

$$Gap^*(Mod) = -\frac{(\pi_1 + \pi_3 Mod)}{2(\pi_2 + \pi_4 Mod)} \quad (5)$$

H3 predicts that the higher the task interdependence, the smaller π_4 -the conditional curve becomes steeper and the turning point shifts left; the higher the level of participatory pay, the larger π_4 -the conditional curve becomes flatter and the turning point shifts right.

5. Results and Discussion

5.1 Research Findings

The regression results support H1: the coefficient on the linear Gap term is positive and the coefficient on the quadratic term is significantly negative, indicating that ROA first rises and then falls with the pay gap, and that the turning point lies inside the sample's range of values rather than being obtained by extrapolation. The mediation tests are consistent with H2-the effect of Gap on each of the three motivation-related proxies is likewise inverted-U shaped; when each proxy enters equation (3) separately, it significantly and positively predicts performance, the absolute values of the Gap coefficients shrink markedly, and the bootstrap-tested indirect effects are significant; robustness results excluding per-capita labor productivity

significantly negative, γ_3 is significantly positive, and the absolute values of γ_1 and γ_2 are markedly smaller than those of β_1 and β_2 , the mediation relationship is established; equations (2) and (3) are estimated separately for each of the three motivation-related proxies and reported individually.

Because merely appending two interaction terms to the performance equation does not match H3, the moderation model is now specified explicitly as:

remain unchanged, alleviating the concern that this indicator overlaps with performance measurement. As for moderation, the conditional-curve and turning-point analyses support H3: when task interdependence is set at the mean plus one standard deviation, the inverted-U curve becomes significantly steeper and the turning point shifts left relative to the mean level; at the mean minus one standard deviation, the curve is flatter and the turning point shifts right. Participatory pay works in the opposite direction-in firms with profit sharing or employee stock ownership, the curve is markedly flatter and the turning point shifts right. This shows that allowing employees to participate in residual distribution can, to a certain extent, offset the morale loss brought by pay dispersion.

5.2 Discussion

Two points about these results deserve mention. Theoretically, the tournament and equity explanations are not a matter of right or wrong but of jurisdiction: when the gap is small, the incentive logic prevails; when the gap is large, the fairness logic takes over; and motivation connects the two segments into one whole. Practically, the conclusions do not support simple slogans such as "the bigger the better" or "the flatter the better"; what firms should really do is find their own balance point between efficiency and fairness. Pairing a moderate vertical gap with horizontal participatory mechanisms is currently the combination with the strongest risk resistance. Admittedly, this study still has weaknesses: secondary data do not permit clean causal identification; motivation can only be inferred indirectly through proxies; and the sample is concentrated in listed companies with a high degree of marketization. To remedy these shortcomings, field experiments or matched employer-employee

data would be more ideal tools, and state-owned and family firms deserve separate examination.

6. Conclusion

Returning to the opening question: how exactly does the internal pay gap act on financial performance? This paper's answer is-through employee motivation, and nonlinearly. Integrating tournament, equity, and expectancy theories, this paper proposes and preliminarily corroborates with secondary evidence an inverted-U mediation framework: a moderate gap ignites competitive enthusiasm and performance rises; an out-of-control gap damages fairness perceptions, drives people to leave, and performance falls back; participatory pay and low task interdependence can cushion the decline in the second half. The article's value lies in fitting the long-separated incentive and equity camps into the same model and roughly delineating each side's sphere of influence. The implication for compensation committees is plain but not easy to execute: the gap must be large enough for strivers to see rewards, yet small enough that the silent majority does not feel sacrificed-and the entire process must be transparent and explainable.

Three caveats remain. First, archival data cannot completely rule out reverse causality-perhaps better-performing firms dare to widen the gap more. Second, motivation can only be observed indirectly, and measurement error in the proxies may dilute the true effects. Third, cultural, institutional, and ownership backgrounds are only crudely controlled. If future work can redo this framework on cross-national employer-employee matched data, incorporate variables such as managerial trust and organizational citizenship behavior into the mediation chain, and evaluate the long-term impact of new pay-transparency regulations, the conclusions will be much firmer.

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