The Moderating Effect of Incentive Prospects on the Pay Dispersion-Performance Relationship*

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The purpose of this paper is to examine how incentive prospects moderate the relationship between pay dispersion and performance. By incorporating expectancy theory and justice theory, we hypothesize that individual and team incentive prospects are positively and significantly related to instrumentality beliefs, expectancy beliefs, procedural justice perceptions, and distributive justice perceptions. Based on the hypothesized positive relationship with variables of motivation and justice perceptions, the concept of incentive prospect is applied to examine how it moderates the pay dispersion-performance relationship.

I. Introduction

Pay structure is defined as pay differential among employees under a single employer based on different type of skills and level of work required (Gerhart & Rynes, 2003; Milkovich & Newman, 1999). Pay distribution occurs in such

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Pay structure of an organization, where pay distribution is defined as the "array of compensation levels paid for differences in work responsibilities, human capital, or individual performance within a single organization" (Milkovich & Newman, 1996). Pay distribution is typically characterized as being hierarchical (high pay dispersion) or compressed (low pay dispersion), and much empirical research has focused on how pay dispersions relate to performance measures (Bloom, 1999).

Despite much theoretical foundation and empirical results, the literature on pay dispersion – performance relationship still has a number of critical omissions to be examined. According to Shaw and colleagues (2002), an implicit assumption of performance has been that it is an individual performance, where the majority of empirical studies have focused on individual-level performance outcomes (e.g. Ehrenberg & Bognanno, 1990; Pfeffer & Langton, 1993). Based on a number of research that probed into the relationship between pay dispersion and organizational performance (e.g. Cowherd & Levine, 1992; Bloom, 1999), Shaw and colleagues (2002) have suggested an organizational-level study of pay dispersion which looks into organizational contingency upon the effectiveness of pay dispersion. Similarly, Bloom (1999) has contended that future studies of pay dispersion should incorporate contextual factors (e.g. work environment) which could influence the effects of pay dispersion on performance.

By incorporating guidelines provided by Shaw and his colleagues (2002) and Bloom (1999), this paper seeks to expand theoretical foundations of pay structure and of its relationship with performance. First, this study looks into how base pay dispersion is related to both individual performance and team performance in the professional soccer industry. Professional soccer industry is marked by high level of task interdependence as well as simultaneous individual and team incentive offers to team players. It will be interesting to see if the direction and magnitude of the pay dispersion – performance relationship is similar to that of the past research that looked into task independent work
environment.
Moreover, simultaneous individual and team incentives offers in addition to base pay may foster motivation and justice perception among team members. This individual motivation and justice perceptions, then, is hypothesized to shape both individual and team incentive prospects. **Individual incentive prospect** refers to how much an individual perceives his/her chances of attaining one’s individual incentive based on one’s individual performance. **Team incentive prospect** refers to how much an individual perceives his/her chances of attaining one’s team incentive based on one’s team performance. Both individual and team incentive prospects are hypothesized to moderate the pay dispersion – performance relationship so that the negative relationship between pay dispersion and both individual and team performance is attenuated.

An abbreviated research model for this study is provided in Figure 1.
II. Theoretical Argument

1. Literature review on pay dispersion

There has been a theoretical debate in evaluating whether hierarchical or compressed pay dispersion is related to higher individual and organizational performance. On one hand, proponents of hierarchical pay dispersion have argued that steep pay structure creates meritocracy which rewards employees for their human capital, effort, and performance (Heneman, 1992). For instance, Bishop (1987) has outlined three primary benefits of pay dispersion: first, steep pay structure provides incentives for higher employee effort; second, steep pay structure draws the attention of the workforce, helping the organization to attract and select highly skilled workers; third, steep pay structure helps to retain high-quality employees within the organization by providing those employees with higher salary not attainable elsewhere. Through a network of incentives that motivate effort and attract high-quality workforce (Milkovich & Newman, 1996), organizations with hierarchical pay dispersion attain high-performers while motivating low-performers, thereby achieving high individual and organizational performance (Milgrom & Roberts, 1992).

On the other hand, proponents of compressed pay dispersion have argued that an egalitarian pay structure promotes collaboration and cooperation (Bloom, 1999). Based on the idea that distribution of pay is inherently a ‘zero-sum matter,’ where a fixed financial resource limits each other’s pay within the organization, opponents of hierarchical pay dispersion have contended that steep pay structure promotes dissatisfaction, feelings of inequity, and turnover intentions among employees (Cappelli & Sherer, 1990; Cowherd & Levine, 1992; Pfeffer & Langton, 1993). The ‘zero-sum matter’ of pay distribution is also phrased as the Matthew effect (Merton, 1973) where “more is given to those that have, and more is taken away from those that have not” (Bloom,
Frank and Cook (1997) have argued that such steep pay structure can lead to a winner–take–all contest which can be both counterproductive and costly to the organization. Compared to hierarchical pay dispersion, egalitarian pay dispersion instills feelings of fairness and common fate while reducing unnecessary competition (Milgrom & Roberts, 1988).

The theoretical debate between the proponents of hierarchical pay dispersion and the proponents of compressed pay dispersion testifies that interpreting the pay dispersion–performance relationship is meaningless unless the context in which the pay dispersion occurs is taken into account. In their empirical study examining the incentive effects of tournament model in the golf industry, Ehrenberg and Bognanno (1990) have shown that pay dispersion is positively related to performance in a highly independent work environment. In contrast, Bloom (1999) has shown that pay dispersion is negatively related to both individual performance and team performance in a highly interdependent work environment. Moreover, Shaw and his colleagues (2002) examined the moderating effect of individual incentives and work interdependence on the pay dispersion–performance relationship which found empirical support for the moderating effects of such variables. Three studies demonstrate that the context in which the pay dispersion occurs should be taken into account because the context may be a significant moderator in the relationship.

2. Pay dispersion in soccer

In the past three decades, the sports industry has gained interest among the economists who became more willing to incorporate spheres of life into the equations of economics (Torgler, 2004). Although the most literature on the economics of sports is oriented towards North American sports such as baseball, the economics of soccer has recently gained spotlight by the economists (Torgler, 2004). According to Torgler and Schmidt (2007), the economics of soccer provide
interesting research topics related to business because professional soccer industry is no different from any other typical business industries. Specifically, employment issues regarding compensation and performance have come to require scholarly attention in the professional soccer industry due to the emergence of professional athletes who receives relatively high base compensation (Torgler & Schmidt, 2007). Moreover, with some professional soccer clubs having faced the successive financial crisis over the last two decades despite the successful commercialization of soccer industry, whether compensation package for athletes is effective in motivating desired performance has come into question (Szymanski & Smith, 1997).

Soccer is a sport of high task interdependence. Team performance on the field is not an additive function of performances of eleven players on the field; rather, a team’s field performance is a multiplicative function of performances of the players on the field. Although players have their unique roles on the field, their actions are not strictly delimited by their positions. To maximize team performance, individual players on the field engage in cooperative actions that go beyond their primary roles. For example, the primary role of a goalkeeper is to use hands to protect the team’s posts from the opponents. Although a goalkeeper’s main role can be characterized as defensive, it is natural to see them engage in a team’s offensive play by providing assists in counteroffensive tactics. Such high degree of task interdependence distinguishes soccer from other sports (e.g. baseball) where team performance on the field is an additive function of individual performances.

According to Pfeffer (1995), compressed pay dispersion reduces interpersonal competition and enhances cooperation within the organization, and thereby allows the organization to achieve higher organizational performance when the task interdependence is high. Moreover, a sociological perspective provided by Deutsch (1985) suggests that pay dispersion in a task interdependent setting diminishes performance by reducing cooperation among employees and that
movement towards pay compression leads to higher efficiency. Furthermore, an economic perspective provided by Levine (1991) suggests that pay compression promotes cohesiveness and an atmosphere of confidence and trust among group members.

Based on the theoretical argument by Pfeffer (1995), the sociological perspective by Deutch (1985), and the economic perspective by Levine (1991), a hypothesis can be proposed regarding the pay dispersion-performance relationship in the context of professional soccer industry. Since soccer is a sport of high task interdependence, greater base pay dispersion is hypothesized to be negatively related to both individual and team performance.

Hypothesis 1 is in line with the hypothesis that was provided by Shaw and colleagues (2002), who examined the effect of interaction between pay dispersion and work interdependency upon workforce performance. This study extends the empirical findings by Shaw and colleagues (2002) by incorporating both individual and team performance as dependent variables. This study also extends empirical findings by Bloom (1991) by examining the same hypothesis in a more appropriate study setting that the researcher originally wished to examine the relationship in.

_Hypothesis 1a: In high task interdependent context, greater base pay dispersion is negatively related to individual performance._

_Hypothesis 1b: In high task interdependent context, greater base pay dispersion is negatively related to team performance._

(Figure 2) Base pay dispersion-performance link (Hypothesis 1)
3. Literature review on incentives

It is interesting to note that hypothesis 1 of this study only looks at the relationship between base pay dispersion and individual and team performances without considering incentive structure in the soccer industry. The purpose of focusing solely on the base pay dispersion was to examine how the players’ incentive prospects moderate the relationship between base pay dispersion and individual and team performances.

There are two major streams of research on incentives. One of the research streams concerns incentive intensity, which refers to the marginal pay gains derived from increased performance (Kruse, 1993; cited from Zenger & Marshall, 2000). Incentive intensity is typically distinguished into either low-powered incentives or high-powered incentive plans, based on the amount of incentives paid out to employees. High-powered incentive plans include piece-rate payment and commission system where desired behaviors and efforts are rewarded heavily (Zenger & Marshall, 2000). Evidence shows that high-powered incentive plans lead to performance improvements (Jenkins et al., 1998; Stajkovic & Luthans, 1997). However, high-powered individual incentive plans can also lead to cutthroat competition and decreased cooperation (Lazear, 1989; Pfeffer & Langton, 1993). Such empirical findings testify that the effectiveness of incentive intensity critically depends on which performance the incentive is based on (Gerhart & Rynes, 2003).

The second stream of research on incentives tries to answer the question left unanswered by the studies on incentive intensity. Incentive type refers to whether incentives given out are based on individual performance (individual incentive) or group performance (group incentive). According to goal interdependence theory (Deutsch, 1990; Libby & Thorne, 2009), individual incentives lead to higher individual performance and group performance in task-independent work environment compared to group incentives. In task-independent settings, team
performance is an additive function of individual performances, and so individual incentives help to align individual performances with that of group performance. However, individual incentives may not be desirable in a task-interdependent setting where cooperation and teamwork may be sacrificed for individual goals (Peacock, et al. 2007). In other words, alignment problem occurs since individual incentive does not align the interest of individuals with that of the group.

Despite the limitations of individual incentive in task-interdependent setting, group incentive is not a panacea. A problem of free riding (Olson, 1965; cited from Gerhart & Rynes, 2003) occurs when individuals who receive group-based rewards do not assume an appropriate amount of effort in the making of group performance (Gerhart & Rynes, 2003). Although Pfeffer (1998; cited from Gerhart & Rynes, 2003) contends that the effect of free-riding problem is meager, it is also plausible to argue that free-riding problem may weaken any incentive effect there is from a group incentive plan.

Moreover, very sparse research is dedicated to mixed incentive structure where individual and group incentives are provided together. A mixed incentive structure is interesting because, in a task-interdependent setting, such incentive structure sends two very different and contradictory signals to employees. In their empirical study, Libby and Throne (2009) have shown that group incentives lead to higher group performance in a team-oriented context than individual and mixed incentives. Also, Peacock and his colleagues (2007) have shown that, in a high task-interdependent setting, individuals under individual incentive seek to maximize one’s own incentive despite one’s knowledge of group incentive being sacrificed. By far most interestingly, Farr (1976) has shown that mixed incentive structure results in the highest task performance compared to either individual or group incentive programs, but individuals under the mixed incentive plan perceived the incentive distribution as unfair.

Based on the empirical findings and theoretical arguments on the type of incentives, it is clear that debating whether or not an individual incentive or
group incentive is effective is illogical without considering some key factors. One factor that should be considered is the context in which the task is being carried out. Similar to the case of pay dispersion, task-interdependency seems to play an important role in the effectiveness of incentive type. Another key factor to be considered is justice perceptions and motivation beliefs among employees. Farr’s (1976) empirical evidence is interesting because, despite the fact that mixed incentive structure leads to maximum performance, employees perceived the incentive system as unfair.

This paper introduces a new concept with respect to incentives that incorporates employee motivation and justice perceptions. Specifically, incentive prospect, which is individuals’ perception of the likelihood of receiving a particular incentive based on performance, is hypothesized to significantly relate to individual’s justice perceptions and motivational beliefs. Throughout the following paragraphs, hypotheses regarding the relationship between incentive prospect and both employee motivation beliefs and perceptions of justice will be outlined. Then, how incentive prospect moderates the pay dispersion – performance relationship will be discussed.

4. Employee motivation and incentive prospects

Expectancy theory (Vroom, 1964) delineates individual motivation and behavior consequences under various pay schemes. According to the theory, individual performance is a joint function of a person’s motivational force and one’s ability to engage in a particular behavior (Schwab, 1973). A central premise of expectancy theory is that individuals choose one behavior among the alternatives based on their calculation that optimally leads to desired outcomes (Porter & Lawler, 1969; cited from Chiang, et al. 2008). The motivational force is defined as a multiplicative function of three perceptions that link individual effort, performance, and reward. One of the perceptions is expectancy, which is the
perceived link between individual effort and behavioral outcomes. Another perception is *instrumentality*, which is the perceived link between behavioral outcomes and reward outcomes. One last perception is *valence*, which is the degree of value from which the individual derives from reward outcomes.

Expectancy theory can be applied to this study to examine motivational force among professional soccer players. Specifically, *expectancy* perception is the perceived link between individual effort and individual- and team-level performance. Recall that soccer is a sport of high task interdependence. It is important to note that this high task interdependence does not necessarily imply that the players are operating under a team-oriented work environment. Depending on the number of star players, soccer teams can choose between a team-oriented tactic and individual-oriented tactic to maximize team performance. Simply put, a high individual effort may not necessarily lead to high team performance due to tactical disaster derived from mistakes or even intentional individualistic performance by the players (Elster, 1991; cited from Torgler & Schmidt, 2007).

However, when individual effort leads to a high team and individual performance, then a high level of expectancy perception can be achieved between individual effort and both individual and team performance.

After achieving a certain level of individual and team performance, rewarding individuals with what they value the most helps to promote desired behaviors by aligning the goals of the individuals and the team. In the context of this study, *instrumentality* perception is the perceived link between individual performance and individual incentive as well as the perceived link between team performance and team incentive. If the perceived link between individual performance and individual incentives is strong, then individuals are more likely to believe that they will be properly rewarded with incentives when sufficient performance on the field is shown. Similarly, if the perceived link between team performance and team incentives is strong, then individuals are more likely to believe that they will be properly rewarded with incentives when
the team performs in accordance with standards set by the team management.

Considering expectancy and instrumentality perceptions together, high level of such motivational perceptions can be hypothesized to lead to higher incentive prospects. Recall that incentive prospect refer to individual's perceptions of the likelihood of receiving a particular incentive. With a high level of expectancy perception, an individual is more confident that one's additional effort leads to higher desired individual and team performance, the standards in which incentive rewards are given out. Additionally, with a high level of instrumentality perception, the individual is more confident that he/she will be rewarded with promised amount of incentives, given that desired performance is achieved.

**Hypothesis 2a**: Individual expectancy perception (individual effort – individual performance) is positively related to individual incentive prospect.

**Hypothesis 2b**: Team expectancy perception (individual effort – team performance) is positively related to team incentive prospect.

**Hypothesis 3a**: Individual instrumentality perception (individual performance – individual incentive) is positively related to individual incentive prospect.

**Hypothesis 3b**: Team instrumentality perception (team performance – team incentive) is positively related to team incentive prospects.

![Figure 3](image-url) Motivational perceptions - incentive prospect link (Hypothesis 2 & 3)
5. Justice perceptions and incentive prospects

According to Greenberg (1987), organizational justice theory provides a framework of employee perceptions of fairness in organizations. The theory is not prescriptive; that is, it does not tell how organizational justice can be achieved (Saunders, et al., 2002). Rather, the theory is descriptive in a way that it aids understanding of subjective employee perceptions under organizational decisions (Cropanzano & Greenberg, 1997).

Three types of justice have been proposed and evaluated in the justice literature. The first is distributive justice, which is defined as employee perceptions of fairness of the outcome (Adam, 1965; Homans, 1961; Leventhal, 1976). The second is procedural justice, which is defined as employee perceptions of fairness of the procedures used to make decisions regarding the outcomes (Thibaut & Walker, 1975). The third type of justice is termed as interactional justice, which is defined as employee perceptions of fairness in the interpersonal treatment (Bies & Moag, 1986; Novelli, et al., 1995). In some literature, procedural justice and interactional justice are treated as a single justice perception (Cropanzano & Greenberg, 1997) because perceptions about the fairness regarding the process are at the basis of two types of justices (Saunders, et al., 2002).

Theory of justice has been researched in the field of performance appraisal systems (Nelson, 2001: cited from Wetsch, 2005). Extending this field of research, I propose that distributive justice perception and procedural justice perception among professional soccer players are significantly related to their incentive prospects. Incorporating the idea that fundamental process issue is similar between procedural justice and interactional justice, this study focuses only two of the three justices mentioned in the literature.

Recall that soccer is a setting where additional individual and team incentives beyond base pay are rewarded for their respective individual and collective
team performance. Team incentives are awarded to players based on team performance measures, such as the number of winning games in the league and number of games played in a cup tournament. Individual incentives awarded to players are based on the number of appearances they make during the season and their contributions to the game with respect to the number of goals and assists. Through individual contracts, players in the same team receive differential amount of incentives despite the identical individual and team performance.

Thus, it becomes necessary to examine how professional players derive justice perceptions based on different contracts that separate the value of one player from the other despite the identical individual and team performance. If an individual perceives that his/her contract which provides guidelines for incentive distribution to be fair, then the individual perceives he/she receives an appropriate amount of incentives based on performance, thereby leading to high distributive justice perception. Moreover, if the individual perceives that the process of coming up with the contract that specifies the amount of incentives based on performance to be fair, then the individual perceives the contract to be fair, thereby leading to high procedural justice perception.

Considering distributive justice and procedural justice perceptions together, high levels of such justice perceptions can be hypothesized to lead to higher incentive prospects. Recall that incentive prospect refer to individual’s perceptions of the likelihood of receiving a particular incentive. With a high level of distributive justice perception, an individual is more convinced that incentive distribution is fair and that the standard in which incentive rewards are given out is fair. Thus, a higher level of distributive justice perception can be hypothesized to lead to higher incentive prospects due to confidence in the reward distribution system. Moreover, with a high level of procedural justice perception, an individual is more convinced that the process in which the contract that defines the standards of incentive distribution is fair. Thus, a higher level of procedural justice perception can be hypothesized to lead to higher incentive prospects.
also due to confidence in the reward distribution mechanism.

**Hypothesis 4a:** Distributive justice perception is positively related to individual incentive prospect.

**Hypothesis 4b:** Distributive justice perception is positively related to team incentive prospect.

**Hypothesis 5a:** Procedural justice perception is positively related to individual incentive prospect.

**Hypothesis 5b:** Procedural justice perception is positively related to team incentive prospect.

(Figure 4) Justice perception – incentive prospect link (Hypothesis 4 & 5)

6. Incentive prospect and the 'base pay dispersion – performance' relationship

The theoretical argument of this paper can be divided into two parts. The first part discussed the 'base pay dispersion – performance' relationship, where the first hypothesis was proposed. The second part introduced a new concept incentive prospect, defined as the likelihood perceptions of receiving a particular incentive. Four hypotheses were proposed to explain how motivational factors and justice perceptions related to incentive prospects.

If motivational factors and justice perceptions do relate positively to incentive prospects, as mentioned in hypotheses 2 through 4, then this incentive prospect can be argued as a critical component of pay perception among professional soccer players. In other words, if motivational factors (such as expectancy and instrumentality perception) and justice perceptions (distributive justice and
procedural justice) help shape incentive prospect, then the dominant negative relationship between base pay dispersion and performance may change once incentive prospects are taken into account in the relationship as moderators.

This paper proposes that incentive prospect moderates the base pay dispersion-performance relationship. Although empirical evidence provided by prior studies has demonstrated a negative relationship between base pay dispersion and both team and individual performance, the majority of these studies has avoided focusing on the effects of performance incentives and the prospects of obtaining them. From the idea that motivational factors and justice perceptions are positively related to incentive prospects, I propose that incentive prospect significantly moderates the base pay dispersion-performance relationship. Specifically, the interaction between incentive prospect and base pay dispersion will be positively related to both team and individual performance.

**Hypothesis 6a**: Individual incentive prospect moderates the base pay dispersion - individual performance relationship.

**Hypothesis 6b**: Team incentive prospect moderates the base pay dispersion - team performance relationship

(Figure 5) Complete Research model
Some potential contributions of this proposal are as follows. First, a number of limitations of prior research have been addressed. One of the limitations addressed was the proper setting of the study. Whereas Bloom (1999) observed Major League Baseball industry as a high task-interdependent environment, baseball is marked by task independent environment (Gerhart & Rynes, 2003). Professional soccer industry is a more appropriate setting marked by high task-interdependency and team performance being a multiplicative function of individual performances. Another limitation addressed was the way in which pay dispersion would be measured in this study. Previous studies on pay dispersion measured it based on pay dispersion within the entire organization without taking into account differences in duty performed and job importance. This study separates pay dispersion among the positions on the field based on the idea that individuals compare their pay not only based on the relative pay within the team but also based on the relative pay within the position of that team.

One limitation is that this proposal assumes that individual incentive prospect does not influence team performance, and that team incentive prospect does not influence individual performance. Nonetheless, two different incentives given out simultaneously may affect both individual and team performances, and two different incentives may motivate one behavior over the other. Although the idea of conflicting incentives is interesting, the idea was not fully developed in this proposal, which needs to be addressed in future studies.
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급여 격차와 성과간 관계에 대한 성과급 기대의 조절효과

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요 약

본 연구의 목적은 급여 격차와 성과간의 관계에 있어서 성과급 기대(incentive prospect)가 어떤 조절효과를 갖는지를 연구하는데 있다. 기대 이론과 정의 이론을 기반으로 개인 성과급 기대 및 팀 성과급 기대가 도구성, 기대성, 과정적 정의 및 배분적 정의에 대한 각각과 정의 관계를 가질 것이라는 가설을 도출하였다. 그리고, 성과급 기대가 급여 격차와 성과간의 관계를 어떻게 조절하는가를 연구하였다.

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