Free-Agent Performance in Major League Baseball: Do Teams Get What They Expect?

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Under certain conditions, equity and expectancy theories yield opposite predictions. This study examines one such situation. Performance statistics from a sample of 172 Major League Baseball free agents were collected for the 2 years before and 1 year after each player’s free agency filing. Equity theory suggests that performance decrements will occur when players perceive they are undercompensated in their free-agent year. In contrast, expectancy theory suggests that players’ performance will be superior when they are up for new contracts. During the 1st year of a free-agent player’s new contract, equity theory predicts that his performance will be superior, whereas expectancy theory predicts that it will be lower. Free agents’ performance tended to decline after they signed contracts with new teams. This study suggests that if Major League Baseball teams pay free agents based on free-agent-year performance, they might not be satisfied with the results.

Professional sport has become a large and competitive industry. Given the vast amounts that teams now spend on player salaries, it has grown increasingly important for professional sports organizations to understand whether this money is being well spent (Holbrook & Shultz, 1996; Sommers, 1992). The apportionment of rewards in organizations is an important focus of research in management. Reportedly, organizations are moving away from seniority- and status-based pay and increasingly linking pay more directly to performance (Hammer & Champy, 2000).

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1994; Kanter, 1987; Waterman, 1994). Jensen and Murphy (1990a, 1990b), however, argued that in many large publicly held firms, the compensation of top executives, for example, is virtually independent of performance. Research is thus needed to determine what effect compensation has on employee performance, particularly given the challenges associated with motivating highly paid professionals. This paper contributes by examining the performance of free-agent players in Major League Baseball (MLB).

MLB salaries have been escalating rapidly in recent years. In 1976 the average salary was $51,500 (Scully, 1989), and by 1997 it had risen to about $1.33 million, representing an increase of roughly 2,500% (Star News Services, 1997). This escalation is partly the result of a contractual change in late 1975 that permitted veteran players not under contract to sell their services to the highest bidders (Scully, 1989). The new free-agency system has helped increase player salaries while creating rather large salary differences among players (Zimbalast, 1992). The situation of rapidly growing salaries coupled with large pay differentials among similarly skilled players raises a number of questions concerning motivation and the link between pay and performance.

There are several reasons that MLB offers a good none experimental context in which to study that link. First, in MLB, pay can be strongly or weakly tied to individual performance, and sometimes is almost unrelated to it (Hill & Spellman, 1983; Scully, 1974, 1989; Slottje, Hirschberg, Hayes, & Scully, 1994; A. Zimbalast, personal communication, April 20, 1992). Second, baseball is a highly individualistic sport, and player performance depends heavily on individual effort. Third, accurate and directly comparable individual performance measures are available from secondary sources. The approach taken here is to use archival data, a practice that has been supported in the sport management literature (Olafson, 1990). Finally, individual baseball player performances are the most reliable and measurable of the major North American professional sports leagues.

Although the environment of Major League Baseball is good for studying motivational predictions, MLB's system of free agency presents a motivational paradox. On one hand, free agents might feel relatively undercompensated as they approach the end of their old contracts (Lord & Hohenfeld, 1979). It is common for players to experience acrimonious negotiations with their team owners over pay (Bouton, 1971). Players who feel relatively undercompensated have been known to reduce their effort levels (Lyle & Golenbock, 1979), which is consistent with the predictions of equity theory. On the other hand, players who are at the end of their existing contracts might also be expected to "go all out" to improve their bargaining positions (Harder, 1991), which would be consistent with the predictions of expectancy theory (Duchon & Jago, 1981; Vroom, 1964). Both arguments have been used in MLB circles and in the motivational literature to explain player performance, despite their apparent contradiction. The purpose of this study was to examine these opposing motivational forces. This article is organized as follows. First we explore evidence of the link between pay and performance in MLB. Second, we review motivational literature in the areas of equity and expectancy theories, particularly studies using samples from MLB. Third, we formulate
competing hypotheses based on equity and expectancy theories in this context and test these hypotheses using a sample of MLB free agents. Finally, conclusions and implications for motivational theory, pay and performance in MLB, and sport management are discussed.

**Pay and Performance in Major League Baseball**

Baseball players' salaries have traditionally generated much curiosity and controversy. The 1869 Cincinnati Red Stockings were the first all-salaried baseball team, and they thoroughly outperformed all their opponents (Rader, 1992). Seeing the Red Stockings outclass all other teams led owners of rival clubs to start paying their players as well. To prevent top players from jumping from team to team, team owners soon included in contracts a reserve clause that bound players to their teams in perpetuity (Howell, 1995). After signing a contract to play professional baseball, a player had to play for that team until he was traded, sold, or released (Dworkin, 1981). Only released players could negotiate in a free market with several teams, although migration because of player releases was uncommon (Cymrot & Dunlevy, 1987).

The reserve clause restricted players' freedom of negotiation and mobility because the owners of their contracts exercised much power over the them (Scully, 1974). Player bargaining rights had been virtually eliminated except for the level of their annual financial compensation. A player could only choose between accepting whatever contract his owner offered or retiring. Other than holding out, players had little recourse to increase their salaries. Once a final offer was made, a player would have to either sign or quit and seek a different career (Burk, 1994).

By limiting player mobility, the reserve clause severely depressed salaries (Scully, 1989) and created a monopsony whereby a single buyer (an MLB team owner) faced many small suppliers (the players). The players recognized this in the earliest days of the reserve clause, and many sought out new teams in other professional leagues. In 1890 the short-lived Players League was formed, and a number of National League players joined it (Lowenfish, 1991). A decade later the American League was formed, and after raiding the National League for several top players, its management also recognized the monopsonistic benefits of the reserve clause and joined the National League in adopting it. In 1922, the U.S. Supreme Court upheld an earlier ruling maintaining MLB's reserve clause and the right of the clubs to, in the words of Justice Oliver Wendell Holmes, "retain the services of sufficient players" (Lowenfish, 1991, p. 107). The owners' monopsonistic control over their players would not be seriously challenged again for another 50 years.

**The Age of Free Agency**

In the mid-1970s, baseball experienced a major institutional change. In 1972 outfielder Curt Flood challenged baseball's reserve clause in the U.S. Supreme Court. Although Flood lost his suit, shortly thereafter, in December 1975, baseball arbitrator Peter Seitz ruled that all players without contracts at the end of the 1976 season would be declared free agents. The subsequent basic agreement between
team owners and players stipulated that any player with 6 or more years of major league service and not under contract could negotiate with almost any team (Holtzman, 1977). The system of free agency in MLB is essentially the same today.

As microeconomic theory predicts, the reserve clause’s demise, coupled with a new salary arbitration system, removed the artificial ceiling imposed on baseball player salaries. In the 25 years before 1976, average salaries had increased at an annual rate of 5.6%. From 1976 to 1997, average salaries increased roughly 17% annually (Scully, 1989; Star News Services, 1997). The rapid increase in salaries created some very large pay differentials among players with similar performance histories, because salaries paid to the top free agents often rose rapidly (Zimbalast, 1992).

This salary escalation could have two simultaneous effects: (a) creating perceptions of inequity in players who have older contracts and have fallen behind the salary curve and (b) creating strong motivation in those players to improve their performances in order to enhance their bargaining positions as they vied for new contracts. This dual effect has interesting motivational implications in the context of MLB free agency.

**Equity Theory**

A well-designed compensation system that pays employees for piecework production or, in the case of service industries, for levels of customer satisfaction, can be an effective motivator (Schuler & Jackson, 1996). The process theories of motivation, which include equity theory (Adams, 1963, 1965) and expectancy theory (Porter & Lawler, 1968; Vroom, 1964), have sought to explain the link between pay and performance. These theories assert that individuals believe that rewards and performance are closely linked, although they specify different processes by which this occurs. Equity theory asserts that a person perceives inequity to exist when that person believes that the ratio of his or her outcomes (e.g., pay) to inputs (e.g., performance) differs from the ratio of a referent other’s outcomes to inputs (Adams, 1965). The “other” could be an employer or a third party such as a co-worker, a teammate, or some other peer. In other words, equity exists when

\[
\frac{O}{I} = \frac{O_r}{I_r}
\]

and inequity exists when:

\[
\frac{O}{I} < \frac{O_r}{I_r} \quad \text{(underpayment)}
\]

or

\[
\frac{O}{I} > \frac{O_r}{I_r} \quad \text{(overpayment)}
\]

in which \(O\) = an individual’s outcomes, \(I\) = an individual’s inputs, \(O_r\) = a referent’s outcomes, and \(I_r\) = a referent’s inputs (adapted from Adams, 1965).
Motivational aspects of equity theory derive from the consequences of the perceived inequity. Adams (1965) summarized the primary postulates of his theory as follows: (a) An individual perceives inequity, which creates tension. (b) This tension is directly proportional to the magnitude of the inequity. (c) The strength of the individual's motivation to reduce the inequity is proportional to the magnitude of the inequity. Adams (1965) proposed that individuals reduce or eliminate inequity by altering inputs such as their performance. Thus, equity theory research has focused largely on employee reaction to various levels of pay (Mowday, 1987).

Reviews of equity research have noted that pay inequity is associated with differing individual performances (Goodman & Friedman, 1971; Greenberg, 1982, 1987; Walster, Bercheid, & Walster, 1976). There are many studies on the effects of underpayment. For example, Lawler and O'Gara (1967) found that underpaid individuals' production was of lower quality, and Andrews (1967), Evans and Simmons (1969), and Pritchard, Dunnette, and Jorgenson (1972) also found support for underpayment predictions.

In terms of overpayment, several studies support the prediction that overpaid workers produce greater quantities than equitably paid workers do. Adams (1963) and Goodman and Friedman (1968) found that hourly "overpaid" workers produced greater quantities than equitably paid workers. Mowday (1987) comments that support is more significant with regard to underpayment. For example, Anderson and Shelly (1970) and Valenzi and Andrews (1971) found no significant differences between control and overpayment conditions. Equity theory has proven very effective in making predictions about workers being paid on a piece-rate basis.

**Expectancy Theory**

Like equity theory, expectancy theory is often used to predict people's reaction to pay (Porter & Lawler, 1968; Vroom, 1964). Expectancy theory assumes that people have well-defined preferences among various outcomes (rewards) of their actions, and they will adjust their efforts based on those expected outcomes. Vroom argued that clear and strong links between pay and performance help lead to increased motivation.

Reviews of expectancy theory (Campbell & Pritchard, 1983; Heneman & Schwab, 1972) indicate that it has also received much support. In particular, research on the component of instrumentality—the pay–performance link—is broad and consistent in supporting its effect (Campbell & Pritchard, 1983). For instance, Georgopoulos, Mahoney, and Jones (1957), in a large study of a unionized appliance factory, found that workers who reported high pay–performance outcome instrumentality tended to be higher producers. In a well-known experiment, Jorgenson, Dunnette, and Pritchard (1973) manipulated performance–outcome instrumentality by paying employees in a temporary organization on either an hourly basis (representing low instrumentality) or on a piece-rate basis (high instrumentality). People in the high-instrumentality group performed better than did those in the low-instrumentality group. When the groups switched places, the pattern persisted; the high-instrumentality group exceeded the low-instrumentality group in output and also exceeded its own previous performance under low-instrumentality.
conditions. Graen (1969) obtained similar results, and recent studies of certain U.S. manufacturers also attest to the motivational value of pay-for-performance systems (Kanter, 1987; Schuler & Jackson, 1996).

Equity and Expectancy Theories and Major League Baseball

Lord and Hohenfeld (1979) were the first to test predictions from equity theory on MLB players. They chose a small sample of players who, prior to the 1976 season, had suffered salary cuts as a result of the new free-agency rules. They found that those players experienced significant performance declines that year and concluded that this was caused by feelings of inequity stemming from relative underpayment. After these players received new contracts with higher salaries, their performances improved. Lord and Hohenfeld concluded that these results provided support for equity theory.

That first group of free agents in 1976 alone, however, might not have provided a suitable sample from which to test equity predictions, because 6 of the 13 nonpitcher free agents in 1976 played for the Oakland Athletics. The morale in Oakland that year was terrible while the great Athletics team of the 1970s was being broken up. Team policy and supervision also had created numerous personnel problems for the Oakland club; among other things owner Charles Finley had broken a number of promises made to players. One player, Jim “Catfish” Hunter, was actually declared a free agent based on a violation of his contract. Thus Lord and Hohenfeld’s 1976 sample was influenced by that team’s distinctive problems. Their performance was consistent with Herzberg’s (1966) argument that factors such as company policy, administration, and supervision can be major sources of dissatisfaction in addition to pay issues.

Duchon and Jago (1981) sought to extend Lord and Hohenfeld’s (1979) work by including all nonpitchers in the first 3 years of baseball’s free-agent draft in their study. They also reported on several hitting performance measures for free agents but found no significant performance declines for players in their free-agent years when compared with the previous year’s performance. Yet when they divided their sample into 1st-year (1976), 2nd-year (1977), and 3rd-year free agents (1978), they found that player performance declined in the free-agent year only for the 1976 cohort. In the case of the 1977 and 1978 groups, player performance increased in the free-agent year, in contradiction of equity theory. Duchon and Jago (1981) explained this by speculating that once prospective free agents had seen the big contracts that the first crop of free agents received in 1976, their performance–outcome instrumentality was considerably strengthened, and performance increased. Thus they recast their results in an expectancy theory framework by concluding that equity effects had only been important in that 1st year of the new free agency system, when players were not sure what sort of contracts they would receive. Once the pay–performance link had been well established, expectancy effects became increasingly important, suggesting that players would strive to improve their bargaining positions in their free-agent year.

Harder (1991) also studied equity and expectancy effects in MLB. Using a slightly larger sample of MLB free agents than in the previous studies, he found
that players' batting averages declined in their free-agent years, whereas their home run production did not. He concluded that because of the highly positive link between home runs and salary, players were keeping their home run production up in light of their coming contract negotiations but letting their batting averages slip (cf. Holbrook & Shultz, 1996). Harder argued that these results provided support for both equity theory and expectancy theory, because home runs affected salary the most and players would thus "try" to hit more home runs in their free-agent years. It is questionable, however, whether player effort can have much impact on home run output. Even famed home run hitter Mark McGwire has pointed out that one cannot try to hit home runs. Thus, previous studies disagree over the effect free agency has on player performance.

Hypotheses

Overall, four pairs of competing hypotheses are derived comparing equity and expectancy predictions and are summarized in Table 1. Equity theory predictions, as well as past research and anecdotal evidence, suggest that players in their free-agent year experience feelings of inequity because of relative underpayment, and they will be motivated to decrease that inequity by reducing their performances. In addition, equity theory suggests that players in the 1st year of their new contracts will feel fairly or overcompensated and hence will improve their performances from the previous (free-agent) year.

Table 1  Equity Theory Hypotheses vs. Expectancy Theory Hypotheses in Major League Baseball

<table>
<thead>
<tr>
<th>Performance comparison</th>
<th>Equity theory hypothesis</th>
<th>Expectancy theory hypothesis</th>
</tr>
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<tbody>
<tr>
<td>Free-agent year vs. previous year</td>
<td>H1a: Player performance will be lower in the free-agent year than in the previous year.</td>
<td>H1b: Player performance will be higher in the free-agent year than in the previous year.</td>
</tr>
<tr>
<td>Free-agent year vs. career average</td>
<td>H2a: A player’s performance in his free-agent year will be lower than his career average.</td>
<td>H2b: A player’s performance will be higher in his free-agent year than his career average.</td>
</tr>
<tr>
<td>1st year of new contract vs. free-agent year</td>
<td>H3a: Player performance will be higher in the 1st year of the new contract than in the previous (free-agent) year.</td>
<td>H3b: Player performance will be lower in the 1st year of the new contract than in the previous (free-agent) year.</td>
</tr>
<tr>
<td>1st year of new contract vs. career average</td>
<td>H4a: A player’s performance will be higher in the 1st year of his new contract than his career average.</td>
<td>H4b: A player’s performance will be lower in the 1st year of his new contract than his career average.</td>
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</tbody>
</table>
Expectancy theory predicts the opposite of equity theory in this context. It suggests that if players perceive a strong relation between their performances and subsequent rewards, they will be motivated to improve their performances. Thus a player who is in the final year of his contract, instead of having his performance depressed by inequity considerations, would try hard to improve his performance to enhance bargaining power in postseason contract negotiations. After signing, a player’s incentive to perform is reduced as the pay-performance link is weakened. In the language of expectancy theory, instrumentality is reduced, and player performance could suffer.

Concerning free-agent performance in the free-agent year (i.e., the year in which a free-agent player is seeking a new contract), an equity framework suggests that players will suffer performance declines compared with both the previous year and their career average (Hypotheses 1a and 2a). In contrast, expectancy theory suggests that a player’s performance will be higher in his free-agent year as compared with either the year before or his career averages, because the player is looking ahead to negotiating a new contract after his free-agent season (Hypotheses 1b and 2b). As for the following year (the 1st year of the new contract), equity theory suggests that players would improve their performances, reflecting the higher (over-) payment condition (Hypotheses 3a and 4a), whereas expectancy theory predicts that newly signed players, reflecting the weakened link between pay and performance, would be less motivated and suffer declining performances (Hypotheses 3b and 4b).

Method

Sample

The sample of the study is a group of nonpitcher MLB free agents from 1976 to 1992 who signed contracts with new teams, 172 in all. We chose not to include player years from 1993–1995 because of the back-to-back strike years. The sample was limited to free agents who changed teams, because past studies had also used that criterion. A list of free agents and their performance figures were retrieved from the 1990 and 1996 editions of the Baseball Encyclopedia. The performance data compiled for each player were batting average (BA), slugging average (SA), home runs (HRs), runs batted in (RBIs), and at-bats (ABs). No players with less than 40 at-bats in any of the studied years were included in the sample. This caused three players to be excluded—all of whom had very few at-bats. Data from the strike year of 1981 were included in the sample for BA and SA but excluded for the absolute measures of HRs, RBIs, and ABs. Four of these performance categories were used in previous studies. We also included slugging average—a weighted average of hitting performance—because it is a commonly used measure of overall hitting performance.

All performance measures were compiled for 3 consecutive years: the year before the free-agent year, the free-agent year, and the 1st year of the new contract. In addition, career figures for all players were recorded. Career-level data such as career
HRs, career RBIs, and career ABSs were excluded because they could not be compared (on an aggregate basis) with the single-season totals of the other years.

A repeated-measures analysis of variance was used to assess significant differences among the performance means. A repeated-measures design is also known as a within-subjects design, because members of the sample (players) are all given a treatment (free-agent contract signing), and the outputs (offensive performance measures) are then observed (Hayes, 1988). A repeated-measures design is appropriate because the study assesses differences in the repeat performances of players. A Fisher's least significant difference (LSD) test was performed when the F test for differences among performance means for the different years was significant. The Fisher's LSD test can be used when the F test is significant at a reasonable alpha level and all samples are equal. It has similar requirements to those of the Tukey's HSD test, although it is slightly less conservative in assessing post hoc pairwise differences between the performance means (J. Cohen, personal communication, November 10, 1990; Hayes, 1988).

Results

Tables 2 and 3 summarize the data and provide the results for the hypotheses. Some of the expectancy theory predictions were upheld, whereas none of the equity theory predictions were.

Hypotheses 1a and 1b considered the comparison between the players' free-agent years' and the previous years' performances. The equity hypothesis (H1a) suggested that performances would decline in the free-agent years compared with the previous years' performances, whereas the expectancy hypothesis (H1b) predicted that players' free-agent-year performances would improve. Although average

<table>
<thead>
<tr>
<th>Performance measures</th>
<th>Year before free-agent year</th>
<th>Free-agent year</th>
<th>1st year of new contract</th>
<th>Career figures</th>
<th>F statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>BA</td>
<td>.258</td>
<td>.261</td>
<td>.247**</td>
<td>.262</td>
<td>7.44 (p = .01)</td>
</tr>
<tr>
<td>SA</td>
<td>.392</td>
<td>.391</td>
<td>.367**</td>
<td>.394</td>
<td>5.68 (p = .02)</td>
</tr>
<tr>
<td>HRs</td>
<td>8.6</td>
<td>8.8</td>
<td>8.5</td>
<td>NA</td>
<td>NS</td>
</tr>
<tr>
<td>RBIs</td>
<td>42</td>
<td>43</td>
<td>38*</td>
<td>NA</td>
<td>2.88 (p = .09)</td>
</tr>
<tr>
<td>ABSs</td>
<td>318</td>
<td>325</td>
<td>290**</td>
<td>NA</td>
<td>3.54 (p = .05)</td>
</tr>
</tbody>
</table>

Note. BA and SA showed significant difference among means (p < .05). HRs did not show a significant difference among means. RBIs showed a weakly significant difference among means (p < .09). ABSs showed a significant difference among means. NS = nonsignificant. NA = not applicable. N = 172.

*Lower than all other years (p < .10). **Lower than all other years (p < .05).
Table 3  Summary of Results

<table>
<thead>
<tr>
<th>Performance comparisons</th>
<th>Summary of performances</th>
<th>Support for equity or expectancy hypotheses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Free-agent year vs. previous year</td>
<td>Small nonsignificant increases in some batting performance measures.</td>
<td>Neither theory’s predictions were supported.</td>
</tr>
<tr>
<td>Free-agent year vs. career average</td>
<td>Batting performances in free-agent year were about the same as career averages.</td>
<td>Neither theory’s predictions were supported.</td>
</tr>
<tr>
<td>1st year of new contract vs. free-agent year</td>
<td>Batting performance in 1st year of new contract was generally lower than in free-agent year.</td>
<td>Expectancy predictions generally supported.</td>
</tr>
<tr>
<td>1st year of new contract vs. career averages</td>
<td>Batting performance in 1st year of new contract was generally lower than the career averages.</td>
<td>Expectancy predictions generally supported.</td>
</tr>
</tbody>
</table>

Performances did improve slightly in three of four performance measures in the free-agent year, the differences were not statistically significant. Thus, neither hypothesis was supported, because players did not significantly improve their performances. This suggests that imminent free agency had little motivational impact one way or the other. Similarly, Hypotheses 2a and 2b compared the free-agent years with career averages. Once again, neither the equity nor the expectancy hypothesis was supported, because players’ performances in their free-agent years did not differ significantly from their career averages.

Concerning the last two pairs of hypotheses, the expectancy predictions received some support. Hypotheses 3a and 3b focused on performance in the 1st year of a free agent’s new contract, based on the equity theory and the expectancy theory, respectively. In three out of four hitting performance measures, as well as ABs, mean player performance in the 1st year of the new contract was significantly lower than in the previous (free-agent) year. As Table 2 shows, the performance declines were fairly substantial for some performance measures.

Players’ mean BAs declined by 14 points \((p = .05)\), SAs declined by 24 points \((p = .05)\), RBIs went down by 5 \((p = .09)\), and ABs declined by 35 \((p = .05)\). HRs also went down slightly, although the difference was not significant and could be attributed to the 35 fewer ABs. This drop in player performance in the 1st year of a new contract is contrary to equity theory predictions and is consistent with expectancy theory predictions. Thus, equity theory Hypothesis 3a is rejected in favor of expectancy Hypothesis 3b for three out of four performance measures.\(^{10}\)

Hypotheses 4a and 4b compared player performance in the 1st year of a new contract with the career average for BA and SA. Expectancy predictions were
upheld—player BAs and SAs in the 1st years of the new contracts were significantly lower than career averages. This further reinforces the observation that players suffer performance declines after signing new free-agent contracts, possibly as a result of the demotivating effect of a guaranteed contract.

**Conclusions**

It is commonly believed in baseball circles that multiyear, guaranteed contracts harm player motivation, ostensibly by weakening the link between pay and performance, and particularly in the 1st year or two of a contract. This study provided additional evidence to support that belief. The effects that aspects of North American Major League Baseball’s current free-agent system can have on player performance were tested. In doing so, this study tested opposite predictions made by equity and expectancy theories in this context. The results presented here indicate that free-agent player performances rose slightly in the players’ free-agent years as they anticipated signing new contracts, only to decline significantly in the 1st year of their new contracts in three out of four offensive performance categories and in times at-bat. Large declines occurred in two important performance categories: BA and SA.

In contrast to some past research on MLB free agency, this study, based on a larger sample of MLB free agents from 1976 to 1992, did not support equity theory predictions that MLB players would experience a decline in performance in their free-agent years because of underpayment. Nor did it support equity theory predictions that player performance would subsequently improve after signing new contracts. This suggests that player perceptions of inequity, if present, have no impact on hitting performance. Rather, the results suggested that expectancy effects might work to dampen the motivation of free agents that sign new contracts. Some declines were also found in RBIs and HRs, but these were the result of the 35 fewer ABs that each player had on average in the 1st year of his new contract as compared with his free-agent year. HR averages and RBI averages were quite stable for the sample.

Empirical studies have also shown that players with multiyear contracts spend 50% more time on the disabled list, largely with minor injuries, than players with 1-year contracts do (Helyar, 1991; Lehn, 1990). Indeed, time spent on the disabled list often reflects minor injuries that players in days past would play through for fear of losing their jobs—a nonnecessity in the current age of guaranteed contracts. The results presented here are consistent with that evidence—the free agents in this sample batted less often in the 1st year of their new contracts than in the year before. This represents a significantly lower amount of playing time and might further reflect the reduced motivation often associated with new free-agent contracts.

Since the start of the free-agent era in 1976, baseball teams that signed free agents away from other teams might not have gotten the levels of performance and playing time that they expected from those players. The results of this study suggest that if teams give free agents contracts based on their free-agent-year performances, the teams (and their fans) are liable to be somewhat disappointed. The substantial
decline in performance and playing time that free-agent players tended to suffer after signing contracts with new teams also raises questions concerning the value of long-term, guaranteed contracts that are not tied to current performance. In MLB, teams have started to respond to this problem by granting fewer long-term contracts and adding more performance and playing-time incentives than they did early in the free-agent era (Zimbalast, 1992). Players have also recognized that their salaries can quickly become obsolete. For example, Albert Belle has a clause in his contract that permitted him to become a free agent in late 1998, when he was no longer one of the top-paid players in MLB.\textsuperscript{11}

This study suggests the possibility that guaranteed contracts not substantially linked to performance might harm motivation, which reinforces a parallel argument in human resource management that pay for performance is a significant motivating tool, and its absence can harm productivity (Schuler & Jackson, 1996). In terms of external applications, one might ask whether highly paid professionals with contracts not linked to performance also suffer performance decrements, especially in the early period of their contracts, when performance–outcome instrumentality is weakest. The issue of motivating employees whose compensation is both high and guaranteed represents a major concern for management in many professions, from professional sports to medicine.

**Limitations and Future Research**

The present results have certain limitations in terms of analysis and generalizability. The analysis presented in this article and in previous studies presumed that free agents perceived themselves as relatively undercompensated in their free-agent years and relatively overcompensated after signing. Although this seems like a reasonable assumption, a measure for under- and overcompensation or player perceptions of inequity would be helpful in more fully testing equity effects.

This study focused only on MLB nonpitcher free agents who changed teams. By limiting the sample to free agents who changed teams, there is the possibility of a sample selection bias. It is possible that players who change teams might suffer performance declines simply because of the change of surroundings. In baseball circles this is thought to be especially true for hitters who change leagues and must face a new set of opposing pitchers, many for the first time. Although previous research found no declines in performance in a sample of traded players (Duchon & Jago, 1981), future research on free-agent performance could better control for team change by including a sample of free agents that did not change teams.

Another limitation of the study is the failure to include length of contract as a factor. An implication of expectancy theory is that performance will decline less for players with shorter contracts, because the pay–performance instrumentality would be stronger. Contract length should be controlled to determine whether there is a relationship between contract length and performance. Player performance could be tracked throughout the life of a contract to highlight possible performance effects.\textsuperscript{12}

In terms of performance statistics, there might be other key performance measures that more adequately capture player motivation, such as a level of “hustle.”
If players become demotivated and hence hustle less, that fact might not be reflected in power statistics such as HRs and RBIs. It might, however, be quite evident in certain other measures such as BA, on-base percentage, stolen bases, and various fielding measures, which are more sensitive to a player's level of hustle. The creation of a 'hustling factor' might be helpful in measuring player performance and determining motivation, and it could be addressed in future research.

Professional sports teams in general, and the large and increasing salary differentials in MLB in particular, provide an interesting environment for studying various theories of motivation. Moreover, they can lend insight into solving motivational problems with respect to other professions. The findings presented here might be applicable to other institutional settings such as medicine or academia. Indeed, nonexperimental field research on other occupations that have clear performance measures could yield additional insight into theories of motivation and effective reward distribution in organizations.

References


Endnotes

1 New television contracts and significant increases in attendance have also contributed strongly to the ability of the owners to pay high salaries.
2 From economics, Akerlof's (1984) theory of efficiency wages also states that people who receive superior salary arrangements will work harder. They do this because they
compare their present situation with job alternatives and work harder to maintain their favorable situation.

3One of the authors was acquainted with a member of the Oakland Athletics coaching staff around that time. The general feeling in the Athletics’ clubhouse was very negative because of the owner and his general treatment of the players. Their concerns went well beyond salary issues.

4Thanks to an anonymous reviewer for pointing this out.

5In MLB, the opportunity to move to a winning team might be more motivating than extra pay and might also spur a player on to improved performance in his free-agent year.

6Longtime Oakland Athletics general manager Sandy Alderson, for example, has argued that guaranteed multiyear contracts are quite demotivating (“McGwire Footloose,” 1992).

7The average age of the free agents in the sample was 31.7, with nearly 90% first-time free agents.

8Because data from the year after the free-agent year are collected, 1993 was also excluded.

9For example, if a player became a free agent after the 1988 season, 1987 would be the year before free agency, 1988 the free-agent year, and 1989 the 1st year of the new contract.

10Regression to the mean was not evident, because free-agent-year performances did not differ significantly from career averages. In addition, no age effects were detected. After dividing the sample into an under-32-years-old group and an over-32-years-old group (age 32 is conventionally used to signify the end of a MLB player’s peak years), performance differentials followed a pattern similar to that in the overall sample.

11Thanks to an anonymous reviewer for pointing this out.

12Age did not seem to be a major factor in the performance declines in the players. MLB player performance is fairly consistent in the late-20s-to-early-30s age group, which composed the bulk of the sample. Several older players in the sample had excellent performances late in their careers.

13Indices of home run average (HR/AB) and RBI average (RBI/AB) also proved nonsignificant.

14Thirty-four players from the 1981 strike year were removed from the sample for calculating differences in aggregate HRs, RBIs, and ABs. These players were returned to the sample to calculate differences in BA, SA, HR/AB, and HR/AB.

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