

Performance implications of financial resource allocation in new hiring: the case of major league baseball

Financial
resource
allocation in
new hiring

2829

Ho Wook Shin

*Management/HRM Department, California State University Long Beach,
Long Beach, California, USA*

Sungho Cho

*School of Human Movement, Sport, and Leisure Studies,
Bowling Green State University, Bowling Green,
Ohio, USA, and*

Jong Kwan Lee

*Department of Computer Science, Bowling Green State University,
Bowling Green, Ohio, USA*

Received 2 July 2022
Revised 20 October 2022
29 March 2023
10 July 2023
3 August 2023
Accepted 12 August 2023

Abstract

Purpose – Integrating the resource-based view (RBV) with pay dispersion research, the authors examine how the allocation of resources between hiring new employees and compensating current employees, as well as the allocation of resources among new employees, affects organizational performance.

Design/methodology/approach – The authors use panel data on Major League Baseball teams. The authors also use system generalized method of moments (GMM) estimations to control for the impact of past performance on current performance, unobserved individual heterogeneity and omitted variable bias.

Findings – The authors find that the larger the portion of the human resources (HR) budget allocated to hiring new employees, the poorer organizational performance becomes unless the focal organization has already significantly underperformed. The authors also find that pay concentration among new employees has a positive impact on organizational performance unless the focal organization has already significantly overperformed.

Originality/value – This study extends RBV research by examining how resource allocation patterns affect organizational performance, which has rarely been studied. Moreover, by showing the organizational context's significant effect on the outcome of financial allocation for resource acquisition, this study extends both the RBV research and the pay dispersion research.

Keywords Resource allocation, Resource acquisition, New employees, Pay concentration, Organizational performance

Paper type Original article

1. Introduction

The resource-based view (RBV) argues that because the resources possessed by an organization determine its competitive advantage and performance, resource acquisition is a core part of the organizational strategy (Barney, 1991; Peteraf, 1993). However, most organizations have finite financial reserves and cannot acquire every resource they think may improve their performance. Thus, acquiring new resources involves diverting funds from retaining current resources or allocating them across multiple new acquisitions (Maritan and Peteraf, 2011; Wernerfelt, 2011). Given that resource acquisition determines organizational resource stock (Barney, 1986), decisions on allocating funds to resource acquisition significantly affect organizational performance.

Despite the magnitude of this notion, the performance implication of resource allocation for resource acquisition has yet to be addressed in prior RBV studies (Maritan and Lee, 2017).



Thus, we aim to extend the RBV by examining how the patterns of financial resource allocation in the context of new hires affect organizational performance, given that the RBV recognizes human resources (HR) as a primary source of organizational competitive advantage (Barney *et al.*, 2001). Although the performance impact of how employees are paid has been extensively examined in pay dispersion research (e.g. Hill *et al.*, 2017; Shaw, 2015; Yanadori and Cui, 2013), such research has rarely employed the RBV. Instead, it has drawn upon theories focusing on the effect of pay dispersion on individual psychology (e.g. tournament theory, expectancy theory, or equity theory) (Downes and Choi, 2014). The resource acquisition aspect of pay dispersion has been largely overlooked. Our study links these two highly related but independently developed research streams.

We first examine how allocating resources to hiring new employees versus compensating current employees affects organizational performance. Since most organizations both hire new employees and retain current ones, acquiring new HR entails resource allocation decisions. However, the results of prior pay dispersion studies have not distinguished new employees from current employees, thereby giving little attention to the pay dispersion between these two groups and among new hires.

Organizations' allocation of the HR budget to hire new employees is based on imperfect estimations of new employees' future contributions to organizational performance (i.e. the value of the new HR) (Bidwell, 2011; Sengul *et al.*, 2019). Moreover, new employees lack organization-specific skills and relational resources (e.g. collegial relationships with other employees) and are unfamiliar with organizational routines and culture (Louis, 1980; Shaw *et al.*, 2002; Sheridan, 1992). Thus, new employees usually perform worse than current employees, at least during their first couple of years of work (Bidwell, 2011; DeOrtentiis *et al.*, 2018). We argue that allocating a larger portion of the limited HR budget to hiring new employees has a negative impact on organizational performance.

Second, we examine how an organization's resource allocations among new employees, which reflect its valuation of these new employees, affect its performance. More concentrated resource allocations suggest that an organization focuses on hiring star employees who are expected to generate significant value (Barney and Wright, 1998; Lepak and Snell, 2002). Kehoe and Tzabbar (2015) find that stars have a positive impact on organizations' innovative productivity. Oldroyd and Morris (2012, p. 396) even argue that "hiring a greater number of average performers or enhancing nonhuman assets is not an adequate substitute for the value created by top performers." Organizations thus often strive to hire star employees (Wright *et al.*, 2014). In this light, we argue that budget allocation aimed at hiring star employees generates positive performance outcomes.

Furthermore, we also argue that the effect of resource allocation on organizational performance is affected by the organizational context. In particular, we focus on prior organizational performance. Organizational performance is the outcome of the strategic utilization of an organization's resource stock to reduce costs, exploit market opportunities and mitigate external threats (Newbert, 2008; Rumelt *et al.*, 1994). In other words, organizational performance reflects not only the organization's resources but also how well they have been utilized. Thus, better organizational performance indicates that the focal organization possesses better resources and more effectively and efficiently uses these resources.

Thus, we argue that allocating a larger HR budget for hiring new employees rather than for maintaining and compensating current employees will have a larger negative impact on performance when the focal organization has already exhibited better performance. Because HR contributions are important determinants of organizational performance (Barney, 1991; Dierickx and Cool, 1989), the current employees of high-performing organizations are likely to be highly valuable in HR. In addition, for high-performing organizations, adding star employees may not generate quite as large a value as it would for low-performing

organizations. Thus, we argue that the positive effect of allocating the HR budget to hire star employees on organizational performance is weaker for organizations that exhibit better performance.

We test our arguments empirically using the panel data of Major League Baseball (MLB) teams from 2001 to 2022. The MLB setting provides two major advantages for empirical tests. First, objective measures of the relative performances of MLB teams and players exist. Second, because the compensation for and turnover of players are governed by strict rules, such as the luxury tax and restricted free agency, our study can control for endogeneity issues, such as the possibility that both poor team performance and the larger allocation of HR budget for hiring new players are caused by high employee turnover. Due to the free agency policy, players' job mobility is significantly limited and is subject to team owner discretion rather than their own free will.

Using a generalized method of moments (GMM) panel regression, we find empirical support for our arguments. Our study makes three main contributions to the RBV and pay dispersion research. First, although organizations almost always possess limited financial resources (Wernerfelt, 2011), their allocation aspect in resource acquisition has rarely been examined in RBV studies. By investigating how resource allocation patterns affect organizational performance, our study sheds new light on RBV research. Second, by finding that not only the innate value of a new resource but also the organizational context (*ex ante* performance in our study) determines the outcome of resource allocation (i.e. pay dispersion), our study extends both the RBV research and the pay dispersion research. This finding also has managerial implications, suggesting that managers consider current employees' value and organizational performance when formulating hiring and compensation strategies. Finally, pay dispersion studies have generally given little attention to between-group pay dispersion (Zhang *et al.*, 2022). Our study, which examines pay dispersion between current and new employees and among new employees, extends the pay dispersion research.

2. Review of research on the performance impact of pay dispersion

2.1 Review of pay dispersion research

The relationship between employee compensation (especially its variation across employees) and organizational performance has been extensively examined in pay dispersion studies (e.g. Annala and Winfree, 2011; Bloom, 1999; Franck and Nüesch, 2011; Hill *et al.*, 2017; Kepes *et al.*, 2009; Lazear, 1989, 1991; Mondello and Maxcy, 2009; Pfeffer and Langton, 1993; Shaw, 2015; Shaw *et al.*, 2002; Shaw and Zhou, 2021; Tao *et al.*, 2016; Yanadori and Cui, 2013). However, despite the large volume of studies on this topic, there is still significant controversy over the direction of the performance impact of pay dispersion (Gasparetto and Barajas, 2022; Downes and Choi, 2014).

Specifically, studies based on tournament theory suggest that pay dispersion has a positive influence on the performance of a team, a department, or an entire organization, as it encourages employees to put greater effort into their job-related tasks (Lazear, 1989, 1991; Lazear and Rosen, 1981; Lee *et al.*, 2008). In contrast, studies promoting the team cohesiveness hypothesis argue that large pay dispersion undermines cohesiveness among employees and thereby negatively affects organizational performance (Bloom, 1999; Breunig *et al.*, 2014; DeBrock *et al.*, 2004; Mondello and Maxcy, 2009; Di Domizio *et al.*, 2022; Wiseman and Chatterjee, 2003). Furthermore, some studies present empirical results suggesting no relationship between pay dispersion and organizational performance (Avrutin and Sommers, 2007; Berri and Jewell, 2004; Katayama and Nuch, 2011).

To resolve this controversy, a recent stream of pay dispersion research employs a contingency approach (Hill *et al.*, 2017). For example, Shaw *et al.* (2002) argue that the

performance impact of pay dispersion depends on the amount of individual incentives in the employee compensation package and work interdependence. Moreover, using data on the North American National Hockey League, [Trevor et al. \(2012, p. 586\)](#) find that pay dispersion “explained by performance” is positively associated with team performance, whereas when “unexplained by performance,” it is negatively associated with team performance. Using data from the National Basketball Association, [Kim et al. \(2020\)](#) also find that pay dispersion among starting members has a negative impact on team performance, whereas that among all team members has a positive effect.

2.2 Connecting the RBV with pay dispersion research

Despite this controversy, prior studies on the relationship between pay dispersion and organizational performance have commonly focused on the impact of pay dispersion on employees’ psychology (e.g. how it encourages them to expend more effort or makes them feel unfairly treated or jealous). However, these studies have rarely adopted the RBV; therefore, the idea that pay dispersion could be the outcome of organizational valuations of human resources has been largely overlooked.

In this light, our study emphasizes the need to use RBV as a theoretical foundation for exploring the performance implications of pay dispersion. The acquisition and retention of employees who play a critical role in organizational performance inevitably entail resource (i.e. HR budget) allocations ([Lado and Wilson, 1994](#); [Moses and Sharma, 2020](#)). Such resource allocations are based on the organizational valuation of current and new employees and, in turn, determine the degree of pay dispersion. In other words, a high degree of pay dispersion reflects how the focal organization values each employee.

Thus, from the RBV perspective, when an organization accurately estimates each employee’s innate value ([Barney, 1986](#)), the resulting pay dispersion (i.e. HR budget allocation) can be a source of competitive advantage and high performance. This is consistent with recent pay dispersion studies finding that pay dispersion can positively affect organizational performance when it legitimately reflects employee performance differences ([Hill et al., 2017](#); [Trevor et al., 2012](#); [Shaw and Zhou, 2021](#)). In this light, we point out that the RBV can offer a new perspective on our understanding of the effect of pay dispersion on organizational performance.

However, interestingly, RBV studies have given little attention to resource allocation to new resource acquisition (e.g. diverting budget funds from maintaining current resources). Instead, they have focused on resource allocation to enhance existing non-tradable capabilities or develop new ones ([Maritan and Lee, 2017](#); [Sengul et al., 2019](#)). Thus, examining how organizations’ performance is affected by their allocation of financial resources to acquire new human resources also extends the RBV literature.

3. MLB context: luxury tax and the free agency system

To examine our research questions, we use Major League Baseball data. The MLB data have frequently provided prior pay dispersion studies with the context of empirical analysis (e.g. [Annala and Winfree, 2011](#); [Bloom, 1999](#); [Hill et al., 2017](#); [Jane, 2010](#); [Richards and Guell, 1988](#); [Tao et al., 2016](#)).

The MLB consists of 30 independently owned teams. Player salaries are freely negotiated or stipulated under different sections of the collective bargaining agreement (CBA) between the league and the labor union – the MLB Players Association (MLBPA) ([MLB and MLBPA, 2017](#)). As the entertainment value collectively produced by MLB teams is critically influenced by the within-league competitive balance ([Humphreys and Miceli, 2019](#); [Tainsky et al., 2016](#)), the MLB implements various restrictive labor policies to prevent large teams from hoarding talent.

Specifically, the size of the HR budgets of MLB teams is governed by salary caps, and any violation of this salary cap policy is penalized in the form of a luxury tax (MLB and MLBPA, 2017). Moreover, MLB player salaries are set at a collectively bargained cartel price (i.e. a fixed minimum wage) until they become eligible for salary arbitration or free agency status under the CBA (MLB and MLBPA, 2017). Under the restricted free agency system, all MLB players must play more than 6.0 years in the league to achieve free agency status. Before that time, a team may waive or trade its rights to athletes to other teams, but players have no authority to seek out alternative teams in the league. The 6-year minimum required for free agency status is more inhibitive than it seems because the period is not based on the calendar years of services but on the absolute length of time of survival in the league, which is adjusted to consider any games missed due to injuries or being demoted to the minor leagues. In this light, how to allocate a limited HR budget to compensate current players and hire new players is a crucial issue for MLB teams pursuing better performance; thus, it is a proper empirical setting in which to test our hypotheses.

4. Theory and hypotheses

An organization's resources determine its competitive advantage and performance (Barney, 1991; Peteraf, 1993). Since no organization has infinite resources, organizations often acquire them from external sources to improve their performance or to maintain their competitive advantage. Thus, resource acquisition is a core part of organizational strategy. However, the fact that firms have finite resources hinders them from acquiring everything that could improve their performance (Sengul *et al.*, 2019; Wernerfelt, 2011). If acquiring one resource exhausts the organization's financial resources, the organization must forgo acquiring other valuable resources.

Moreover, although it has drawn little attention from prior RBV studies, acquisition often involves redirecting financial resources from maintaining the current assets to acquiring new ones; for example, employees need to be continuously compensated, and machines must undergo regular maintenance checkups. Thus, resource acquisition goes hand in hand with resource allocation decisions.

Organizations aim to maximize their returns from spending limited financial resources by allocating them across multiple activities in the best way possible (Sengul *et al.*, 2019). For example, even if an organization has accurate information that a certain resource will generate a positive net return (Barney, 1986), it may not acquire it if other resources in the strategic factor market generate a larger return. Moreover, suppose the organization predicts that maintaining its current resources will have a more positive impact on performance than acquiring new resources. In that case, it will spend its available funds to maintain its existing resources.

An organization's resource allocation across multiple resources is based on comparative valuations. However, as Barney (1986) and Makadok and Barney (2001) point out, the accuracy of resource valuation can vary across organizations. Some organizations may be better than others in terms of the comparative valuation and subsequent allocation of financial resources. Thus, our study focuses on the performance implications of financial resource allocation patterns in the context of resource acquisition. Despite the close relationships among resource allocation, resource acquisition, and organizational performance, this topic has drawn little attention from prior RBV studies, and only a handful of studies have discussed the relationship between capability development and resource allocation (Maritan and Lee, 2017; Maritan and Petetraf, 2011). Thus, we emphasize the need to examine how an organization's resource allocation for acquiring new resources versus maintaining current resources and across multiple new acquisitions affects its performance.

This work focuses on HR, which holds a special position in the RBV literature. For example, Colbert (2004, p. 343) claims that “most resource-based arguments are rooted in human resources.” We point out that HR has three notable attributes relevant to resource allocation and acquisition. First, organizations usually, if not always, acquire new HR (i.e. employees) while retaining current employees, and both activities require financial expenditure. For example, professional sports teams, pharmaceutical companies, and consulting firms need to spend substantial financial resources to retain and hire star players, scientists, and consultants, respectively. Second, unlike other resources, organizations often, if not always, do not have perfect information regarding the future contributions of employees to organizational performance (Bidwell, 2011). Third, organizations often hire multiple employees at the same time, and significant variation exists among them in terms of their ability and willingness to devote themselves to their jobs. However, it is difficult for firms to know *ex ante* new employees’ skills and intentions perfectly. Thus, allocating financial resources across multiple new employees depends on the focal organization’s relative valuation of one new employee over others.

4.1 Resource allocations between current versus new HR

We first examine how an organization’s resource allocations for compensating current employees versus those for hiring new employees affect its performance. Organizations assign limited financial resources (i.e. HR budget) to activities such as compensation and recruitment. Thus, when the focal organization spends a larger portion of the HR budget on hiring new employees, it has decided to allocate a smaller amount to compensate current employees. For example, the organization may facilitate current employees to leave by declining their demands during salary negotiations and, instead, hiring new employees. In such a case, the organization considers that diverting HR budget funds from compensating current employees to hiring new ones will generate a positive net return.

However, we argue that allocating a larger portion of the HR budget to hiring new employees, rather than compensating current employees, may have a negative impact on organizational performance for two reasons. First, current employees have developed organization-specific skills and a deep understanding of the organizational context, including formal processes, routines, and culture (DeOrtentiis *et al.*, 2018; Lepak and Snell, 2002). Moreover, current employees have established social capital through continuous intrateam and cross-departmental interactions with other organizational members (DeOrtentiis *et al.*, 2018). These organization-specific skills, an understanding of the organizational context, and organization-specific social capital enable current employees to perform their jobs efficiently and effectively, eventually making positive contributions to organizational performance (Bidwell, 2011; Ployhart and Moliterno, 2011).

In contrast, new employees usually, if not always, have yet to develop such skills and an understanding of their new organization. Learning organization-specific skills and knowledge requires people to be hired and work for a sufficient period in the focal organization (Bidwell, 2011; Lepak and Snell, 1999). As a result, current employees make larger positive contributions to organizational performance than new employees, at least during the first couple of years (Bidwell, 2011; Groysberg *et al.*, 2008).

In this light, the loss of current employees can be seen as the loss of valuable human capital that requires substantial development time, which is detrimental to organizational performance. Thus, resource allocation focusing on retaining and motivating current employees may have a larger positive impact on organizational performance than resource allocation focusing on hiring new employees. In other words, financial resources invested in hiring new employees generate worse performance outcomes than those invested in compensating current employees.

H1. The larger the HR budget allocated to hiring new employees, the poorer the organizational performance.

4.2 Resource allocation across new resource acquisitions: hiring star employees

We also examine how resource allocation across new employees for compensation affects organizational performance. According to the RBV, the price paid to acquire a resource reflects the acquiring organization's valuation of that resource (Barney, 1986). Organizations that want to maximize their returns from resource allocation evaluate the relative value of all new hires *ex ante* and then allocate financial resources to compensate each of them accordingly (Maritan and Lee, 2017; Sengul *et al.*, 2019).

In resource allocation for new hires, whether an organization aims to hire star employees significantly affects how it allocates its HR budget across new hires because hiring star employees (i.e. the most valuable HR on the market) is often quite expensive (Rosen, 1981). When organizations seek to hire star employees, their expenditure on hiring becomes more concentrated. In other words, a disproportionately large portion of the HR budget is assigned to hiring a few star employees.

However, the outcome of disproportionate resource allocation for hiring new employees has rarely been examined. Prior pay dispersion research focuses on pay dispersion across all employees (incumbents and new hires combined) but pays little attention to pay dispersion across new hires (Bloom, 1999; Brown *et al.*, 2003; Hill *et al.*, 2017; Kepes *et al.*, 2009; Shaw *et al.*, 2002).

Star employees are significantly more productive than their nonstar counterparts in performing their jobs and are a main source of innovation in their organizations (Groysberg *et al.*, 2008; Kehoe and Tzabbar, 2015). When first hired from the outside, these star employees bring new ideas, knowledge, and social capital into the focal organization, enabling them to become a center of organizational communication and facilitating organizational learning (Oldroyd and Morris, 2012). Kehoe and Tzabbar (2015) find that the existence of star scientists in biotechnology firms increases those firms' innovative productivity, measured using the number of successful patents. Aguinis and O'Boyle (2014, p. 328) even argue that "human capital in 21st-century organizations seems to be generated primarily by stars." Thus, when star performers join an organization, its subsequent performance is likely to be improved (Chen and Garg, 2018). Moreover, because star performers are rare from an HR standpoint, the organizations that hire them can achieve a competitive advantage over competitors (Aguinis and O'Boyle, 2014; Barney *et al.*, 2011; Kehoe and Tzabbar, 2015).

For these reasons, organizations often strive to hire star performers from the HR market. However, given that no organization can have an unlimited HR budget, hiring star performers from the HR market usually means the focal organization forgoes hiring many nonstar performers. In other words, when an organization anticipates hiring a handful of stars will generate more value than hiring many more nonstar performers, it will spend its HR budget on hiring stars. Consequently, the concentration level in HR budget allocation for hiring new employees will be high. Given the positive impact of stars on organizational performance (Aguinis and O'Boyle, 2014), a more concentrated allocation of the HR budget across new hires has a positive effect on organizational performance.

H2. The higher the pay concentration among new hires, the better the organizational performance.

4.3 Moderating effect of ex-ante organizational performance on the relationship between resource allocation and organizational performance

We also investigate how an organization's *ex ante* performance affects the relationship between its pattern of resource allocation for resource acquisition and its ex-post performance. First, the RBV argues that an organization's resource stock determines its competitive advantage and performance (Barney, 1991; Peteraf, 1993). In particular, high-quality resources (i.e. valuable, rare, inimitable and non-substitutable resources) give the

focal organization a competitive advantage (Barney, 1991). Moreover, organizational performance results from strategically utilizing organizational resource stock to reduce costs, exploit market opportunities and mitigate external threats (Newbert, 2008; Rumelt *et al.*, 1994).

In this light, organizational performance reflects not only the organization's resources but also how well they have been utilized. Given that HR is an important determinant of organizational competitive advantage and performance, organizational performance also reflects the quality and commitment of HR to the organization (Barney and Wright, 1998; Hitt *et al.*, 2001). An organization's high performance may indicate that it already possesses high-quality HR and has utilized it well.

Thus, motivating and retaining current employees by properly compensating them is more beneficial to organizations with better performance. However, given that an organization's HR budget is almost always limited, resource allocation for hiring new employees has a direct impact on the rewards offered to current employees for their contribution to organizational performance. As discussed above, if an organization considers that diverting a certain portion of its HR budget from compensating current employees to hiring new employees will generate a positive net return, then it will increase the size of its HR budget allocated to hiring new employees.

Nevertheless, current employees possess more organization-specific skills and knowledge and have a better understanding of organizational contexts (e.g. culture, processes and routines) than do new hires (Bidwell, 2011; DeOrtentiis *et al.*, 2018; Lepak and Snell, 2002). High organizational performance indicates that incumbent employees' organization-specific skills and understanding have created value for the organization. Thus, the loss of current employees or their demotivation is more detrimental to organizations with better performance. In this light, we argue that spending a larger portion of the given HR budget on new hires has a more negative impact on organizational performance when the focal organization performs better *ex ante*. Thus, we hypothesize the following:

H3. The negative impact of the HR budget allocated to hiring new employees on organizational performance is stronger if the organization has had better performance.

Furthermore, the extent to which new star employees contribute to organizational performance depends on the organization's current resource stock, reflected in its prior performance (Barney, 1991; Peteraf, 1993; Raffiee and Byun, 2020). While the notion is prevalent that the high performance of star employees stems from their innate talent and ability, the organizational context has a significant impact on their performance level (Groysberg *et al.*, 2008; Raffiee and Byun, 2020). RBV research argues that resources can generate more value when acquired by organizations with complementary resources (Makadok, 2001; Makadok and Coff, 2002; Schmidt and Keil, 2013). Similarly, Raffiee and Byun (2020) find that although the performance of new hires is worse than what they demonstrated in their former organizations, the presence of complementary resources (but not similar resources) in the new organization attenuates this negative association.

Complementary resources should differ from a newly acquired resource to complement it. Thus, acquiring a new resource may be less helpful in improving organizational performance when the organization already has similar resources in abundance. Consistent to this idea, Shin and Lee (2019) find that the addition of financial resources generated larger performance improvement among organizations with smaller financial resources.

In this light, we argue that star employees are more valuable HR to organizations that do not already have such high performers. In the same vein, the performance contributions that new star performers can make to an organization are limited when the organization already possesses a similar level of star performers. Given that organizational performance reflects an

organization's resource stock (Barney, 1991; Peteraf, 1993), an organization that has performed better is more likely to possess existing high performers (i.e. star employees) who have organization-specific skills and understand organizational routines, culture, and processes. Thus, we propose the following:

- H4. The positive impact of pay concentration among new hires on organizational performance is weaker if the organization has had better performance.

5. Methods

5.1 Data

Data on sports leagues have frequently been used to study the relationship between pay and performance (Beck *et al.*, 2019; Borghesi, 2008; Depken and Wilson, 2006; Hill *et al.*, 2017; Levin *et al.*, 2013; Schofield, 1988). Considering data accessibility and strictly regulated competitions (e.g. salary luxury tax and the limited free agency policy), we used the on-field performance statistics and annual salaries of individual MLB players to examine our formulated hypotheses. We collected data from multiple sources. All teams' seasonal achievements and performance metrics were collected from Lahman (2018), while players' records, including player categories (e.g. free agent vs current player), were collected from Baseball-References (2020). Other data, such as salaries and wins above replacement (WAR), were collected from USA Today's MLB baseball data (2020). In our study, all the data collected from each were compiled and stored in an SQL database with multiple joined tables using computer programming scripts.

5.2 Measures

Our dependent variable, *Ex-post Performance*, is measured as the number of wins over the number of losses, given that all teams play the same number of games in a season. To calculate the resource allocation between hiring new players and compensating current players, we use the percentage of the total amount of new players' salaries out of the total amount of all players' salaries. The total amount of all players' salaries includes the salaries of new players and current players. This measure captures the proportion of a team's HR budget allocated to hiring new employees. Because MLB teams' total salaries are limited by the luxury tax threshold, an increase in this ratio indicates that the proportion of the HR budget allocated to compensating current employees has decreased.

Pay concentration among new players is measured using the Herfindahl-Hirschman Index (HHI), which is commonly used to measure how concentrated (or dispersed) the values of a certain variable (e.g. market share) are across all sample points (e.g. firms in the same industry). Because we focus on organizations' resource allocation across employees, not on mere inequality, we consider that the HHI is a proper measure of pay concentration among new employees. Thus, pay concentration among new players is defined as follows:

$$\text{Pay Concentration Among New Players} = \sum_{i=1}^n (x_i)^2,$$

where n is the number of new players on a team in a season, and x is the new player's salary over the total amount of new players' salaries in a season.

When new players' salaries are more concentrated, this pay concentration index approaches 1.

To evaluate the moderating influence of teams' *ex ante* performance on the relationships between the portion of HR budget allocated to hiring new employees and teams' ex-post performance and between pay concentration among new employees and teams' ex-post performance, we consider the lagged dependent variable as a moderator in our empirical estimations.

In addition, we include multiple controls in our empirical models. First, we control the number of new players on each team in the prior season by including the *New Number* variable lagged by one year. New players may not be able to contribute as much to organizational performance as existing players, at least during their first couple of years of work (Bidwell, 2011; DeOrtentiis et al., 2018). Thus, the impact of the number of new players acquired in the last year on this year's team performance needs to be controlled.

We also control for the effect of hiring new free agents from other teams on team performance and pay concentration among new players by including the *FA-to-New* variable, which is measured as the total amount of new free agents' salaries over the total amount of new players' salaries. MLB teams recruit players from three main talent pools (i.e. rookies, arbitration-eligible players, and free agencies). Rookie players may enter the league via the league-wide rookie draft (Rule 4 Draft) or as undrafted free agents (MLB and MLBPA, 2017) and begin their playing careers in minor league clubs affiliated with MLB teams. When they are promoted to the MLB level, they likely earn a stipulated league minimum salary until they become eligible for salary arbitration under the CBA. After completing three or more years (but fewer than six) of MLB service, players become eligible for salary arbitration if they cannot reach a deal with their team for an upcoming season (MLB and MLBPA, 2017, pp. 18–19). Finally, players who have served more than six years in the league can declare free agency (MLB and MLBPA, 2017). After their contracts expire, players who attain free agency status may negotiate and execute service agreements with any willing MLB clubs. Thus, a free-agent player is likely to start playing on another team and receive a significant increase in salary in the following season.

Moreover, we control for new players' contribution to team performance to clearly observe the impact of resource allocation patterns in the context of resource acquisitions on team performance. We include the sum of new players' wins above replacement (WAR) scores. A WAR score, which "measures a player's value in all facets of the game by deciphering how many more wins he's worth than a replacement-level player at his same position" (MLB.com, 2020), is an accepted measure of an individual player's contribution to team performance.

To control for the potential positive effect of a team's total salaries (those of both current and new players) on team performance, we include the *Total Salary* variable, measured as the logarithm of 1 plus a team's total salaries. We also control for *Earned Runs Allowed*, which denotes all runs scored against a team pitcher without a defensive mishap. We control for the effect of the change in a head coach on team performance by including a dummy variable, coded 1 if the head coach is a new person and 0 otherwise. We also include the lagged *Championship* variable, which is dummy coded. This dummy variable equals 1 if a team wins at least the league championship and 0 otherwise.

5.3 Statistical approach

We use the system GMM estimator to control for the impact of past performance on current performance, unobserved individual heterogeneity and omitted variable bias by using the *xtabond* 2 command in STATA 14 (Roodman, 2009). The system GMM estimator is a statistical approach designed to deal with these issues in panel data estimations as well as heteroskedasticity and autocorrelation within unit errors (Arellano and Bover, 1995; Blundell and Bond, 1998; Roodman, 2009). System GMM estimation controls for endogeneity by generating plausibly exogenous instruments and using the first differences between those instruments (Berry, 2015; Roodman, 2009). Moreover, the system GMM approach allows us to control for the lagged dependent variable (i.e. team performance) (Berry, 2015). Controlling for a lagged dependent variable is not possible in fixed effects panel estimation. Given that teams who have performed well are likely to perform well again, system GMM estimation, which enables us to control for the effect of past performance on the current performance of teams, is the proper statistical approach for our study.

The difference-in-Sargan/Hansen test shows that our instruments are valid. Through the Arellano–Bond test, we find strong evidence against the null hypothesis of zero autocorrelation in the first-differenced errors at order 1 but no evidence against the null hypothesis of zero autocorrelation at order 2. This finding shows that the moment conditions of our GMM estimation are valid.

6. Results

6.1 Descriptive statistics

Table 1 shows the descriptive statistics and correlations for all variables included in our estimations.

6.2 Hypotheses tests

In Table 2, we report the results of our system GMM estimations with robust standard errors and p values. In Model 1, we include only control variables and the lagged dependent variable. The hypothesized effects are tested in Models 2–5, with Model 5 being our full model.

Hypothesis 1 predicts that the proportion of the HR budget allocated to hiring new employees has a negative effect on organizational performance. Model 2 shows a negative but statistically insignificant relationship between the proportion of the HR budget allocated for hiring new players and ex-post team performance, even at the 0.10 significance level. The coefficients of the *New-to-Total* variable are even positive and statistically significant at the 0.01 and the 0.05 levels in Models 3 and 5, respectively, and include the interaction term between *New-to-Total* and *ex ante* team performance (i.e. lagged dependent variable). Thus, we do not find evidence supporting Hypothesis 1.

Hypothesis 2 predicts that the degree of pay concentration among new employees positively affects organizational performance. The coefficients of the *Pay Concentration* variable are consistently positive and statistically significant at the 0.01 and 0.05 levels only in Models 4 and 5, respectively, which include the interaction term between the *Pay Concentration* variable and *ex ante* team performance, but not in Model 2, which does not include the interaction term. Thus, we conclude that Hypothesis 2 is only partially supported.

For Hypotheses 3 and 4, we test whether and how the effects of the proportion of the HR budget allocated for hiring new employees and the pay concentration among new employees on ex-post organizational performance are moderated by *ex ante* organizational performance. How well a team has performed indicates the quality of its resources and how well they have been utilized.

Hypothesis 3 predicts that the negative impact of the proportion of the HR budget allocated for hiring new employees on team performance is stronger when teams have had better performance. In Models 3 and 5, we find that the coefficients for the interaction term between *New-to-Total* and *ex ante* team performance are negative and statistically significant at the 0.01 and 0.05 levels, respectively. Figure 1 graphically illustrates the interaction effect, showing that the proportion of the HR budget allocated for hiring new players has a positive impact on team performance only for teams that have performed poorly—specifically, only when the win-to-loss ratio is lower than 97%. For teams that have performed better than this level (i.e. a win-to-loss ratio higher than 0.970), the proportion of the HR budget allocated for hiring new players has a negative impact on team performance. This result implies that the coefficient of *New-to-Total* in Model 2 is negative but statistically insignificant because the direction of this variable's effect on team performance is reversed in accordance with the team's *ex ante* performance. Overall, we find strong evidence supporting Hypothesis 3.

Hypothesis 4 predicts that the positive impact of pay concentration among new players on team performance is weaker when teams previously have had better performance. In Models

<i>Ex ante</i> performance (DV) Variable	Model 1	Model 2	Model 3	Model 4	Model 5
New-to-Total (H1)			1.273 (0.373) [0.002]	-0.136 (0.086) [0.123]	0.966 (0.371) [0.014]
Pay concentration (H2)		-0.078 (0.080) [0.339]	-0.026 (0.109) [0.811]	2.507 (0.813) [0.004]	1.984 (0.734) [0.011]
New-to-total x <i>ex ante</i> performance (H3)		[0.728]	-1.311 (0.442) [0.006]		-1.059 (0.428) [0.020]
Pay concentration x <i>ex ante</i> performance (H4)				-2.075 (0.663) [0.004]	-1.679 (0.607) [0.010]
<i>Ex ante</i> performance	0.486 (0.099) [0.000]	0.468 (0.095) [0.000]	0.720 (0.185) [0.001]	0.969 (0.255) [0.001]	1.080 (0.331) [0.003]
Lagged new player number	-0.011 (0.006) [0.076]	-0.011 (0.005) [0.051]	-0.013 (0.006) [0.046]	-0.015 (0.007) [0.031]	-0.015 (0.007) [0.023]
FA-to-new	-0.145 (0.057) [0.017]	-0.149 (0.058) [0.015]	-0.156 (0.055) [0.008]	-0.248 (0.066) [0.001]	-0.234 (0.061) [0.001]
Sum of new players' WAR	0.015 (0.002) [0.000]	0.016 (0.003) [0.000]	0.014 (0.003) [0.000]	0.014 (0.003) [0.000]	0.013 (0.003) [0.000]
Total salary	0.084 (0.032) [0.014]	0.077 (0.033) [0.026]	0.099 (0.035) [0.008]	0.072 (0.043) [0.106]	0.090 (0.039) [0.028]
Earned run allowed	-0.001 (0.0001) [0.000]	-0.001 (0.0001) [0.000]	-0.001 (0.0001) [0.000]	-0.001 (0.0001) [0.000]	-0.001 (0.0001) [0.000]
New head coach	0.037 (0.029) [0.209]	0.033 (0.026) [0.223]	0.004 (0.025) [0.880]	0.010 (0.027) [0.144]	0.016 (0.025) [0.534]
Lagged championship	-0.160 (0.162) [0.331]	-0.170 (0.157) [0.289]	-0.197 (0.161) [0.230]	-0.418 (0.168) [0.019]	-0.388 (0.170) [0.030]
Constant	-0.470 (0.643) [0.470]	-0.297 (0.665) [0.658]	-0.861 (0.707) [0.233]	-0.624 (0.803) [0.443]	-1.010 (0.772) [0.201]
Number of groups	30	30	30	30	30
Number of observations	630	630	630	630	630
Number of instruments	65	67	68	68	69
<i>F</i> -statistics	2847.28	2399.05	1278.72	1337.96	950.83
Hansen	18.11	17.13	17.08	19.19	19.28
Difference-in-Sargan/Hansen	1.29	1.47	-0.07	3.64	0.91
AR (1)	-4.15 [0.000]	-4.19 [0.000]	-4.05 [0.000]	-3.79 [0.000]	-3.81 [0.000]
AR (2)	1.60 [0.110]	1.54 [0.123]	1.31 [0.190]	0.77 [0.439]	0.76 [0.448]
Note(s): ^a Cluster robust standard errors appear in parentheses					
^b <i>p</i> -values appear in square brackets					
Source(s): Table by authors					

Table 2.
System GMM results^{a,b}

4 and 5, we find that the coefficients for the interaction term between *Pay Concentration* and *ex ante* team performance are negative and statistically significant at the 0.01 and 0.05 levels, respectively. Figure 2 illustrates this interaction effect, showing that *Pay Concentration* has a negative impact on team performance if the team's *ex ante* win-to-loss ratio is higher than 1.208. Otherwise, *Pay Concentration* has a positive impact on team performance, but this positive impact diminishes with an increase in *ex ante* team performance. This result implies that the coefficient of *Pay Concentration* in Model 2 is positive but statistically insignificant because the direction of this variable's effect on team performance is reversed in accordance with the team's *ex ante* performance. Overall, we find strong evidence supporting Hypothesis 4.

6.3 Supplementary analyses

We performed robustness tests to examine the sensitivity of our results to changes in the models and measures. We first used an alternative measure for resource allocation between new and current players. We calculated the per capita salaries of current and new players and then divided the total per capita salaries of new players by those of current players. Next, we replaced *New-to-Total* with this new variable and reran our GMM estimations. The hypothesized effects were not changed. Second, we used the number of games won over the total number of games played by a team in a season as an alternative dependent variable. We did not find any qualitatively different results from our main analysis results. Third, we used team fixed effects panel estimation as an alternative statistical approach. In this estimation, we used the first-differenced win-to-loss ratio as a dependent variable, given that controlling for a lagged dependent variable is not possible in fixed effects panel estimation. We did not find any qualitative results that differed from our main analysis results (the supplementary analysis results are available upon request).

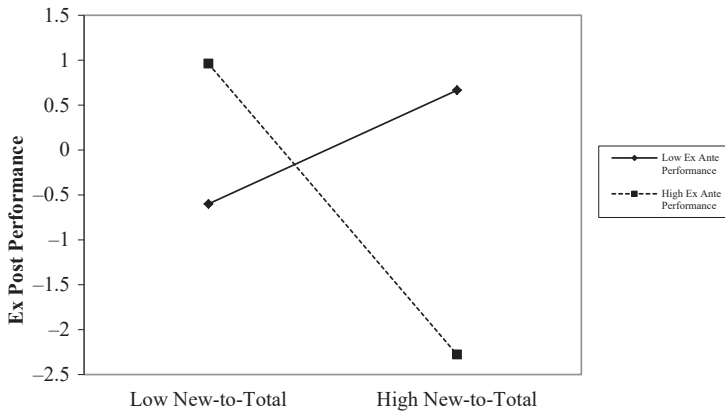
7. Discussion and conclusion

7.1 Theoretical implications

Given that organizations almost always have limited resources, new acquisitions that require spending financial resources inevitably entail resource allocations. However, despite this close conceptual and practical connection between resource allocation and resource acquisition, the RBV literature has paid little attention to this topic. Thus, Maritan and colleagues have emphasized the need to build a bridge between the research on the RBV and that on resource allocation (Coen and Maritan, 2011; Maritan and Lee, 2017). Our study responds to this call to fill the gap in the literature by investigating how resource allocation for resource acquisition affects organizational performance.

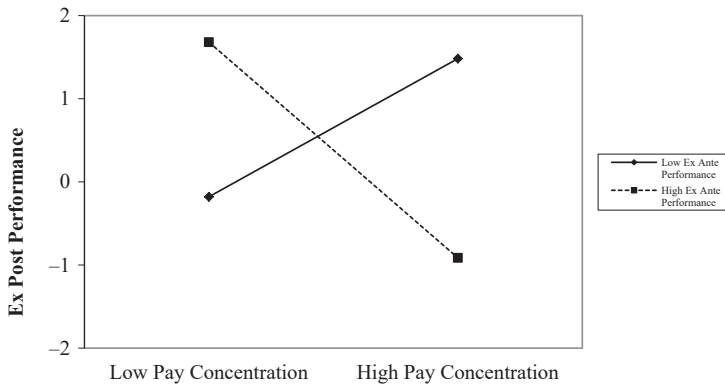
This investigation focuses on HR, which significantly influences organizational competitive advantage and performance (Colbert, 2004). Thus, our study is related to pay dispersion research. Pay dispersion studies traditionally focus on examining whether pay dispersion among employees (regardless of whether they are newcomers or incumbents) has a positive or negative impact on organizational performance (Bloom, 1999; Brown *et al.*, 2003; Kepes *et al.*, 2009; Lazear, 1991; Shaw *et al.*, 2002). In this examination, tournament theory, expectancy theory, and equity theory that discuss the effect of pay dispersion on employees' emotions and motivation have often been employed as a conceptual foundation (Downes and Choi, 2014).

However, although pay dispersion could result from an organizational resource allocation based on the valuation of each employee, prior studies have rarely adopted the RBV to explore this topic. As a result, pay dispersion research has seldom discussed the implications of new resource acquisition (i.e. hiring new employees), one of the main research topics in the



Source(s): Figure by authors

Figure 1.
Interaction effect of
New-to-Total and *ex ante* performance



Source(s): Figure by authors

Figure 2.
Interaction effect of
Pay Concentration and
ex ante performance

RBV literature (Barney, 1986; Shin and Lee, 2019; Zahra, 2021). Because organizations continuously hire new employees while retaining current employees, the amount organizations pay to hire new employees affects the compensation of current employees. Thus, examining the performance implications of resource allocation for hiring new employees while maintaining current ones, our study extends both RBV research and pay dispersion research and builds a bridge between them.

Specifically, we argue that an MLB team performs more poorly when it allocates a larger proportion of its HR budget to hiring new players, and the level of pay concentration among new players has a positive impact on a team's ex-post performance. However, our findings show that these negative and positive effects, as predicted in H1 and H2, respectively, are contingent on the team's *ex ante* performance, which reflects the team's resource stock. First, our models, including the interaction terms, show that H1 is not correct for teams whose wins were substantially fewer than their losses in the previous season. For those teams, the proportion of the HR budget allocated for hiring new players even has a positive effect on team performance in the following season (i.e. H3 finds empirical support). These findings suggest that spending more on hiring new players can benefit teams whose performance was

significantly poor in the previous season. The acquisition of new HR can be a beneficial way for those teams to improve their extremely poor performance.

Second, H4, predicting that the positive impact of pay concentration among new players is weaker for teams that performed better in the previous season, finds empirical support. Given that teams' *ex ante* performance reflects their resource stock and that a higher pay concentration indicates that the focal team aims at hiring star players, our finding shows that star performers are less valuable to teams that already possess valuable HR (i.e. players).

Interestingly, we further find that for teams that have won far more games than they have lost (i.e. a win-to-loss ratio higher than 1.208), pay concentration among new players can have a negative impact on team performance. One potential theoretical explanation is the internal conflict between incumbent star players and new star players and the isolation of new players. This possible explanation is consistent with recent findings showing that when star employees exist, other employees may feel envious or threatened that their position within the organization would be weakened or that the star employees would dominate resources (Brooks *et al.*, 2019; Campbell *et al.*, 2017; Kehoe and Tzabbar, 2015; Kim and Glomb, 2014; Prato and Ferraro, 2018). As such, our findings suggest that the effect of the patterns of resource allocation for resource acquisition on organizational performance is significantly affected by organizational contexts such as organizational resource stock.

7.2 Practical implications

In addition, our findings have managerial implications. Our findings suggest that the effect of resource acquisitions on organizational performance can be determined not only by the innate value of the new resources but also by the organizational context (i.e. *ex ante* performance). In other words, a certain resource allocation pattern or hiring the same employee does not always produce the same return across different organizations. Thus, the valuation of a single resource should vary across organizational contexts. Regarding HR strategies, managers should consider what their organizations have and how well their current employees perform when formulating resource allocation strategies for hiring new employees.

Specifically, managers may need to know that hiring star employees can be a double-edged sword (Brooks *et al.*, 2019; Campbell *et al.*, 2017). While hiring star employees usually generates positive performance outcomes, managers should be cautious about doing this when their organization already performs very well. The managers of high-performing organizations may need to implement teamwork training programs that facilitate collegiality when they hire new star employees (McEwan *et al.*, 2017). Moreover, our findings imply that although treating current employees well is better than spending extensive resources on hiring new employees, managers may need to intentionally increase the turnover rate and thoroughly replace their current employees when organizational performance is too low. In summary, the performance impact of resource allocation to resource acquisition depends on the organization's context.

7.3 Limitations and future lines of research

Although our theoretical arguments and empirical findings offer meaningful insights for bridging the gap between the research on resource allocation and that on resource acquisition, our study has multiple limitations. First, since MLB data provide clear public information on all players' salaries and standardized individual and team performance, they have been utilized frequently by prior pay dispersion studies (Bloom, 1999; Hill *et al.*, 2017; Howard and Miller, 1993). Moreover, the free agency policy and the limit on the HR budgets of all teams mitigate endogeneity concerns regarding our findings.

However, given the idiosyncratic aspects of competition between MLB teams, such as the luxury tax, the restricted free agency policy and the fixed size of each team's roster, there are concerns about the generalizability of our findings. For example, athletes from different teams in the same league follow the same rules, and all teams use the same performance standards (e.g. WAR score) to measure the athletes' performance. In contrast, employees in different firms are not governed by the same rules and are rarely evaluated by industry-wide standardized performance measures (Franck and Nüesch, 2011). Moreover, quantitatively measuring the performance of employees of firms is usually challenging. For example, how much monetary contribution an individual employee in finance, HR, or the marketing department makes is difficult to quantify. In this light, we emphasize the possibility that our findings may hold in only our empirical context, necessitating future research that examines the replicability of our findings in the context of general business organization.

Second, we have not directly measured the perceptions of incumbent and new players regarding how their teams allocate HR budgets. Employees' reactions to resource allocations by their organizations may significantly affect their performance (Bloom, 1999; Bloom and Michel, 2002; Pfeffer and Langton, 1993; Messersmith *et al.*, 2011). Thus, future research may want to extend our findings by using qualitative research methods or survey data.

References

- Aguinis, H. and O'Boyle, E.Jr (2014), "Star performers in twenty-first century organizations", *Personnel Psychology*, Vol. 67 No. 2, pp. 313-350.
- Annala, C.N. and Winfree, J. (2011), "Salary distribution and team performance in major league baseball", *Sport Management Review*, Vol. 14 No. 2, pp. 167-175.
- Arellano, M. and Bover, O. (1995), "Another look at the instrumental variable estimation of error-components models", *Journal of Econometrics*, Vol. 68 No. 1, pp. 29-51.
- Avrutin, B.M. and Sommers, P.M. (2007), "Work incentives and salary distributions in major league baseball", *Atlantic Economic Journal*, Vol. 35 No. 4, pp. 509-510.
- Barney, J.B. (1986), "Strategic factor markets: expectations, luck, and business strategy", *Management Science*, Vol. 32 No. 10, pp. 1231-1241.
- Barney, J. (1991), "Firm resources and sustained competitive advantage", *Journal of Management*, Vol. 17 No. 1, pp. 99-120.
- Barney, J.B. and Wright, P.M. (1998), "On becoming a strategic partner: the role of human resources in gaining competitive advantage", *Human Resource Management*, Vol. 37 No. 1, pp. 31-46.
- Barney, J., Wright, M. and Ketchen, D.J.Jr (2001), "The resource-based view of the firm: ten years after 1991", *Journal of Management*, Vol. 27 No. 6, pp. 625-641.
- Barney, J.B., Ketchen, D.J.Jr and Wright, M. (2011), "The future of resource-based theory: revitalization or decline?", *Journal of Management*, Vol. 37 No. 5, pp. 1299-1315.
- Baseball-Reference (2020), *MLB Stats, Scores, History, and Records*, available at: <https://www.baseball-reference.com/> (accessed 2 October 2020).
- Beck, J.W., Schmidt, A.M. and Natali, M.W. (2019), "Efficient proximal resource allocation strategies predict distal team performance: evidence from the National Hockey League", *Journal of Applied Psychology*, Vol. 104 No. 11, pp. 1387-1403.
- Berri, D.J. and Jewell, R.T. (2004), "Wage inequality and firm performance: professional basketball's natural experiment", *Atlantic Economic Journal*, Vol. 32 No. 2, pp. 130-139.
- Berry, H. (2015), "Knowledge inheritance in global industries: the impact of parent firm knowledge on the performance of foreign subsidiaries", *Academy of Management Journal*, Vol. 58 No. 5, pp. 1438-1458.

-
- Bidwell, M. (2011), "Paying more to get less: the effects of external hiring versus internal mobility", *Administrative Science Quarterly*, Vol. 56 No. 3, pp. 369-407.
- Bloom, M. (1999), "The performance effects of pay dispersion on individuals and organizations", *Academy of Management Journal*, Vol. 42 No. 1, pp. 25-40.
- Bloom, M. and Michel, J.G. (2002), "The relationships among organizational context, pay dispersion, and among managerial turnover", *Academy of Management Journal*, Vol. 45 No. 1, pp. 33-42.
- Blundell, R. and Bond, S. (1998), "Initial conditions and moment restrictions in dynamic panel data models", *Journal of Econometrics*, Vol. 87 No. 1, pp. 115-143.
- Borghesi, R. (2008), "Allocation of scarce resources: insight from the NFL salary cap", *Journal of Economics and Business*, Vol. 60 No. 6, pp. 536-550.
- Breunig, R., Garrett-Rumba, B., Jardin, M. and Rocaboy, Y. (2014), "Wage dispersion and team performance: a theoretical model and evidence from baseball", *Applied Economics*, Vol. 46 No. 3, pp. 271-281.
- Brooks, A.W., Huang, K., Abi-Esber, N., Buell, R.W., Huang, L. and Hall, B. (2019), "Mitigating malicious envy: why successful individuals should reveal their failures", *Journal of Experimental Psychology: General*, Vol. 148 No. 4, pp. 667-687.
- Brown, M.P., Sturman, M.C. and Simmering, M.J. (2003), "Compensation policy and organizational performance: the efficiency, operational, and financial implications of pay levels and pay structure", *Academy of Management Journal*, Vol. 46 No. 6, pp. 752-762.
- Campbell, E.M., Liao, H., Chuang, A., Zhou, J. and Dong, Y. (2017), "Hot shots and cool reception? An expanded view of social consequences for high performers", *Journal of Applied Psychology*, Vol. 102 No. 5, pp. 845-866.
- Chen, J.S. and Garg, P. (2018), "Dancing with the stars: benefits of a star employee's temporary absence for organizational performance", *Strategic Management Journal*, Vol. 39 No. 5, pp. 1239-1267.
- Coen, C.A. and Maritan, C.A. (2011), "Investing in capabilities: the dynamics of resource allocation", *Organization Science*, Vol. 22 No. 1, pp. 99-117.
- Colbert, B.A. (2004), "The complex resource-based view: implications for theory and practice in strategic human resource management", *Academy of Management Review*, Vol. 29 No. 3, pp. 341-358.
- DeBrock, L., Hendricks, W. and Koenker, R. (2004), "Pay and performance: the impact of salary distribution on firm-level outcomes in baseball", *Journal of Sports Economics*, Vol. 5 No. 3, pp. 243-261.
- DeOrtentiis, P.S., Van Iddekinge, C.H., Ployhart, R.E. and Heetderks, T.D. (2018), "Build or buy? The individual and unit-level performance of internally versus externally selected managers over time", *Journal of Applied Psychology*, Vol. 103 No. 8, pp. 916-928.
- Depken, C.A. and Wilson, D.P. (2006), "NCAA enforcement and competitive balance in college football", *Southern Economic Journal*, Vol. 72 No. 4, pp. 826-845.
- Di Domizio, M., Bellavite Pellegrini, C. and Caruso, R. (2022), "Payroll dispersion and performance in soccer: a seasonal perspective analysis for Italian serie A (2007-2021)", *Contemporary Economic Policy*, Vol. 40 No. 3, pp. 513-525.
- Dierickx, I. and Cool, K. (1989), "Asset stock accumulation and sustainability of competitive advantage", *Management Science*, Vol. 35 No. 12, pp. 1504-1511.
- Downes, P.E. and Choi, D. (2014), "Employee reactions to pay dispersion: a typology of existing research", *Human Resource Management Review*, Vol. 24 No. 1, pp. 53-66.
- Franck, E. and Nüesch, S. (2011), "The effect of wage dispersion on team outcome and the way team outcome is produced", *Applied Economics*, Vol. 43 No. 23, pp. 3037-3049.
- Gasparetto, T. and Barajas, A. (2022), "Wage dispersion and team performance: the moderation role of club size", *Journal of Sports Economics*, Vol. 23 No. 5, pp. 548-566.

- Groysberg, B., Lee, L.E. and Nanda, A. (2008), "Can they take it with them? The portability of star knowledge workers' performance", *Management Science*, Vol. 54 No. 7, pp. 1213-1230.
- Hamilton, L.C. (2006), *Statistics with STATA*, Brooks/Cole, Belmont, CA.
- Hill, A.D., Aime, F. and Ridge, J.W. (2017), "The performance implications of resource and pay dispersion: the case of Major League Baseball", *Strategic Management Journal*, Vol. 38 No. 9, pp. 1935-1947.
- Hitt, M.A., Bierman, L., Shimizu, K. and Kochhar, R. (2001), "Direct and moderating effects of human capital on strategy and performance in professional service firms: a resource-based perspective", *Academy of Management Journal*, Vol. 44 No. 1, pp. 13-28.
- Howard, L.W. and Miller, J.L. (1993), "Fair pay for fair play: estimating pay equity in professional baseball with data envelopment analysis", *Academy of Management Journal*, Vol. 36 No. 4, pp. 882-894.
- Humphreys, B.R. and Miceli, T.J. (2019), "The peculiar preferences of sports fans: toward a preference-based motivation for the uncertainty of outcome hypothesis", *Journal of Sports Economics*, Vol. 20 No. 6, pp. 782-796.
- Jane, W.J. (2010), "Raising salary or redistributing it: a panel analysis of major league baseball", *Economics Letters*, Vol. 107 No. 2, pp. 297-299.
- Katayama, H. and Nuch, H. (2011), "A game-level analysis of salary dispersion and team performance in the National Basketball Association", *Applied Economics*, Vol. 43 No. 10, pp. 1193-1207.
- Kehoe, R.R. and Tzabbar, D. (2015), "Lighting the way or stealing the shine? An examination of the duality in star scientists' effects on firm innovative performance", *Strategic Management Journal*, Vol. 36 No. 5, pp. 709-727.
- Kepes, S., Delery, J. and Gupta, N. (2009), "Contingencies in the effects of pay range on organizational effectiveness", *Personnel Psychology*, Vol. 62 No. 3, pp. 497-531.
- Kim, E. and Glomb, T.M. (2014), "Victimization of high performers: the roles of envy and work group identification", *Journal of Applied Psychology*, Vol. 99 No. 4, pp. 619-634.
- Kim, S., Oh, T., Andrew, D. and Zheng, J. (2020), "Pay dispersion and team performance in the national basketball association", *International Journal of Applied Sports Sciences*, Vol. 32 No. 1, pp. 1-14.
- Lado, A.A. and Wilson, M.C. (1994), "Human resource systems and sustained competitive advantage: a competency-based perspective", *Academy of Management Review*, Vol. 19 No. 4, pp. 699-727.
- Lahman, S. (2018), *The Lahman Baseball Database 2018 Version*, available at: <http://www.seanlahman.com/baseball-archive/statistics/> (accessed 2 October 2020).
- Lazear, E.P. (1989), "Pay equality and industrial politics", *Journal of Political Economy*, Vol. 97 No. 3, pp. 561-580.
- Lazear, E.P. (1991), "Labor economics and the psychology of organizations", *Journal of Economic Perspectives*, Vol. 5 No. 2, pp. 89-110.
- Lazear, E.P. and Rosen, S. (1981), "Rank-order tournaments as optimum labor contracts", *Journal of Political Economy*, Vol. 89 No. 5, pp. 841-864.
- Lee, K.W., Lev, B. and Yeo, G.H.H. (2008), "Executive pay dispersion, corporate governance, and firm performance", *Review of Quantitative Finance and Accounting*, Vol. 30 No. 3, pp. 315-338.
- Lepak, D.P. and Snell, S.A. (1999), "The human resource architecture: toward a theory of human capital allocation and development", *Academy of Management Review*, Vol. 24 No. 1, pp. 31-48.
- Lepak, D.P. and Snell, S.A. (2002), "Examining the human resource architecture: the relationships among human capital, employment, and human resource configurations", *Journal of Management*, Vol. 28 No. 4, pp. 517-543.
- Levin, M.A., McDonald, R.E. and Wilcox, J.B. (2013), "An analysis of managers' resource allocation dilemma in a fixed capacity situation", *Journal of Marketing Theory and Practice*, Vol. 21 No. 3, pp. 331-340.

- Louis, M.R. (1980), "Surprise and sense making: what newcomers experience in entering unfamiliar organizational settings", *Administrative Science Quarterly*, Vol. 25 No. 2, pp. 226-251.
- Makadok, R. (2001), "Toward a synthesis of the resource-based and dynamic-capability views of rent creation", *Strategic Management Journal*, Vol. 22 No. 5, pp. 387-401.
- Makadok, R. and Barney, J.B. (2001), "Strategic factor market intelligence: an application of information economics to strategy formulation and competitor intelligence", *Management Science*, Vol. 47 No. 12, pp. 1621-1638.
- Makadok, R. and Coff, R. (2002), "The theory of value and the value of theory: breaking new ground versus reinventing the wheel", *Academy of Management Review*, Vol. 27 No. 1, pp. 10-13.
- Maritan, C.A. and Lee, G.K. (2017), "Bringing a resource and capability lens to resource allocation", *Journal of Management*, Vol. 43 No. 8, pp. 2609-2619.
- Maritan, C.A. and Peteraf, M.A. (2011), "Invited editorial: building a bridge between resource acquisition and resource accumulation", *Journal of Management*, Vol. 37 No. 5, pp. 1374-1389.
- McEwan, D., Ruissen, G.R., Eys, M.A., Zumbo, B.D. and Beauchamp, M.R. (2017), "The effectiveness of teamwork training on teamwork behaviors and team performance: a systematic review and meta-analysis of controlled interventions", *PloS One*, Vol. 12 No. 1, doi: [10.1371/journal.pone.0169604](https://doi.org/10.1371/journal.pone.0169604).
- Messersmith, J.G., Guthrie, J.P., Ji, Y.Y. and Lee, J.Y. (2011), "Executive turnover: the influence of dispersion and other pay system characteristics", *Journal of Applied Psychology*, Vol. 96 No. 3, pp. 457-469.
- MLB and MLBPA (2017), *2017-2021 Basic Agreement*, available at: https://d39ba378-ae47-4003-86d3-147e4fa6e51b.filesusr.com/ugd/b0a4c2_95883690627349e0a5203f61b93715b5.pdf (accessed 2 October 2020).
- MLB.com (2020), "Competitive balance draft picks", available at: <http://m.mlb.com/glossary/transactions/competitive-balance-draft-picks> (accessed 3 April 2021).
- Mondello, M. and Maxcy, J. (2009), "The impact of salary dispersion and performance bonuses in NFL organizations", *Management Decision*, Vol. 47 No. 1, pp. 110-123.
- Moses, A. and Sharma, A. (2020), "What drives human resource acquisition and retention in social enterprises? An empirical investigation in the healthcare industry in an emerging market", *Journal of Business Research*, Vol. 107, pp. 76-88.
- Newbert, S.L. (2008), "Value, rareness, competitive advantage, and performance: a conceptual-level empirical investigation of the resource-based view of the firm", *Strategic Management Journal*, Vol. 29 No. 7, pp. 745-768.
- Oldroyd, J.B. and Morris, S.S. (2012), "Catching falling stars: a human resource response to social capital's detrimental effect of information overload on star employees", *Academy of Management Review*, Vol. 37 No. 3, pp. 396-418.
- Peteraf, M.A. (1993), "The cornerstones of competitive advantage: a resource-based view", *Strategic Management Journal*, Vol. 14 No. 3, pp. 179-191.
- Pfeffer, J. and Langton, N. (1993), "The effect of wage dispersion on satisfaction, productivity, and working collaboratively: evidence from college and university faculty", *Administrative Science Quarterly*, Vol. 38 No. 3, pp. 382-407.
- Ployhart, R.E. and Moliterno, T.P. (2011), "Emergence of the human capital resource: a multilevel model", *Academy of Management Review*, Vol. 36 No. 1, pp. 127-150.
- Prato, M. and Ferraro, F. (2018), "Starstruck: how hiring high-status employees affects incumbents' performance", *Organization Science*, Vol. 29 No. 5, pp. 755-774.
- Raffiee, J. and Byun, H. (2020), "Revisiting the portability of performance paradox: employee mobility and the utilization of human and social capital resources", *Academy of Management Journal*, Vol. 63 No. 1, pp. 34-63.
- Richards, D.G. and Guell, R.C. (1998), "Baseball success and the structure of salaries", *Applied Economics Letters*, Vol. 5 No. 5, pp. 291-296.

-
- Roodman, D. (2009), "How to do xtabond2: an introduction to difference and system GMM in stata", *The Stata Journal*, Vol. 9 No. 1, pp. 86-136.
- Rosen, S. (1981), "The economics of superstars", *The American Economic Review*, Vol. 71 No. 5, pp. 845-858.
- Rumelt, R.P., Schendel, D. and Teece, D.J. (1994), *Fundamental Issues in Strategy: A Research Agenda*, Harvard Business School Press, Boston, MA.
- Schmidt, J. and Keil, T. (2013), "What makes a resource valuable? Identifying the drivers of firm-idiosyncratic resource value", *Academy of Management Review*, Vol. 38 No. 2, pp. 206-228.
- Schofield, J.A. (1988), "Production functions in the sports industry: an empirical analysis of professional cricket", *Applied Economics*, Vol. 20 No. 2, pp. 177-193.
- Sengul, M., Costa, A.A. and Gimeno, J. (2019), "The allocation of capital within firms", *Academy of Management Annals*, Vol. 13 No. 1, pp. 43-83.
- Shaw, J.D. (2015), "Pay dispersion, sorting, and organizational performance", *Academy of Management Discoveries*, Vol. 1 No. 2, pp. 165-179.
- Shaw, J.D. and Zhou, X. (2021), "Explained pay dispersion: a 20-year review of human resource management research and beyond", in Buckley, M.R., Wheeler, A.R., Baur, J.E. and Halbesleben, J.R.B. (Eds), *Research in Personnel and Human Resources Management*, Emerald Publishing, Bingley, Vol. 39, pp. 47-69.
- Shaw, J.D., Gupta, N. and Delery, J.E. (2002), "Pay dispersion and workforce performance: moderating effects of incentives and interdependence", *Strategic Management Journal*, Vol. 23 No. 6, pp. 491-512.
- Sheridan, J.E. (1992), "Organizational culture and employee retention", *Academy of Management Journal*, Vol. 35 No. 5, pp. 1036-1056.
- Shin, H. and Lee, S.H. (2019), "Firm resource stock, resource complementarity, and the heterogeneity in resource value", *Asia Pacific Journal of Management*, Vol. 36 No. 3, pp. 661-686.
- Tainsky, S., Xu, J., Mills, B.M. and Salaga, S. (2016), "How success and uncertainty compel interest in related goods: playoff probability and out-of-market television viewership in the National Football League", *Review of Industrial Organization*, Vol. 48 No. 1, pp. 29-43.
- Tao, Y.L., Chuang, H.L. and Lin, E.S. (2016), "Compensation and performance in Major League Baseball: evidence from salary dispersion and team performance", *International Review of Economics and Finance*, Vol. 43, pp. 151-159.
- Trevor, C.O., Reilly, G. and Gerhart, B. (2012), "Reconsidering pay dispersion's effect on the performance of interdependent work: reconciling sorting and pay inequality", *Academy of Management Journal*, Vol. 55 No. 3, pp. 585-610.
- USA Today (2020), *MLB Salaries*, MLB Baseball, available at: <https://www.usatoday.com/sports/mlb/salaries/> (accessed 2 October 2020).
- Wernerfelt, B. (2011), "Invited editorial: the use of resources in resource acquisition", *Journal of Management*, Vol. 37 No. 5, pp. 1369-1373.
- Wiseman, F. and Chatterjee, S. (2003), "Team payroll and team performance in major league baseball: 1985-2002", *Economics Bulletin*, Vol. 1 No. 2, pp. 1-10.
- Wright, P.M., Coff, R. and Moliterno, T.P. (2014), "Strategic human capital: crossing the great divide", *Journal of Management*, Vol. 40 No. 2, pp. 353-370.
- Yanadori, Y. and Cui, V. (2013), "Creating incentives for innovation? The relationship between pay dispersion in R&D groups and firm innovation performance", *Strategic Management Journal*, Vol. 34 No. 12, pp. 1502-1511.
- Zahra, S.A. (2021), "The resource-based view, resourcefulness, and resource management in startup firms: a proposed research agenda", *Journal of Management*, Vol. 47 No. 7, pp. 1841-1860.
- Zhang, Z., He, W., Park, T.Y., Xing, Z. and Wu, X. (2022), "The effects of between-group pay dispersion", *Academy of Management Journal*, (In Press), doi: [10.5465/amj.2021.0799](https://doi.org/10.5465/amj.2021.0799).

Table A1.
Total salaries of new
and current players

Appendix

Year	Total salary of new players			Total salary of current players		
	Mean	Min	Max	Mean	Min	Max
2001	\$17,500,000	\$3,920,000	\$41,100,000	\$48,000,000	\$18,700,000	\$85,700,000
2002	\$17,700,000	\$3,448,000	\$47,800,000	\$49,800,000	\$15,500,000	\$95,500,000
2003	\$15,700,000	\$3,407,500	\$40,200,000	\$55,200,000	\$7,900,000	\$113,000,000
2004	\$18,600,000	\$6,197,500	\$57,000,000	\$50,400,000	\$6,336,667	\$127,000,000
2005	\$22,100,000	\$3,594,000	\$49,800,000	\$51,000,000	\$12,500,000	\$164,000,000
2006	\$22,100,000	\$6,996,000	\$40,300,000	\$55,500,000	\$6,976,000	\$161,000,000
2007	\$23,100,000	\$5,933,500	\$50,500,000	\$59,500,000	\$12,600,000	\$147,000,000
2008	\$22,700,000	\$5,431,250	\$56,600,000	\$66,800,000	\$13,700,000	\$196,000,000
2009	\$19,900,000	\$5,758,500	\$70,600,000	\$68,900,000	\$28,300,000	\$131,000,000
2010	\$27,000,000	\$8,220,000	\$76,500,000	\$66,600,000	\$17,300,000	\$175,000,000
2011	\$24,300,000	\$7,328,700	\$53,100,000	\$71,600,000	\$12,500,000	\$167,000,000
2012	\$24,900,000	\$3,399,500	\$45,600,000	\$75,400,000	\$14,000,000	\$193,000,000
2013	\$29,600,000	\$4,710,500	\$89,300,000	\$76,500,000	\$12,800,000	\$174,000,000
2014	\$36,900,000	\$6,790,600	\$136,000,000	\$77,500,000	\$5,910,000	\$158,000,000
2015	\$35,500,000	\$6,308,000	\$68,700,000	\$89,800,000	\$30,400,000	\$209,000,000
2016	\$36,200,000	\$10,300,000	\$78,000,000	\$94,000,000	\$38,200,000	\$214,000,000
2017	\$34,600,000	\$5,561,300	\$85,100,000	\$102,000,000	\$37,500,000	\$214,000,000
2018	\$31,800,000	\$10,200,000	\$80,000,000	\$104,000,000	\$29,200,000	\$190,000,000
2019	\$34,100,000	\$5,595,100	\$97,300,000	\$99,700,000	\$31,200,000	\$212,000,000
2020	\$28,400,000	\$0	\$76,700,000	\$28,600,000	\$26,600,000	\$69,700,000
2021	\$34,500,000	\$2,605,000	\$90,600,000	\$93,500,000	\$32,400,000	\$164,000,000
2022	\$42,100,000	\$2,400,000	\$105,000,000	\$104,000,000	\$36,100,000	\$192,000,000

Source(s): Table by authors

About the authors

Ho Wook Shin (PhD, The University of Texas at Dallas) is an assistant professor of management at California State University Long Beach. Ho Wook Shin is the corresponding author and can be contacted at: howook.shin@csulb.edu

Sungho Cho (PhD, University of Connecticut) is an associate professor of sports management at Bowling Green State University.

Jong Kwan Lee (PhD, University of Alabama in Huntsville) is an associate professor of computer science at Bowling Green State University.