Pay Dispersion, Team Diversity and Employee Migration: An Empirical Analysis Using Data from the National Football League

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For an organization, one of the key decisions is how to structure payroll. This decision implies thoughts about the extent of pay dispersion. Shaw (2014, p. 522) defined pay dispersion “as differences in pay levels between individuals within (i.e., horizontal or lateral dispersion) and across (i.e., vertical dispersion) jobs or organizational levels.” Throughout the academic literature, numerous studies examined payroll structure and its influence on various organizational outcomes (Gupta, Contoy, & Delery, 2012), such as team performance (e.g., Bloom, 1999; Coates, Frick, & Jewell, 2016) and revenues (Mondello & Maxcy, 2009). Most studies examining pay dispersion have focused on its effect on team performance in several sports, including basketball (Berri & Jewell, 2004; Katayama & Nuch, 2011), soccer (Franck & Nüesch, 2011), and hockey (Trevor et al., 2012). This literature has found mixed results. While some studies have documented a negative effect on team performance (e.g., Mondello & Maxcy, 2009), others reported no significant effect (e.g., Berri & Jewell, 2004; Katayama & Nuch, 2011) or a u-shaped effect, suggesting that team performance was highest when pay dispersion was either low (compressed) or high (Franck & Nüesch, 2011).

The latter study also examined the effect on individual outcomes such as playing style. It documented that pay dispersion was positively associated with the number of individualistic plays, but not significantly related to the number of cooperative plays (Franck & Nüesch, 2011). This finding suggests that pay dispersion does not only affect organizational outcomes, but also individual decisions. In addition to individual playing style, another individual decision of players is to leave the team and migrate to another team. Knowing how pay dispersion affects these individual decisions is equally important to sport managers. Following Shaw (2014), how individuals react to dispersed and compressed pay while controlling for individual inputs would significantly move the literature forward.

The proposed study looks to fill this gap in the literature by further understanding the role that pay dispersion has on the likelihood of player movement. It also extends existing research by integrating further team diversity aspects into the analysis. The present research advances the following two main research questions: (1) how do pay dispersion and other aspects of team diversity affect player migration? And (2) what role do push factors and pull factors play in player migration decisions? The second research question relates to the push-pull framework explained next.

The present research uses the push-pull framework as theoretical underpinning. This framework is based on dual labor market theory established by Piore (1979). This theory takes a macroeconomic perspective and assumes that labor migration is caused by disequilibria between two labor markets. It proposed the concept of push and pull factors: push factors are characteristics of the sending labor market that force individuals to migrate, while pull factors are characteristics of the receiving labor market that attract individuals and facilitate migration (Massey et al., 1993; Piore, 1979). This theory has been criticized for its macroeconomic view (De Haas, 2011) and has, therefore, been extended to the microeconomic perspective, where it explains individual migration decisions as a combination of push and pull factors (Daugeliene, 2007). This adjusted push-pull framework has already been applied to sports and labor migration of elite sport coaches (e.g., Orlowski, Wicker, & Breuer, 2016; Wicker, Orlowski, & Breuer, 2017) and athletes (e.g., Carter, 2007; Elliott, 2012, 2016). Existing research examining athlete migration has focused on the effects of several push factors, such as families (Carter, 2007), lack of opportunity of career development, and ease of communication (Elliott, 2012, 2016), as well as various pull factors, including financial gains, the opportunity to play in a better league, social aspects, and cultural factors (Elliott, 2012, 2016). The roles of team characteristics in general and pay dispersion and other team diversity aspects in particular have not been studied yet.

The research context for this study is the National Football League (NFL). Data were collected from the 2000-2001...
to the 2014-2015 season, omitting the 2010-2011 season because salary data were not available. Information on player movement was obtained from a variety of sources including Pro Football Reference.com, Fox Sports.com, and ESPN.com. For payroll data, we use the salary cap hit for NFL players during the sample period due to the teams’ need to abide by the salary cap rule as well as the consistency of that data throughout the websites used to obtain individual player salaries (e.g., USA Today Salary Database, Spotrac, ProFootball Reference). Information about other player characteristics and teams was gathered from various secondary sources including pro-football reference, NFL.com and the individual team's websites. The initial sample size is 32,954 player-season observations. The final sample will include only those observations where a player is either resigned to the team that he played with the previous year or moved to a new team. The reason is that the remaining player-season observations were not given an option to move to another team.

The dependent variable is off-season movement which is equal to 1 if the player changed teams after the season, 0 otherwise. This study contains a number of explanatory variables on two levels, the team level and the individual level. Within the team level, the independent variables of interest are several diversity measures, such as payroll dispersion, age diversity, experience diversity, and tenure diversity (all measured by the coefficient of variation). When they refer to the sending team, they are considered push factors. When they refer to the receiving team, they are considered pull factors. Other team variables include regular season winning percentage and changes to the head coach or general manager. The individual-level factors include a player's age, total years employed by the club, position played on the field, whether the player was selected in the amateur draft, his individual performance, and other controls.

The center of the statistical analysis is a logistic regression model that gives information about the role of team diversity in player migration decisions. It allows formulating implications for sport managers with regard to the structure of sport teams. Broader implications for structuring project teams in the corporate sector will also be provided.