

**Wage Dispersion's Effect across Team Units:  
Evidence from the National Football League (NFL)**

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**ABSTRACT**

Wage dispersion (or wage inequality) refers to the variance of wages across a firm. Two competing theories examine the effect of this dispersion on the firm's success. One theory (tournament theory) proposes that the larger the disparity, the better the firm performs. This theory predicts a *positive* relationship between the level of dispersion and firm performance - higher dispersion leads to better performance. The other theory is based on cooperation and fairness. This theory therefore predicts a *negative* relationship between dispersion and firm performance - higher dispersion leads to poor results for the firm.

Seminal research in wage dispersion has focused on firms (Lazear, 1989; Levine, 1991; Ramaswary and Rowthorn, 1991) Recently, wage dispersion has progressed into studying professional sports teams (Sommers, 1998; Depken, 2000; Dole and Kassis, 2008) All of this research has produced mixed results in support of the competing theories.

This paper presents a more refined approach to team structure to help explain the lack of consensus in results. It should be noted that in basketball, hockey and baseball, offensive and defensive players are on the court (field) simultaneously, and they are the same players. In football, however, offensive and defensive squads are separate groups of players. Therefore, it would be more difficult for a low-paid defensive player to sabotage or act cooperatively with a running back. Because previous research grouped offensive and defensive football players together, it is not surprising that a clear relationship between wage dispersion and team performance (i.e. winning percentage) is hard to find.

Recognizing this difference between other professional sports and the NFL, this paper divides NFL teams between offensive and defensive units by team. To measure the degree of dispersion, Herfindahl-Hirschman Indexes (HHI) are generated for each unit. The relationship between the HHI and unit performance is then examined using a panel data approach. The paper reports whether the "tournament" or "cooperation" theory is supported.