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Pool Revenue Sharing, Team Investments, and Competitive Balance in Professional Sports A Theoretical Analysis

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where $i = 1, 2$, $j = 1, 2$, and $i \neq j$. That is, expected winning percentage of a team type increases with its own talent investment, where this effect is subject to diminishing returns. However, the expected winning percentage of team type i decreases with the level of talent investment by team type j

The negative sign follows directly from the assumptions in Equation (2) and the second-order sufficient condition for profit maximization. Equation (8) indicates that an increase (a decrease) in the revenue-pooling share

sharing in soccer or football as developed by Szymanski and Késenne (2004). The findings of these two models stand in contrast with the standard analysis of a professional sports league, which exhibits the ''invariance principle'' for gate revenue

a revenue-pooling scheme may lead both team types to lower their investments in player talent. To characterize explicitly effects of pool revenue sharing on competitive balance, we adopt an example in the subsequent analysis.

4.1. Talent Investments by Team Owners

For ease of illustration, we assume that the revenue functions of the two team types under pool revenue sharing are given, respectively, by

$$R_1 \eth \ w_1 \eth t$$

$$\eth$$

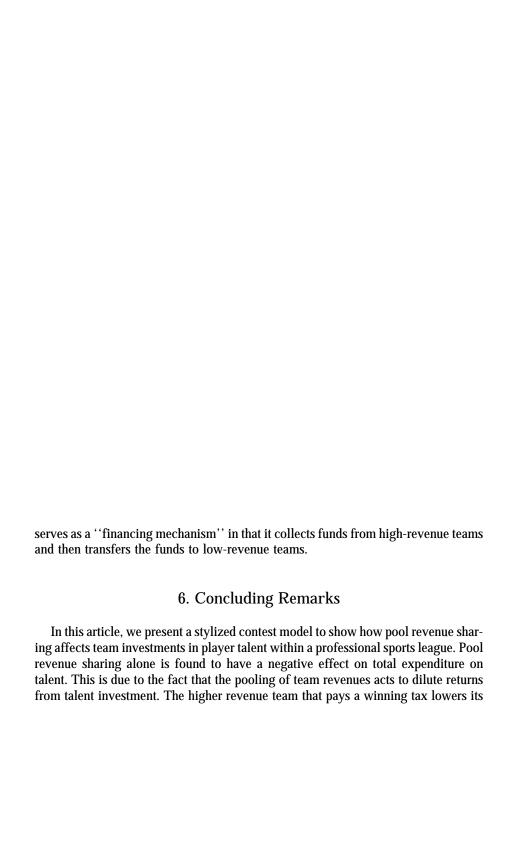Substituting t_1^S and

w_1^S

Differences in the sizes of sports markets may also contribute to reducing competitive balance in a league, especially when team revenues are pooled.

5. Policy Recommendations for Enhancing Competitive Balance

Will the expected winning percentage of a lower revenue team type increase under the mixed policy? A comparison of expected winning percentages with and without the policy reveals that

$$\frac{M_2}{t_1 \, \flat \, M_2} > \frac{t_2^S}{}$$

serves as a ''financing mechanism'' in that it collects funds from high-revenue teams and then transfers the funds to low-revenue teams.

6. Concluding Remarks

In this article, we present a stylized contest model to show how pool revenue sharing affects team investments in player talent within a professional sports league. Pool revenue sharing alone is found to have a negative effect on total expenditure on talent. This is due to the fact that the pooling of team revenues acts to dilute returns from talent investment. The higher revenue team that pays a winning tax lowers its

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