

Berichte aus der Sportökonomie

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**The Institutional and Behavioral Economics
of Professional Sports Leagues**

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This book contains three research papers concerning on empirical and on theoretical research in the field of sports economics with a major focus on the investment behavior of sport clubs.

Chapter 2 examines the effect of incentives and corruption. Both are well known phenomena in the empirical literature. The first is discussed for example by Bognanno and Ehrenberg (1990a, b), Symanski (2003) and Becker and Huselind (1992), who measures the incentive of tournament prizes on performance (as above already discussed). To measure corruption empirically is much more difficult and therefore only a few contributions to this problem exists. One of the most well known is the paper by Mark Duggan and Steven D. Levitt, in the December 2002 issue of the American Economic Review. The authors provide empirical evidence for match rigging in professional sumo. The article caused tremendous attention and controversy because sumo wrestling has a more than 2000 year-old history and is usually characterized by honesty, tradition and strictly fixed rituals. Their analyze showed that corruption is caused by misspecified incentives. Instead we show in chapter 2 that the incentive scheme is not the only determinant for corruption. We analyze a data set which is similar to that which Duggan and Levitt used for their policy implications. We compare the outcome of 'critical' matches before, during and after periods of high and low media scrutiny and allegations. We found that public control and attentions significantly reduced corruption in sumo wrestling. This reduction is caused by two effects. First, the sumo association reacted to different allegations by reducing the value of the eighth win. Second, we show that the level of corruption is heavily influenced by public scrutiny. Moreover, we identify two additional strategies for match rigging: sudden weakness and stable reciprocity. We found strong evidence that corruption is independent of the underlying incentive scheme. Therefore we give only limited support to the idea that policy implications concerning linear incentives can ensure that tournaments are free from corruption. Chapter 3 discusses the effect of a so called luxury tax on sports leagues. In the sport economic literature there exists on the one hand luxury taxes and on the other hand revenue sharing systems or salary caps to prevent (rich) teams overinvesting in super stars (which results in a unbalanced league and therefore boring games and less fan attendance). The effect of revenue sharing and salary caps on the investment level, competitive balance and social welfare is extensively discussed. Less attention is paid to the effect of luxury taxes, with the exception of effects on competitive balance. In chapter 3 therefore we analyze the welfare effects of luxury taxes in a profit maximizing framework. We assume that in sport leagues some (large) clubs have to pay the luxury tax since they invest in super stars more than the league average. On the other hand some (small) clubs receive a subsidy (which is financed by the luxury tax). In a more complex model we also allow the league to extract a predetermined tax share to finance league specific expenditures (i.e. for administration, marketing, etc.). We analyzed first the very simple case of a taxation-redistribution scenario. Under this assumption the social welfare tax rate will not fully balance the league, i.e. talents are not equally distributed between the clubs, which is surprising. In a second step we assume that the league organization gets a (exogenous) share of the tax revenues and can determine the 'optimal' tax rate. From their point of view a 100% tax rate is optimal. This tax rate can result in the social welfare optimum. There exists also a second and third best: in the second best the welfare optimizing tax rate is below the league revenue maximizing tax rate. On the other hand a fully league balancing tax rate is in general not welfare maximizing. From a welfare maximizing point, introducing a positive tax rate can increase welfare relative to a situation without taxation.

In chapter 4 we analyze league investments and competitive balance in a general framework. The existing literature always assumes that the underlying objective function for all teams in the league is the same which means either every club (owner) tries to maximize the profits, or all club owners are interested in maximizing the winning probability of the club. But these two approaches are special cases of so called mixed sport leagues, i.e. league organizations in which on the one hand the share p of sport clubs maximize their profits and on the other hand $1 - p$ of the clubs are interested in maximizing the winning probability. For $p = 0$ or $p = 1$ the model 'collapses' and we are back in the usual model assumption. But when analyzing regulation or tax policy, mixed leagues can generate other results since clubs are now no longer homogenous in their underlying objective function. Current

research has only discussed graphically possible effects of investments and the corresponding distribution of mixed leagues but a tractable formal framework is still missing. Chapter 4 fills this gap and analyzes in a simple two club model (with one profit maximizing and one win maximizing club) investment behaviour under the assumption that one club has a larger (league-) market share than the other. We derive optimal investment behavior and compare the results with the 'pure' leagues. There exists a unique ordering of aggregated investments, but an ordering of competitive balance depends on the relative market share. Under special conditions a mixed league can create the most balanced league. This result is very important for policy consulting because revenue sharing can result in a more unbalanced league. We show graphically the effect of revenue sharing in a mixed league and under which condition revenue sharing is not an adequate regulation mechanism.