ANALYSIS AND COMPARISON OF COMPETITIVE BALANCE IN THE SPANISH ACB BASKETBALL LEAGUE: A PRELIMINARY STUDY

Raúl Martínez-Santos*, Mario Enjuanes**, Ernesto de la Cruz***, José Pino*** & David Crespo

KEYWORDS: basketball, ACB, competitive balance

ABSTRACT: Regardless its relevance in sports economics, competitive balance has not been studied neither in Spanish nor in European professional basketball. In this preliminary study we measured the competitive balance in the Spanish ACB League from seasons 1983/1984 to 2003/2004 using the well-known winning percentage standard deviation index. Results showed great difference between seasons and a general low competitive balance index. In addition, tournament designing did not seem to affect the competitive balance in ACB.

_____

Dr. Raúl Martínez de Santos. Facultad de Ciencias de la Actividad física y del Deporte. Universidad del País Vasco. Portal de Lasarte, 71. 01007 Vitoria-Gasteiz. Álava. España.

e-mail: raul.martinezdesantos@ehu.es

* Universidad del País Vasco/Euskal Herriko Unibertsitatea

** Asociación de Clubes de Baloncesto (ACB)

** Universidad de Murcia

Introduction

The Spanish Basketball Clubs' Association (ACB from now onwards) was founded in 1982 as a mean to increase the control of the owners and managers of the professional teams that took part in the Spanish League, run until then by the Spanish Basketball Federation. Regardless its legal nature, it was born to foster the professionalization of this sport in Spain and to increase the overall wealth of the whole system. The objective of this study, proposed as a preliminary one, is to pose the question of competitive balance in ACB Championship looking into the effect that the different competitions designs (Martinez-Santos, et al., 2009) may have had on it.

Competitive balance, «the degree of equality of the playing strengths of the teams» (Dorian Owen, et al., 2007) is one of the key concepts in sports economics. Surprisingly, it is extremely difficult to find any reference at all about the measurement and evolution of the competitive balance in the ACB championship even though, as Vrooman states about these imperfectly competitive natural cartels, «the natural duality of sports leagues implies that any team is only as strong as its weakest opponent, and that success of any league depends on the competitive balance of its teams» (2009, p. 6). Generally speaking, the competitive balance allows to think about two fundamental topics (Fort, 2003): firstly, it gives the chance to measure the impact of different competition policies; secondly, it permits to evaluate its relation with fan demand.

In one of the few papers about competitive balance and basketball, Rascher and Solmes tested the uncertainty of outcome hypothesis in the NBA finding that «fans desire games in which the home team is expected to win, but not with certainty», this ex ante optimal probability happening to be 66% for the full season. Question is, then, how to give as many teams in the league as possible the chance to offer their fans these fair odds considering that, theoretically at least, the more equal and balanced a league the better for each and every ones' business (Fort, 2003).

In short, «competitive balance is thought to affect attendance of fans through its influence on winning and fans' response to winning» (Sanderson & Siegfried, 2003, p. 15), and the strategies to get the optimum level of balance imply institutional arrangements such as payroll caps and luxury taxes on payrolls (in order to avoid extreme concentrations of playing talent), salary caps that limit the total payroll of a team, revenue sharing from television contracts or gate receipts, adjustment of the number of teams and their locations, reverse-order player drafts or, finally, the structure of competition. On top of that, the effect of these strategies on the competitive balance depends as well on the character of the owners of the teams: revenue sharing, for instance, will not affect competitive balance if they are profit maximizers, but if they are win-maximizers «revenue sharing among sportsmen can increase balance, league revenues, and payrolls» (Vrooman, 2009, p. 42).

Method

Measuring competitive balance is a problem itself. In this preliminary study about competitive balance in the ACB Championship we decided to use the most commonly used index (Humphreys, 2002) to value the differences between teams in the same league, the standard deviation of winning percentage (WPCT-SD), being aware of the numerous alternatives to measure the (im)-balanced distribution of game wins or championship victories

(Humphreys, 2002), such as the Herfindahl-Hirschman index (Dorian Owen, et al., 2007), Gini coefficient (Utt & Fort, 2002) or the adjusted churn (Mizak, et al., 2007).

In this measure of imbalance, every team's winning ratio is calculated in order to asses the dispersion of winning percentages around the «ideal case in which wins are randomly allocated» (Dorian Owen, et al., 2007), as shown in the following equation where T is total the number of teams (t) in the league:

$$\sigma = \sqrt{\frac{\sum_{t-1}^{T}(WPCT_t - 0{,}500)^2}{T}}$$

The data for all the games played in the 22 leagues analyzed were provided by the statistical services of the ACB.

Results and discussion

Table 1 shows the results of the calculation of this index for the 22 seasons analyzed. Let's remember that this value tells us about the distribution of wins among the teams taking into account that the ideal probability of winning a match is 50%: therefore, the closer its value to zero the more balanced a league would be because the teams´ winning ratios would concentrate around the ideal .500.

The WPCT-SD has a minimum value of 0.105 (1994/1995) and a maximum of 0.191 (1983/1984). As far as teams are concerned, the minimum winning ratio (.11-.12) corresponded to teams that only won 4 games in the whole season (1987/88, 1996/1997 and 1998/1999), whereas the maximum corresponded to a team that won all games but 3

	WINNING RATIO			WPCT_SD
	min	max	diff	
1983-1984	0,17	0,86	0,69	0,191
1984-1985	0,16	0,92	0,76	0,187
1985-1986	0,26	0,88	0,62	0,176
1986-1987	0,16	0,82	0,65	0,156
1987-1988	0,12	0,82	0,7	0,178
1988-1989	0,23	0,83	0,59	0,145
1989-1990	0,27	0,8	0,53	0,134
1990-1991	0,29	0,87	0,58	0,139
1991-1992	0,23	0,75	0,53	0,151
1992-1993	0,23	0,78	0,55	0,14
1993-1994	0,31	0,85	0,54	0,142
1994-1995	0,28	0,76	0,48	0,105
1995-1996	0,21	0,78	0,56	0,146
1996-1997	0,11	0,82	0,71	0,169
1997-1998	0,24	0,77	0,54	0,149
1998-1999	0,12	0,81	0,7	0,166
1999-2000	0,29	0,71	0,41	0,13
2000-2001	0,26	0,88	0,62	0,185
2001-2002	0,18	0,77	0,59	0,171
2002-2003	0,15	0,82	0,67	0,16
2003-2004	0,21	0,79	0,58	0,128
2004-2005	0,24	0,77	0,53	0,16

Table 1.- Winning ratios and WPCT-SD in ACB (1983/1984-2004/2005)

(1984/1985). There is not a perfect correlation between those maximum and minimum values and the WPSCT-SD; the correlation coefficient between the gradient min-max of the winning ratio in the season and the WPCT-SD is r2=0,77: dispersion amongst extreme values varies quite a lot from season to season, both quantitative and qualitatively.

As we all know, ratios and indexes are meaningless by themselves. In this case, it is not possible to compare the competitive balance of the ACB championship with similar leagues because there are not data available. All we could find is a study about intercollegiate basketball in the Missouri Valley Conference (Perline & Stoldt, 2007); in this study, values ranged from 0.201 to 0.274 fro eight teams. Nonetheless, any

further comments would challenge comparability too much. Even though, what we now know is that competitive balance in the ACB league is unstable and apparently low: successful teams have a much higher probability of winning a match by playing it than deciding the result with the toss of a coin. This makes the question by O'Reilly et al. quite intriguing for Spanish fans: If you can't win, why should I buy a ticket? (O'Reilly, et al., 2008).

Finally, we had the chance to go a bit further in this preliminary study, having a look at the alleged impact that changes in the design of the tournament might have on this question (Fort, 2003; Sanderson & Siegfried, 2003). We have identified three different main tournament designs in the history of ACB (Martinez-Santos, et al., 2009): Period 1 from 1983/84 to1987/88 ; Period 2 from 1988/99 to 1993/94; and Period 3 from 1994/95 to 2004-05. The ANOVA analysis run on SPSS 17.0 showed significant differences between the first period and the other two (F= 5.607, p= 0.012), without differences between the later two periods: the ACB league was less a balanced competition in the very beginning than it is now.

Conclusions

Regardless its relevance in the sports economics literature, competitive balance in the ACB league and the rest of European basketball tournaments is not an issue so far. This lack of previous research is an important limitation for the analysis of our results. The ACB league seems to be quite an imbalance competition without differences between tournament designs apart from the first five seasons. Even though, further research is needed to test, for instance, the influence of the playoffs on these results and to use other indicators of competitive balance in the professional leagues.

References

Dorian Owen, P., Ryan, M., & Weatherston, C. R. (2007). Measuring competitive balance in professional team sports using the Herfindahl-Hirschman index. *Review of Industrial Organization, 31(4)*, 289-302.

Fort, R. (2003). Thinking (some more) about competitive balance. *Jounal of Sports Economics, 4(4)*, 280-283.

Humphreys, B. (2002). Alternative Measures of competitive Balance in Sports Leagues". *Journal of Sports Economics(3)*, 133-148.

Martinez-Santos, R., Enjuanes, M., Pino, J., De la Cruz, E., & Crespo, D. (2009). *Competition designs in the Spanish ACB Basketball Championship*. Paper presented at the Iberian Congress on Basketball Research, Cartagena (Spain).

Mizak, D., Neral, J., & Stair, A. (2007). The adjusted churn: an index of competitive balance for sports leagues based on changes in team standings over time. *Economics Bulletin, 26(3)*, 1-7.

O'Reilly, N., Kaplan, A., Rahinel, R., & Nadeau, J. (2008). "If You Can't Win, Why Should I Buy a Ticket?": Hope, Fan Welfare, and Competitive Balance. *International Journal of Sport Finance, 3(2)*, 106-118.

Perline, M. M., & Stoldt, C. (2007). Competitive Balance in Men's and Women's Basketball: The Cast of the Missouri Valley Conference. *The Sport Journal, 10(4).* Retrieved from http://www.thesportjournal.org/article/competitive-balance-men-s-and-women-s-basketball-cast-missouri-valley-conference

Rascher, D., & Solmes, J. P. G. (2007). Do Fans Want Close Contests? A Test of the Uncertainty of Outcome Hypothesis in the National Basketball Association. *International Journal of Sport Finance, 2(3)*, 130-141.

Sanderson, A. R., & Siegfried, J. J. (2003). *Thinking about competitive balance*.Unpublished manuscript.

Utt, J., & Fort, R. (2002). Pitfalls to measuring competitive balance with Gini coefficients. *Journal of Sports Economics, 3*, 367-373.

Vrooman, J. (2009). Theory of the Perfect Game: Competitive Balance in Monopoly Sports Leagues. *Review of Industrial Organization, 34(1)*, 5-44.