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Full Length Research Paper

Did the regulations enhance competitive balance? - The case of University Basketball Association in Taiwan

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The main purpose of this study was to examine if the regulations held by University Basketball Association (UBA) in Taiwan enhanced the competitive balance and compare the competitive balance between Division 1 male and female teams that advanced to final 8. The statistical methods of standard deviation of winning percentages, Hirfindahl–Hirschman index, and Gini coefficients of winning percentages were applied to compare the competitive balance during the period from 2000 to 2009. The results showed that: (1) The competition was slightly balanced after 2005 as the regulations was executed but the championship still been dominated by relatively few teams over last decade. (2) There was greater competitive balance among the male teams than female. In conclusion, the regulations did enhance the competitive balance to some extent. Furthermore, this research provided some propositions to reduce the competitive imbalance situation of UBA based on the regulations of National Collegiate Athletic Association (NCAA).

Key words: Competitive balance, University Basketball Association, National Collegiate Athletic Association.

INTRODUCTION

Research background

The special characteristic of sport competitions is that the game contains a certain level of unpredictable and the uncertainty of outcome (Rottenberg, 1956; Sanderson and Siegfried, 2003). The game is exciting and absorbing because the competing parties are quite balanced in strength. If the uncertainty of the competition vanishes, or the strength of the two parties is too far apart, the fans' willingness to watch the competition will drop (Rottenberg, 1956; Quirk and Fort, 1992; Depken and Wilson, 2006), and the inflow of income will diminish. Therefore, sports organizations require a certain level of competitive balance to assure fans' interest and safeguard team income. Using the U.S. as an example, regardless of professional sports or collegiate alliances, this topic is very important. It is also the focal point of many sports economics research (Fort and Maxcy, 2003; Kesenne, 2006; Depken and Wilson, 2006).

To address the problem of competitive balance, Major League Baseball (MLB) appointed the Blue Ribbon Panel (BRP) to investigate the effect of competitive balance on the league's health. The Panel found that competitive imbalance not only reduced the excitement of the game, but also unfavorable for the development of small-market teams. Most importantly, maintaining competitive balance was associated with generating significant commercial gains, such as gate revenue and broadcasting right. To promote the competitive balance among teams, owners and players proposed the revenue-sharing provisions in the Collective Bargaining Agreement in 1997 to ensure that small-market team would not run into competitiveness issues due to economic factors (Lewis, 2008).

Competitive balance is not only a critical issue in professional sports. An increasing number of studies have started to focus on National Collegiate Athletic Association (NCAA) sports (Baird, 2004; Depken and Wilson, 2006; Perline and Stoldt, 2007). Different from professional leagues, NCAA emphasizes competitive balance on recruitment. The league is concerned about the impact of financial compensation (scholarship) and nonmonetary benefits (tutors, books, coaches, training)

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on competitive balance (Depken and Wilson, 2006). Especially, NCAA imposes a limitation on the number of full-ride scholarships offered by schools to students to prevent schools from capturing talent players in a basket because this would impact the game's competitiveness (Baird, 2004). In addition, NCAA has requirements on players' qualification, which is primarily based on students' academic standing. Starting 2005, NCAA initiated the academic reform movement by establishing new rules. Specifically, the Academic Progress Rate (APR) was used to measure the academic status of schools and teams. Schools or teams that failed the standard could be penalized through a reduction of the number of scholarship. This initiative not only took into consideration the competitive balance among teams, but also students' academic status.

The University Basketball Association (UBA) was launched in 1998. Headed by Chinese Taipei University Sports Federation (CTUSF), the organization was transformed from a championship system to league competition. Imitating the NCAA structure and competition system, the champion is produced from divisional rounds, semi-finals, and finals. In 1998, 118 schools, 182 teams, and 3,018 male and female students competed in the competition, and in 2009, 142 schools, 253 teams, 2,760 male students, and 1,402 female students competed. Preliminary rounds, semi-finals, and finals totaled 1,370 games. These numbers show that there is tremendous growth in the number of schools, teams, and students in the competition, making it the most popular sport in the university level. On the other hand, UBA promoted the development of High School Basketball League (HBL) and also ensured the smooth operation of Social Division 1 League and the Super Basketball League (SBL). Apart from stimulating the booming developments of basketball, UBA has helped the nation nourish many outstanding players.

Since its inception, the UBA has been experiencing a series of reforms, including the division of teams, change in the competition system, and conditions surrounding the qualification of players. The purposes of these reforms were to enhance the development of university basketball. Of the many problems still plaguing the association in its over 2 decades of existence, the foremost is the competitive imbalance among league teams. For example, Taipei Physical Education College Men's Basketball Team manages to strike a record of 145 consecutive victories across seasons and captured an unprecedented 12 consecutive championships. In light of this, UBA followed the regulations of the World University Games (hereafter referred to as the WUG clause) starting 2007 by limiting the age of players to at least 17 and under 25 and restricting the registered years of participation in competitions to 7. UBA hoped to improve the competitive balance among teams by restricting players' eligibility in order to prevent a single team from dominating the competition.

In addition, because the UBA and SBL competition timelines and thus players overlap, the association stipulated the so-called "University clause" to prevent players from overloading. However, this regulation was imposed on the men's league and not the women's. Details are as follows:

Competition system: Starting from SBL third season (2005 to 2006), the UBA and SBL programs were staggered. In other words, when the former was ongoing, SBL would be in an off-season. This arrangement lasted until 2009, or SBL seventh season, when only a minority of players was left to participate in SBL. As a result, the UBA and SBL seasons were no longer staggered and the players that played for both leagues had to play almost every day.

Players' eligibility: At the start of the SBL third season (2005), student players were retained but new signings were not allowed to play both UBA and SBL at the same time unless the player had participated Asian Youth Basketball Game. The next year, freshman and sophomore students could only choose between UBA and SBL, but a "36 Reserve Nationals List" was incorporated. Players on this list were exempted from the aforementioned restrictions. Then in SBL fifth season, the regulation governing freshman and sophomore students' participation in either UBA or SBL was extended to junior students.

The aforementioned regulations and restrictions would affect the league competition. Therefore, one of the research objectives of this study is to examine the competitive balance of UBA teams before and after the implementation of the aforementioned regulations and limitations.

In a study of NCAA competitive balance, Perline and Stoldt (2007) proposed that men's basketball is more competitively balanced than women's basketball and therefore men's competitions are more exciting. As a result, men's basketball has higher TV broadcasting rate and team revenue than women. Currently, the broadcast of UBA competition focuses on Division 1 games but women's games are not on TV. Thus, the second research objective of this study is to determine whether there are differences in the competitive balance of men's and women's competition.

Currently, the UBA is divided into 3 divisions. The standard of Division 1 is higher and thus the competition is more intense because Division 1 players are mostly made up of University students in the Department of Physical Education. In 2008, for example, among the teams in the quarter finals, 6 were composed of Department of Physical Education Students (National Taiwan Normal University, Chinese Culture University, Fu Jen Catholic University, National Taiwan Sport University, Taipei Physical Education College, and National Kaohsiung Normal University). In terms of player recruitment, most schools recruited talented players that

entered universities by recommendation and a majority of schools offered scholarships, although the scholarship amount was limited. The third research objective is to explore methods which promote UBA's competitive balance from the perspective of NCAA.

Measurement of competitive balance

The competition balance of teams can be discussed in two dimensions: intra-season balance and inter-season balance (Krautmann and Hadlet, 2006). The former emphasizes on exploring the difference in the winning percentage of teams in the season. If the difference is substantial, then competitive imbalance among the teams is a problem. Past literature shows that there were other ways to measure intra-season competitive balance, including standard deviation of winning percentages (Quirk and Fort, 1992; Scully, 1989), Gini coefficients of winning percentages (Schmidt and Berri, 2002), and Hirfindahl-Hirschman Index (HHI) (Leeds and Von Allmen, 2005).

Similarly, scholars have proposed many different methods to measure inter-season competitive balance, such as inter-season correlation coefficient (Butler, 1995), Gini coefficient of team championships (Quick and Fort, 1992), competitive balance ratio (CBR) created by Humphreys (2002) to measure competitive balance across multiple seasons, and the Markov chain to measure the transitional probabilities when teams enter post-season (Hadley et al., 2005).

Since there are different methods to examine intra-season and inter-season competitive balance, this may cause inconsistencies (Leeds and Von Allmen, 2005). Thus, the most appropriate measurement method should depend on the researchers' research objectives (Humphreys, 2002; Zimbalist, 2002). Since competitive balance has a strong impact on the development of UBA as well as the establishment of systems and regulations, the investigation of UBA's competitive balance is helpful toward facilitating the healthy development of the organization.

Research objectives

According to the competitive balance of Division 1 Basketball League, this study investigates the development of UBA. The research objectives are as follows:

a. Whether the regulations (WUG clause and University clause) affect the competitive balance in UBA.
b. Compare the competitive balance of Division 1 men's and women's leagues.
c. Explore the development of UBA from the standpoint of competitive balance from NCAA.

MATERIALS AND METHODS

Research scope

This study focuses on UBA Division 1 Men's and Women's Basketball League results between 2000 and 2009. Since the competition system of UBA went through a series of reforms and the number of games differed each season, this study examines winning percentages based on team advanced the final 8. Since teams in the final 8 compete against each other, the win/loss situation among the teams can be determined. Moreover, to compare the rankings, this study uses the final rankings of each season as the basis.

Data collecting

Among the different measurement methods of competitive balance, one condition of the CBR and Markov chain is comparing winning percentages of the same team in the same league across seasons. However, the teams that advanced to the final 8 differed each year. In other words, the CBR and Markov chain methods are not suitable for this study. Thus, the study adopts standard deviation of winning percentages, HHI, and Gini coefficient of winning percentages to discuss changes in competitive balance. Details of each method are described as follows.

Methods

Standard deviation of winning percentages

This is the most common method to measure competitive balance. Since there will always be one winner and one loser for each game, the average winning percentage of the league will be .500. The calculation equation is:

$$\sigma_a = \sqrt{\frac{\sum_{i=1}^{N}\left(WPCT_i - .500\right)^2}{N}}$$

in which *WPCT* is each team's winning percentage. Winning percentage is calculated by number of victories/ number of competitions and N represents the number of teams. In addition to calculating the standard deviation of winning percentages in each season, this study hypothesizes perfect competitive balance, in which the winning percentage of all teams is .500. G denotes the number of games each team plays, and since this study focuses on the final 8, G=7. The ideal winning percentage standard deviation is expressed as:

$$\sigma_l = \frac{.500}{\sqrt{G}} = .18898$$

From σ_a / σ_l, the Quirt and Fort Ratio of R is derived, and this value can eliminate the differences caused by different number of

Table 1. The standard deviations of winning percentages.

	Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Average
Men	σ_a	0.250	0.278	0.237	0.320	0.328	0.311	0.286	0.286	0.295	0.258	0.285
	R	1.323	1.470	1.255	1.691	1.733	1.648	1.513	1.512	1.560	1.363	1.507
Women	σ_a	0.373	0.328	0.328	0.320	0.342	0.317	0.327	0.327	0.327	0.303	0.329
	R	1.972	1.733	1.733	1.691	1.528	1.649	1.733	1.733	1.733	1.604	1.711

competitions in different leagues. To further discuss the competitive balance of different sports league, the larger the σ_a and R value, the greater the dispersion of winning percentages around the mean, and thus the lower the competitive balance.

Hirfindahl-Hirschman index (HHI)

HHI was initially applied to measure the degree of scale distribution and concentration of firms within an industry. In this study, HHI is used to calculate the level of competitive balance in a sports league. The index is primarily calculated on the basis of the number of championships captured by each team (Leeds and Von Allmen, 2005) by the following equation:

$$\text{HHI} = \sum_{i=1}^{n} \left(\frac{Xi}{X} \right)^2$$

In the equation, X represents the number of years, Xi represents the number of championships each team achieved in X. HHI has a maximum value of 1 to represent competitive imbalance or if the same team achieves first place in a specific period of time X. HHI has a minimum value of 1/X. This suggests a perfect competitive balance or each team within the league manages to achieve championship in a specific period of time X. Since the data collection and calculation method is rather simple, HHI is a common measurement method.

Gini coefficient of winning percentages

Gini coefficient of winning percentages is derived from the concepts of calculating income distribution and rich-poor gap in the domain of economics (Lambert, 1993). Later, it was used in sports economics to discuss competitive balance in sport leagues. The Gini coefficient is calculated as follows:

$$Gini = \left(1 + \frac{1}{N_i} \right) - \frac{2}{N_i^2 \mu_{xi}} * (x_{N,i} + 2 * x_{N-1,i} + 3 * x_{N-2,i} + ... + N * x_{N-1,i})$$

In the equation, the Gini coefficient ranges from 0 to 1. A lower value indicates higher competitive balance, and vice versa. If the value is zero, then the winning percentage of each team is 50% and a perfect competitive balance is reached. N represents the number of teams (N=8 in this study), x_N is the winning percentage of each team, μ is the mean of the winning percentage of each team, and *i* is the particular year or period. In this equation, the ranking is made according to the winning percentage of each team. Therefore, $x_N \geq x_{N-1} \geq x_{N-2} \geq ..... \geq x_1$.

RESULTS

Standard deviation of winning percentages *Division 1 men's*

An analysis of the standard deviation of winning percentages for Division 1 men's in each season shows that the average standard deviation is 0.285. The standard deviation is lowest in 2002 (0.237), followed by 2000 (0.250) and 2009 (0.258). Seasons with higher standard deviations of winning percentages include 2003 to 2005 (0.311 to 0.328). Median standard deviations are observed in 2006 to 2008 (0.278 to 0.295).

Division 1 women's

Compared to Division 1 men's, changes in Division 1 women's standard deviation of winning percentages is relatively small. However, the overall standard deviation of winning percentages of Division I women's is higher than Division 1 men's (0.329>0.285). The smallest standard deviation is seen in 2009 (0.303) and the highest is seen in 2000 (0.373). The second highest standard deviation is seen in 2004 (0.342), and the coefficients for other years do not differ significantly (between 0.317 and 0.328). The standard deviations of winning percentages for Division 1 men's and women's leagues are listed in Table 1.

Hirfindahl-Hirschman index (HHI)

Division 1 male

Between 2000 and 2009, Taipei Physical Education College won the championship 7 times, National Taiwan Normal University 2 times, and Fu Jen Catholic University 1 time. Therefore, HHI is calculated as: $7^2+2^2+1^2 / 10^2 = 0.54$. Therefore the HHI for Division 1 men's between 2000 and 2009 is 0.54.

Table 2. The Gini coefficients of winning percentages.

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Average
Men	0.296	0.375	0.251	0.358	0.375	0.349	0.322	0.313	0.322	0.286	0.335
Women	0.398	0.375	0.375	0.358	0.389	0.348	0.375	0.375	0.375	0.339	0.371

But if we calculate HHI in to three parts, the results show:

HHI = 6^2 / 6^2= 1 from 2000 to 2006.
HHI = 2^2+2^2+1^2 / 5^2= 0.2 from 2005 to 2009 as the "University clause" executed
HHI = 2^2+1^2 / 3^2= 0.56 from 2007 to 2009 while UBA made "WUG clause".

Division 1 female

From 2000 to 2009, only two universities managed to capture first place. Chinese Culture University won the championship 8 times and Taipei Physical Education College 2 times. Therefore, HHI for Division 1 women's is 8^2+2^2 / 10^2= 0.68.

Gini coefficient of winning percentages

Division 1 men's

The Gini coefficient was relatively low in 2002, 2009 and 2000 (coefficients are 0.251, 0.286, and 0.296, respectively), and thus competitiveness is more balanced. Seasons with coefficients higher than the average of 0.335 include 2001, 2003, 2004 and 2005. These figures indicate relative competitive imbalance in these years.

Division 1 women's

Relative to Division 1 men's, Division 1 women's Gini coefficient of winning percentages is higher (0.371). In other words, there is more competitive imbalance in teams playing Division 1 women's basketball than among their counterparts playing men's basketball. Lower-than-average Gini coefficients are seen in 2003, 2005 and 2009, (coefficients are 0.358, 0.348 and 0.339, respectively). Coefficients for the other years are all higher than average, notably in 2000 and 2004 (coefficients are 0.398 and 0.389, respectively). The Gini coefficients of winning percentages are shown in Table 2.

DISCUSSION

Whether the regulations affect competitive balance in UBA

Whether the WUG clause and University clause affect the competitive balance? Results from the standard deviation of winning percentages show that the standard deviations between 2006 and 2009 are relatively stable. Therefore, WUG clause has no impact on competitive balance. However, the standard deviations from 2004 to 2006 show a consistently downward trend. Since UBA started to implement the University clause in 2005, the clause helped foster the competitive balance of the UBA.

Compared to other professional sport leagues: the R value of Chinese Professional Baseball League (CPBL) is 1.802 (Peng, 2006), Major League Baseball (MLB) is 1.778, National Basketball Competition (NBA) is 2.718 (Kringstad and Gerrard, 2007), UBA Division 1 men's 1.507 and Division 1 women's 1.711 seem to indicate more competitive balance, a finding congruent with that of Baird (2004). However, the aforementioned professional sports leagues adopt a seasonal system. Perline and Stoldt (2007) studied the competitive status in NCAA's Missouri Valley Conference. Results show that R value of men's basketball is 1.381 and that of women's is 1.520. Thus, compared to NCAA, UBA is more competitively imbalanced.

From the perspective of HHI, Perline and Stoldt (2007) found that the HHI for NCAA Missouri Valley Conference is 0.214 for men's divisional champions and 0.29 for women's. The HHI results show that the number of first-place finishes of men's basketball teams is more evenly distributed than that of women's.

A further comparison shows that Division 1 men's HHI is 0.54 (2000 to 2009), 0.2 (2005 to 2009), and 0.56 (2007 to 2009). But the HHI is 1 from 2000 to 2006. Hence the regulations did enhance championship imbalance situation. Especially, Fu Jen Catholic University took the championship in 2007, ending the dynasty of Taipei Physical Education College. The most important factor was the WUG clause. Many players of Taipei Physical Education College were unable to play because of this regulation. The competitiveness of Taipei Physical Education College subsequently faltered. In 2008, it failed to make the final 8. But as we can see, the champions of Division 1 man's and women's are still dominated by a minority of teams.

In the analysis of Gini coefficient of winning percentages, Schmidt and Berri (2002) showed that the average of Gini coefficient of winning percentages of MBL was 0.077 from 1961 to 1998 season. A further analysis of the win/ loss results revealed that the year of 2000, 2002 and 2009 were relatively competitive balance in the men's division. These results were similar to the standard deviation of winning percentages. Specifically, Taipei Physical Education College did not lose a single

game in 2002 but the win/ loss columns of the remaining 7 teams were rather even. Therefore, the competitiveness of the teams was balanced.

For Division 1 women's, the Gini coefficients of winning percentages for the years of higher competitive balance match those of the standard deviation of winning percentages. Specifically, the coefficients for 2001, 2002, 2006, 2007 and 2008 are all 0.375. A look at the win/loss columns shows that the champion in each year has a record of 7 and 0, followed by the second place at 6 and 1 and the last place at 0 and 7. Since the win/loss relationships of the teams are rather conspicuous, the coefficients tabulated for each of the 5 years are similar.

Difference in competitive balance of Division 1 men's and women's leagues

This study uses three methods to discuss the competitive balance of Division 1 men's and women's basketball competition. Results of standard deviation of winning percentages, HHI, and Gini coefficient of winning percentages all show that women's competition is more imbalanced than men's. For example, men's HHI value was 0.54 lower than women's 0.68. This result indicates that champions of Division 1 men's and women's basketball leagues are concentrated in a minority of teams. In other words, a handful of teams dominate but the situation is more apparent in women's league. One reason for this results is that Division 1 women's competition receives less attention than the men's competition. This is especially the case in terms of TV broadcast. This result is compatible with the findings of Perline and Stoldt (2007), who found that the main reason for the differences in the competitive balance of NCAA men's and women's competition is the higher income of the men's league (tickets, broadcasting rights, and sponsorships). Therefore, the men's league is more competitively balanced than the women's league. We believe the major reason for the competitive imbalance of the Division 1 women's league is the "school-industry cooperative program" between university basketball teams and social teams. For example, Cathay Women Basketball Team, the long-standing winner of Social Division 1 League, has a long-term school-industry partnership with Chinese Culture University Women Basketball Team. Player recruitment and training starts in senior high, which facilitates the creation of a strong team. National Taiwan Normal University also collaborates with the industry. Accordingly, one of the major reasons for the competitive imbalance of Division 1 women's league is that talent players are concentrated in a minority of teams, and this phenomenon can be witnessed from the HBL. Despite the good intentions of the school-industry cooperative program to provide students with education and career protection, the number of industries willing to dedicate resource to the program is limited. This is the cause of the competitive imbalance in women's basketball competition. Therefore, attracting more social and industry resources should be helpful toward changing the competitive imbalance in women's basketball.

Development of UBA from the standpoint of competitive balance

Research findings show that distribution of talents is the key factor in determining a team's performance. How to equally distribute these players becomes an important issue to address the competitive balance among teams (Baird, 2004; Depken, 2002). In light of this, the regulations on the recruitment system in professional sports and salary cap are designed to evenly distribute talented players and prevent over-concentration of talents players. However, since the nature of university sports is amateur, it is difficult to impose the aforementioned limitations on player distribution. Therefore, in the case of NCAA, many schools attempt to recruit talented players through financial incentives or nonmonetary benefits to enhance competitiveness. Meanwhile, NCAA imposes financial and nonmonetary restrictions to promote the competitive balance among teams.

Using NCAA as an example, a Division 1 men's basketball team can offer 13 full-ride scholarships and a Division 1 women's basketball team can offer 15 full-ride scholarships. To win one of these scholarships, the student should maintain a GPA of over 2.0 and SAT of over 900. In Taiwan, due to the social environment and school policy, majority of schools also provide students' financial assistance, such as scholarship and miscellaneous fee and meal deductions. However, the number of scholarship spots is limited and there are restrictions on the aforementioned deductions. For example, National Taiwan University of Arts offers players recruited to represent Taiwan in the Asian Youth Cup Basketball Tournament full scholarship on tuition and expense in the first year. Other schools have similar regulations, but a system on the number of scholarships and academic requirements is lacking. Although the implementation of the aforementioned measures is related to students' enrollment method, many talented athletes have problems adapting in terms of academics. For students' long-term development, CTUSF can establish some academic requirements on players.

In addition to academic standing, NCAA has initiated the Basketball Academic Enhancement Group (BAEG) in 2010 to discuss how to elevate basketball players' academic standing. Also, an academic standard is in place to force students to exit the competition if the standard is not met(NCAA, 2010). Therefore, the coach now has to pay attention to both the players' court performance and academic developments. Biard (2004)

Table 3. Regulations of NCAA and UBA on scholarship and academic performance.

Regulations	NCAA Division 1 Basketball	UBA
Scholarship	Men offer 13, Women offer 15 full-ride scholarships (full tuition, housing, books and transportation). Qualification: GPA over 2.0 and SAT over 900	Scholarship on tuition and expense in the first year. Qualification: National players of Asian Youth Basketball Cup.
Academic progress rate	Teams that score below 925 and have a student-athlete who failed academically and left school can lose scholarships. Teams can lose up to 10 percent of their scholarships each year for poor academic performance under the immediate penalty structure. Teams with APR scores below 900 face additional sanctions under the historical penalty structure, now in its third year. First-year sanction is a public warning letter for poor performance. Second-year sanctions include restrictions on scholarships and practice time. Third-year sanctions result in loss of postseason competition for the team.	non
Basketball academic enhancement group.	The plan for summer-school requirements starts with a pre-enrollment summer for all men's basketball student-athletes in their first year.	non

noted that in addition to financial aid, schools should provide other incentives to attract players, such as coach, sport facilities, training, and academic assistance (tutors). Taiwanese universities can also implement an academic assistance system. For example, National Taiwan University of Arts plans to pay graduate students to provide academic assistance to basketball players. This is good reference for other schools. The regulations of NCAA and UBA on scholarships and academic performance are list on Table 3.

Lastly, in running the competitions, NCAA related competitions involve substantial amounts of TV broadcasting right, sponsorship, and ticket income. NCAA's TV broadcasting right totaled US$594,527,482 in 2008 to 2009, or 85% of the annual income (NCAA, 2009). In contrast, although the UBA Division 1 men's basketball is broadcast on TV, the broadcasting right is meager. Also, these games are free for spectators. As a result, most of the expense related to running the competition is funded by the Ministry of Education. Given limited funding, schools recruit players and compete within the scope of their capabilities. However, this cannot be used as an excuse. For example, Mingdao University managed to become one of the top 4 teams in 2009. The team's performance dazzled because of the school's support. Therefore, schools and the organizer should actively seek school support and external sponsorships, rather than just going through the motions. How to solicit the support of schools and social resources to expand the market share are topics that promoters of university sports should pay more attention to.

Conclusions

This study discusses the competitive balance of Division 1 men's basketball teams that advanced to the final 8 after UBA reform. Research findings show that the competitive imbalance persisted in the both Division 1 men's and women's basketball leagues. Due to the implementation of University clause and WUG clause after 2005 and 2007, the competition in Division 1 men's Basketball League was slightly balance in some extent, but compared to NCAA there are still more room for improvements. Furthermore, Division 1 men's and women's basketball leagues are still dominated by a minority of teams and the women's league is more competitively imbalanced. Some schools are involved in school-industry cooperative programs and some players have started to receive financial support from the industry since junior and senior high. As a result, talented players are concentrated in a small number of teams. This has caused the competitive imbalance in Division 1 women's basketball league. Finally, competitive

balance among teams can be promoted by the fair distribution of talents. Therefore, schools can provide financial and nonmonetary incentives to recruit players. In addition, imposing regulations on students' academic standing can facilitate the healthy developments of UBA.

RECOMMENDATIONS

According to the research results, this study proposes the following recommendations:

In player recruitment, schools should focus on how to highlight their advantage by providing players with incentives at the time of signing and avoiding the overconcentration of talented players in a minority of teams. Currently, the incentive programs practiced by most teams are similar. However, schools should consider other feasible nonmonetary incentives such as academic counseling, facilities, training, and coaching.

In terms of the organization's development, UBA has undergone many reforms and regulation revisions. However, many of these revisions were made due to personal reasons or after the outbreak of incidents. How to consider all dimensions, construct far-reaching league regulations and competition system, and seek corporate and social resources are critical issues to facilitate the sound development of the organization.

In terms of players' development, since UBA is an amateur league, it should pay attention to players' training and performance on the court, as well as their academic and career developments. Coaches should also focus on students' academic performance so as to enhance the development of their players.

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