

# Professional Sport in Australia and Japan : League Rules and Competitive Balance†

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## 1. Introduction

Sport plays a very important part in the social fabric of Australia and Japan. While there has been much written on the industrial relations aspects of professional sport, the history of sport and the sociology of sport, there has been much less written on the economics of sport in Australia. In Japan, some authors used data from professional baseball to test hypotheses of labour economics: Ohkusa and Ohtake (1996), and Ohtake and Ohkusa (1994) tested the matching hypothesis, Ohkusa (1999) tested the career concern hypothesis, Ohkusa (1993) tested the incentive hypothesis in wage profile. Ohkusa (2001) tested the effects of income and productivity on the quit behaviour.

The aim of this paper is to explain how the labour market works in each of the major winter ball sports in Australia; Australian rules football, rugby league, rugby union and soccer, and two major professional team sports in Japan, baseball and soccer, and to consider the implications for outcome measures for each league code. As Fort and Quirk (1995) note, sports leagues operate as cartels with all the implications for restrictions on trade and the scope for economic profits but they are

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also reliant on maintaining the legitimacy of their competitions in order to promote their sport to consumers. Teams may act as 'win-maximisers' rather than profit maximisers and this may have important implications for their behaviour.

The implications of the growth of sport as a major international industry are different for the four football codes in Australia. Soccer is the 'world game' and the best Australian players can command large salaries in Europe making it difficult to retain the best talent in Australia. In contrast, Australian rules football is not a game with an international market for players. Rugby league and rugby union fall in the middle with some scope for employment of players in European competitions. Historically, there has also been a movement of players between the two rugby codes in Australia so that player salaries cannot be set in one rugby code without recognizing the potential for players to move between codes. The role of the media in promoting sports competitions internationally has had crucial effects on these developments and on players' salaries.

The strengths of the support for football codes vary by geographical location in Australia and there is some evidence of a first mover advantage; once a code is well established, it is difficult for competitors from different codes to move into the market. Australian rules football dominates in Victoria, South Australia, Tasmania and Western Australia and rugby in New South Wales and Queensland. Table 1 compares the adult attendance figures for the four codes as reported in an Australian Bureau of Statistics (ABS) survey of sports attendance. The data show that Australian rules football is the most popular of these spectator sports.

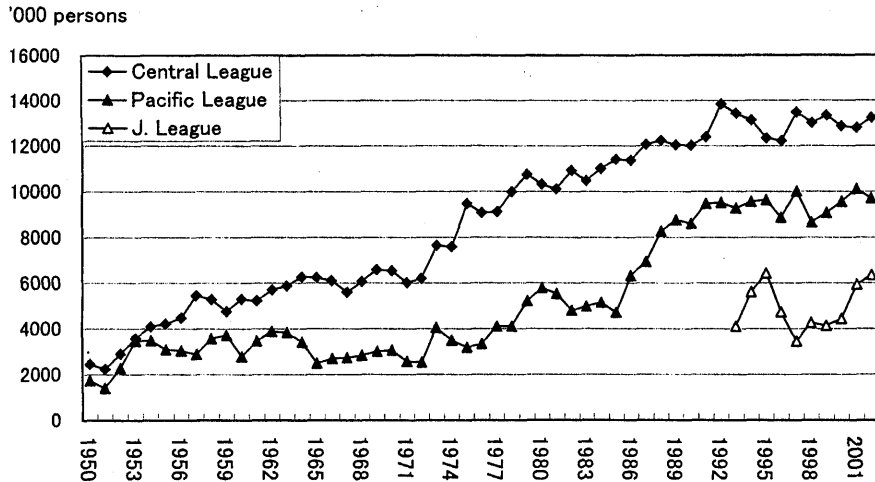
In Japan, professional baseball has a long history. The first professional baseball team, Yomiuri Giants, was established in 1934, and a professional baseball league began regular play in 1936. In 1950, the professional baseball league split into two leagues: the Central League and the Pacific League. The number of teams in each league changed several times before that of the Central League became six in 1953

Table 1 Adults Attending Sport in twelve months ending April 1999. a

	Persons
Australian rules	2,509,200
Rugby league	1,501,100
Soccer	621,200
Rugby union	446,200

Source: ABS Sports Attendance Australia, Cat. No. 4174.0.

Notes a. These figures exclude attendance at junior and school sport.



Source : Nippon Professional Baseball History Research Club, <http://www.d7.dion.ne.jp/~xmot/index.htm>.  
J. League Official Site, <http://www.j-league.or.jp>.

Figure 1 Annual attendants of Professional Baseball and Soccer in Japan

and that of the Pacific League became six in 1958.

A professional soccer league, J. League, was established with 10 teams in 1991.<sup>1)</sup> While some professional players existed even before the professional league was established, the number was small. The number of team increased to 26 in 1999, and they are divided into Division 1 (J1) and Division 2 (J2). Every year, the two worst J1 clubs are replaced by the two best J2 teams.

Figure 1 shows annual attendants of baseball and soccer. Nearly 23 million people attended professional baseball games, while about 6 million people attended professional soccer games in 2002. Comparing the two baseball leagues, the Central League is more popular. It attracted 3 million more people than the Pacific League.

## 2. A model for analysing the labour market in professional team sports

Fort and Quirk (1995) develop a model for analysing the labour market for professional team sports in the United States (US). The model is based on profit maximising clubs and income maximising players but the league as a whole is

1) Information on J. League is obtained from its official site, <http://www.j-league.or.jp>

interested in adopting labour market rules which will maintain competitive balance. The Australian Football League (AFL) argues the case for schemes to promote competitive balance and equalisation : —

‘The equalisation policy promotes, but does not guarantee, greater financial stability for individual clubs. It also promotes competitiveness and evenness on the field, allowing for uncertainty of outcomes in games and the opportunity for surprise results. This uncertainty maximises public interest, increasing potential revenue generated by broadcasting rights, membership sales, gate receipts and corporate sponsorship. The maximisation of revenue from these sources allows admission prices to be kept as low as possible’ (AFL 2002a).

Fort and Quirk (1995) use their model to analyse a number of the practices which have been used by sports leagues to promote competitive balance. These include reserve clauses which bind a player to a team for their whole career, salary caps, a draft system for new players, gate sharing and national TV revenue sharing. Many of these practices have also been adopted by Australian leagues at various times. Fort and Quirk (1995) show that under the assumptions of their model, most of these strategies do not promote competitive balance compared to a free market for player talent. This result is supported by the tests they are able to perform on the data from various sporting leagues in the US. Competitive balance is measured by the standard deviation of win-percentages for teams in a league and by the Gini coefficient which measures the inequality of a distribution. The one strategy that their analysis suggests will promote competitive balance is an enforceable salary cap. The authors however recognise the difficulties of maintaining an effective salary cap.

### **3. The Australian Experience**

Dabscheck (1996) distinguishes between three major types of labour market controls which have been applied in Australian sporting competitions. These are controls on the recruitment of players, movement of players between clubs and the use of salary controls. Each of these will now be considered in turn although it is

important to remember that many of these controls have run concurrently.

### ***Controls on the recruitment of players***

These controls have taken two major forms; geographical zoning and a player draft. Zoning has been applied in both the AFL and its predecessor the Victorian Football League (VFL) and in rugby league. Under this system residency rules were applied to determine which club a player was eligible to play for. Metropolitan zoning which gave each of the clubs a geographical area from which they could recruit players, was applied in the VFL from 1915 – 1968. Clubs were free to compete for players from country Victoria and from interstate. In 1968 country zoning was introduced (Booth 2001). Zoning has since ceased to operate in the AFL. Zoning could be expected to reduce player salaries by removing competition between clubs for player services. The effect on competitive balance will depend on the allocation of talented players between zones and the ability of clubs to locate this talent.

The draft has operated in the AFL since 1987. The National or external draft now operates by giving first choice from the list of potential AFL players to the club which finishes on the bottom of the league table in the preceding season. Other clubs make choices in ascending order on the league table. It is compulsory for all sixteen clubs to participate in the draft and they can each maintain a maximum of 35 players on their list. (AFL 2002b). There is also a Rookie List that enables each club to select a maximum of six players aged between 18 and 23 years to add to their lists. There is a special father/son rule to enable sons to play for the team of their father. The draft was used briefly by the rugby league in the early 1990s and will be discussed further below (Dabscheck 1996).

### ***Movement of players between clubs***

In addition to the external draft, the AFL has an internal draft for players already on an AFL list. Clubs are not required to participate in the draft but it gives players no longer under contract, the opportunity to move to another club (AFL 2002b). An internal draft was introduced into the rugby league in 1990 and was challenged by the Association of Rugby League Professionals (ARLP). It was found to be an unreasonable restraint on trade and ceased to operate (Dabscheck 1993). There have however been recent discussions concerning the introduction of a draft similar to the model developed by the AFL into rugby league (ABC Sport Online

2003). Movement of players between clubs often involves the payment of a transfer fee, for example in the AFL, the rugby league and the National Soccer League (NSL).

### ***Salary controls***

Maximum salary caps can be applied to individual players or to clubs. Individual player caps have operated in the AFL and the rugby league (Dabscheck 1996). The rugby league introduced a salary cap for clubs in 1990. It ceased to operate at the time of the dispute between the then Australian Rugby League (ARL) and the rival competition established under the Super League but following the formation of the National Rugby League (NRL) in 1998, it came back into operation. Competition between the NRL and the Australian Rugby Union (ARU) Super 12 means that it is very important that the NRL salary cap does not get out of line with salaries in rugby union. In recent years there have been examples of players switching from league to union in response to more generous salary offers. The NRL imposed stiff penalties against Canterbury for breaching the salary cap in 2002. The club lost its right to play in the finals even though it was on top of the ladder.

The AFL also operates a salary cap. It has been negotiated as part of the collective agreement with the AFLPA and is part of a package that includes a range of assistance for players in their post-football careers such as educational support. There have however, also been problems with breaches of the salary cap. In 2002 the AFL asked Carlton to cut the pay of ten players by 25 per cent, fined the club \$ A 930,000 and withdrew two of its draft choices for breaching the salary cap (The Australian 28<sup>th</sup> November 2002). The NSL does not have a salary cap and Soccer Australia is specifically prevented from introducing a salary cap or a draft without the consent of the Professional Footballers Association (PFA) (PFA 2002a).

At the other end of the pay scale there are also minimum salary levels. The collective bargaining agreement between the ARU and the Rugby Union Players Association (RUPA) provides for minimum salaries for players in the international Super 12 series (RUPA 2002). The AFL and National Soccer League (NSL) collective bargaining agreements also establish minimum payments for players (AFL Players Association 2001, Professional Footballers Association 2002b).

***Additional arrangements***

Fort and Quirk (1995) also considered gate sharing and sharing of national television revenue as devices for promoting competitive balance. They argued that gate sharing has no effect on competitive balance because it reduces the incentives for teams to maximise their win-percentage if part of the gains from winning go to other teams. They also argue that sharing national television revenue may well have the effect of reducing competitive balance as it creates incentives to promote those teams with large supporter bases and hence more revenue raising potential for television stations. Both of these practices have been common in Australian sport.

One example is the AFL system of gate sharing which allowed the clubs to share cash receipts but left the home club with home membership and reserved seat income. The AFL decided to abandoned this system because it was not producing equalising outcomes given differences in the capacities of grounds and the proportions of reserved seating (AFL 2002a). Under the current system, home clubs keep the gate takings and are responsible for all the match costs.

***Implications of these controls for competitive balance***

According to Fort and Quirk's (1995) model and empirical estimates, these controls on the labour market for professional sportsmen could be expected to have little effect on the competitive balance in the competitions. The exception to these results was the case of binding salary caps.

Booth (2001) has developed a model based on the Fort and Quirk model for the AFL. He changes their assumption of profit maximisation and replaces it with an assumption of win-maximisation which he argues better reflects the ambitions of the AFL clubs. He calculates competitive balance ratios based on team percentage win data for VFL/AFL home and away seasons between 1897 and 1998. He divides the history up into periods during which particular sets of rules were applied. 1897 – 1914 was a period of free agency. 1915 – 1929 was a period of metropolitan zoning. 1930 – 1944 was a period of zoning and maximum salaries for individual players. These rules continued into the next period, 1945 – 67, and gate sharing and TV revenue sharing also began. His fifth period 1968 – 84 widened the zoning principle to include country areas and transfer fees were allowable. The final period covered by his study was 1985 – 1998 which introduced a team salary cap and a national player draft but zoning was withdrawn. He argues that the combination of the

player draft and team salary cap has improved competitive balance in the AFL. He finds a statistically significant difference between the mean competitive balance ratio in the last period (1985–1998) and all other periods combined.<sup>2)</sup>

#### 4. Japanese Experience

##### *Controls on the recruitment of players*

The rookie draft has operated in the Nippon Professional Baseball (NPB) since 1965. A big rule change occurred in 1993. Each club can make an employment agreement with up to two non-high-school players before the rookie draft conference, but clubs have to recruit high school players under the rookie draft. Since 2001, clubs that do not select any player before the draft conference have been given an advantage that they can choose players first in the draft conference.

The J. League has a quite different recruiting system. It does not have a rookie draft. Clubs in J. League need to bring up young players. Each club has to have three younger teams, youth team (under 18 years old), junior youth team (under 15 years old), and junior team (under 12 years old). The junior team can be substituted by a soccer school for elementary school kids. Clubs often recruit players from their own youth team, and they are free to recruit players who do not belong to J. League clubs.

##### *Movement of players between clubs*

In NPB, the free agency was introduced in 1993. Players who have played 10 years or more in the primary leagues can declare themselves a free agent. The eligibility condition of 10 years was relaxed to 9 years in 1997. A free agent can either move to another club or stay in the same club. If a free agent moves to another club, the club has to offer money to the club that the free agent left. The

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2) Booth's footnote on this is rather confusing. It states 'With a t statistic of 1.8889, there is a significant difference between the mean competitive balance ratio in the two periods at the 5 % level, a result consistent with the predictions of the effectiveness of a combination of a player draft, a salary cap and gate and league-revenue sharing. Alternatively, the p-value of the t test value is 0.03090' (Booth 2001: 16). While the t statistic does not appear to be significant at the conventional 5 % level of 1.96, it almost reaches this level.



transfer fee is 1.5 times the annual salary of the agent. Players who do not have a right to be a free agent are reserved by clubs. Clubs are free to sell or exchange players with other clubs. The J. League does not have a free agency system.

### ***Salary controls***

Salary controls do not exist in the NPB or the J. League. As a result, the deviation of the total salary paid by each club is large. In 2002, the Giants paid 3.86 billion yen, while the BlueWave paid only 1.22 billion yen. In the Giants 11 players were paid over 100 million yen, while in the BlueWave, only one player was paid over 100 million yen.

### ***Revenue Share***

In the NPB, clubs have a right to decide the ticket price, to choose the stadium, to contract with a broadcast company in half of their official games. All revenue belong to the club. This causes a large gap in club revenue. The Giants is the most popular team. All of the Giants games are broadcast in the national network. Games by other teams are seldom broadcast on the national network, but only broadcast on the local network.

On the other hand, J. League has a revenue sharing system. Table 2 gives the income and expenditure of the J. League. The biggest income source is the TV revenue, and the second biggest income source is sponsorship. These two amount to about eighty per cent of the total revenue. The league contracts with broadcast companies, and controls all the revenue. This gives a clear contrast with the NPB, where each club contracts with broadcast companies. The table shows that about 60 per cent of the total income is allocated to clubs.

### ***Implications of these controls for competitive balance***

Two articles tested the effect of rule changes on the competitive balance in the NPB. Horowitz (2001) used entropy as a measure of competitive balance and tested the effect of the introduction of the rookie draft in 1965 and the introduction of free agency in 1993. He concluded as follows: In the Central League, there is a long-term trend of increasing competitive balance. The effect of the rookie draft and free agency is not clear. In the Pacific League, the introduction of the rookie draft has a positive effect on the competitive balance. The effect of free agency is, however, not

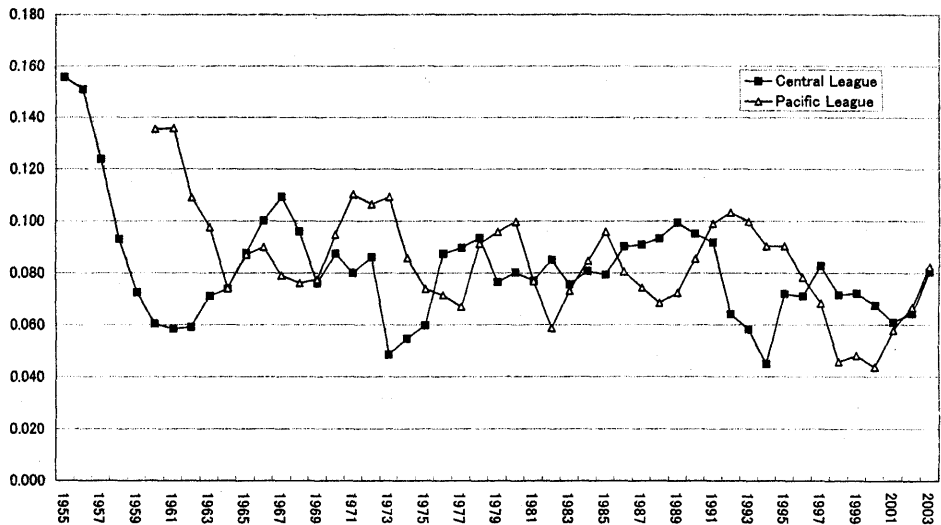


Figure 2 Standard Deviation of Annual Win-Rate (3-year moving average)

clear. La Croix and Kawaura (1999) used the standard deviation as a measurement of competitive balance and tested the effect of the introduction of the rookie draft. They concluded that the rookie draft increased the competitive balance in both leagues.

Figure 2 gives the standard deviation of the annual win-rate of two baseball leagues. The data are limited to the period when each league had six clubs. The lower standard deviation implies better competitive balance. The figure shows that competitive balance was very bad in the early stage of the leagues, but it improved quickly in both leagues. Both leagues have a long-term trend of increasing competitive balance. From the figure, it is not clear whether the introduction of the rookie draft in 1965 and the introduction of free agency had an effect. It is difficult to distinguish the long-term trend and the effect of rule changes.

In the case of the J. League, it is too early to test the effect of rule changes on the competitive balance. It started only 10 years ago, and the number of clubs in Division 1 was fixed to 16 in 1999.

## 5. Research Proposal for the Next Year

Our research proposal is to document in full the controls which are applied to the labour markets in these sports and consider the implications of these controls for

competitive balance in the leagues and the profitability of individual clubs. We are not aware of any Australian studies that have calculated competitive balance for the rugby league, rugby union and the soccer competitions so this would be a valuable addition to the understanding of how these rules affect outcomes in Australian sport. The use of a number of different football codes would enable comparisons between different sets of labour market controls, for example the AFL has a draft and a salary cap system ; the NRL has a salary cap system but no draft.

In the measurement of competitive balance of Japanese baseball, the standard deviation of the win rate and the entropy of wins in each year were used. However, the number of observation is limited, and it is difficult to obtain a robust result. We need to use other variables such as players' salary and performance to measure the competitive balance.

#### References

- ABC Sport OnLine (2003) 'NRL considers player draft', <http://www.abc.net.au/sport/content/s895151.htm>, July 4.
- Australian Football League (AFL) 2002a 'A policy of equalisation', *AFL Fact Sheet no. 17* available on the web at AFL.com.au.
- Australian Football League (AFL) 2002b 'AFL National Draft' *AFL Fact Sheet no. 21* available on the web at AFL.com.au.
- AFL Players Association (AFLPA) (2001) *Brief History of the AFLPA*, available of the web at AFLPA.com.au.
- Booth, R. (2001) *Labour market intervention, revenue sharing and competitive balance in the Australian Football League, 1897-1998*, paper presented to the 30<sup>th</sup> Conference of Economists, UWA, Sept.
- Dabscheck, B. (1993) 'Rugby League and the Union Game', *Journal of Industrial Relations*, vol. 35, no. 2.
- Dabscheck, B. (1996) 'Playing the Team Game: Unions in Australian Professional Team Sports', *Journal of Industrial Relations*, vol. 38, no. 4.
- Fort R. and Quirk J. (1995) Cross-subsidisation, Incentives, and Outcomes in Professional Team Sports Leagues, *Journal of Economic Literature*, Vol. XXXIII pp. 1265 – 1299.
- Horowitz, I. (2001) 'Kyou-sou in the Nippon Baseball Leagues,' *Pacific Economic Review*, vol. 6 : 287 – 300.
- J. League Official Site, <http://www.j-league.or.jp>.
- Japan Professional Baseball Players Association, <http://jpbpa.net/index.htm>.
- La Croix, S. J. and Kawaura, A. (1999), A. 'Rule Changes and Competitive Balance in Japanese Professional Baseball,' *Economic Inquiry*, vol. 37, no. 2 : 353 – 368.
- Ohkusa, Y. (1993), 'How Salaries of Professional Baseball Players Are Determined? (in Japanese)' *Keizai Seminar*, 28 – 31.
- Ohkusa, Y. (1999), 'Additional Evidence for the Career Concern Hypothesis with Uncertainty of the Retirement Period — The Case of Professional Baseball Players in Japan,' *Applied*

*Economics*, vol. 31 : 1481 – 1487.

Ohkusa, Y. (2001), 'An Empirical Examination of the Quit Behavior of Professional Baseball Players in Japan,' *Journal of Sports Economics*, vol. 2 : 80 – 88.

Ohkusa, Y. and Ohtake, F. (1996) 'The Relationship between Supervisor and Workers — The Case of Professional Baseball in Japan,' *Japan and World Economy*, vol. 8 : 475 – 488.

Ohtake, F. and Ohkusa, Y. (1994) 'Testing Matching Hypothesis: The Case of Professional Baseball in Japan with Comparison to the United States,' *Journal of the Japanese and International Economics*, vol. 8 : 204 – 219.

Professional Baseball Data Archives, <http://www.din.or.jp/~nakatomi/index.html>.

Professional Footballers Association (2002a) *Summary of National Soccer League Collective Agreement 1999 – 2003*.

Professional Footballers Association (2002b) *National Soccer League Collective Agreement 1999 – 2003, extension agreement*, available on the web at [www.pfa.com](http://www.pfa.com).

Rugby Union Players Association (RUPA) *History of Events and Achievements* available on the web at [www.rupa.com.au](http://www.rupa.com.au).