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Rising Stars: Competitive Balance in Five Asian Football Leagues

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Abstract

Competitive balance remains a core component of sport economics literature and an important management consideration for league organisers. This paper analyses competitive balance in the 'big five' Asian football leagues longitudinally between 1996/97 and 2017/18. Using recognised measures of league concentration and dominance, the results display a mixed picture in respect of competitive balance across the five major leagues in Asian football. The Asian football market has seen positive growth during the last two decades while competitive balance in most of the leagues examined has remained relatively stable. Some significant differences were detected in the levels of concentration between leagues. There was also some variation in terms of some leagues being dominated by a fewer number of teams. However, these two measures of competitive balance (concentration and dominance) were not necessarily correlated with each other. In a broader governance context, questions remain over the potential for further growth in the Asian football market given the dominant market position of the European game.

Keywords

Management, Concentration, Dominance, Competitive balance, Professional team sports, Sport business, Asian football.

Word Count: 8,379

1. Introduction

The field of sport management has developed at phenomenal pace over the course of the last 30 years, primarily down to advances in commercialisation, globalisation and technology. Consequently, sport, in its own right, has become big business. The separation of sport and business in modern day sport management is practically impossible and particularly difficult in professional team sports. Whilst businesses, more often than not, try to eliminate competition, sport teams and leagues require competition between rivals to generate their product; pitching equally matched teams against each other to deliver entertainment. It does not pay for one team to establish a position of dominance given the joint nature of production. Indeed, Vrooman (2015) stated that the perfect game is a symbiotic contest between equally matched opponents, essentially through the acquisition of equal playing talent. The practical economic problem is that professional sport leagues form imperfectly competitive natural cartels where games are played between teams with asymmetric market power (Vrooman, 2015). Comparisons between the economic environment of professional team sports and that of more traditional commercial businesses have been well documented by sports economists (e.g. Leach & Szymanski, 2015).

The discourse above outlines the importance of league organisers (primarily operating as governing bodies) in maintaining a successful league. Scelles, Mignot, Cabaud and Francois (2017) state that the concept of coopetition in sport is highly relevant in the sense that if opponents are competitors on the field, they need each other to produce the competition and, as such, they are economic partners. This debate is important for the framing of this study which is focused on a key economical function of professional team sports - competitive balance.

The primary aim of this paper is to examine competitive balance in the Asian football industry. The theme of competitive balance (CB) emerged in US team sports in the late 1950s with Rottenberg (1956) hypothesizing that games with uncertain outcomes are more likely to be viewed by fans. This became the foundation for the Uncertainty of Outcome hypotheses (UoH). In the initial years following the emergence of CB and sports economics, theoretical research questions regarding the North American leagues were discussed by Neale (1964), Jones (1969), El-Hodiri and Quirk (1971) and Noll (1974). These questions centred on the structure of North American leagues including factors such as revenue sharing, draft systems and closed leagues. Since these seminal papers, the body of research on CB in professional team sports has increased exponentially, yet almost exclusively in the leagues in North America and Europe. Our study attempts to provide a further contribution to this literature by considering CB in an Eastern context focusing on the 'big five' leagues in Asian football. It is important here to separate our paper from UoH. CB is a concept pertaining to ensuring outcome uncertainty, which is not the same concept. We will provide further clarity on this difference in section 2 of this paper.

The Asian football industry has grown substantially in recent years with countries such as China, Japan and Qatar investing vast amounts into football, making it a more prosperous market. These countries have also created more than 70,000 football schools for children, with a view to nurturing the national product with help from both private companies and state funding (World Football Summit, 2019). In the case of China, for example, growth development of the whole sport system for football has been a strategic priority. Alongside the investment in football schools they have also sought to develop the product of their domestic league, primarily through the mechanism of attracting and maintaining star talent (but with certain quota regulations). This strategy is also aligned to making teams better (and more equal) on the pitch, making competitive balance an important consideration for the

Asian Football Confederation and its leagues. Additionally, Asian football is still under researched from an academic perspective particularly in relation to CB.

The paper will proceed as follows; Section 2 explains the literature relating to the area and the theoretical framework of the study. Section 3 details the methodology and Section 4 outlines the results. Section 5 then discusses these results and the conclusions are drawn in Section 6.

2. Does competitive balance matter?

Silva, Abad, Macedo, Fortes, and Nascimento (2018) define competitive balance as the balance between teams competing in a tournament in terms of uncertainty in final result which is driven by revenues made by the league's participating clubs such as the revenues generated by the ticket office, stadium operations, sponsorships and the broadcasting rights. Rottenberg (1956, p242) identifies the importance of the "closeness of competition" and suggests that "the nature of the industry" is such that competitors must be of approximate equal 'size' if any are to be successful". Rottenberg's quote above focused on the sport of Baseball and, consequently, the origins of competitive balance literature lie in US professional team sports, where factors affecting competition such as revenue sharing, draft systems, salary caps and closed leagues have become common mechanisms to attempt to maintain competitive balance (Ramchandani et al., 2018). Plumley, Ramchandani, and Wilson (2018) also identify that professional team sports are heavily linked to the concepts of uncertainty of outcome, competitive balance and profit and utility maximisation (Sloane, 2015; Vrooman, 2015). Consequently, the differing practices between US team sports and European team sports in respect of league structure and organisation has played a major role in shaping the modern-day literature around sport economics. Fort and Quirk (1995) and Szymanski (2003) suggest two possible behavioural assumptions about professional teams:

clubs are supposed to maximize either their profits, mirroring the reality of US professional leagues or the number of seasonal wins, more aligned to the nature of European team sports. The fact that some Asian leagues portray features of both means that it is difficult to categorise them in a theoretical context against these models.

The proliferation of competitive balance literature since the mid-1950s has led to two distinct strands of competitive balance research and these strands define the theoretical framework for this study. Fort and Maxcy (2003) identify the classification of the theoretical and empirical research on competitive balance in terms of:

- Analysis of Competitive Balance (ACB) literature, which focuses on what has happened to competitive balance over time or as a result of changes in the business practices of professional sport leagues;
- Literature on competitive balance that analyses its effect on fans, which tests the uncertainty of outcome hypothesis (UOH).

Given the scope of this paper, and explicit emphasis on the organisational structure of a sports league, we focus our literature review more on the ACB strand of research. Indeed, there has already been extensive work conducted on the UOH strand that shows that UOH does seem to affect demand. For an extensive review of this literature readers are referred to Borland and MacDonald (2003) or for a more recent discussion Budzinski and Pawlowski (2017). In relation to the ACB strand of research it can be distinguished further into two major aspects: (1) the level of concentration; and, (2) the level of dominance (e.g. Ramchandani et al., 2018). The first measures the extent of closeness between teams in the league in a season whereas the latter measures the extent to which the same teams persist in winning the league over a number of seasons. While the identity of a team does not

necessarily matter in measures of concentration, it does matter for measures of dominance (Evans, 2014).

2.1 Previous research on ACB

There have been a number of studies that cover ACB with substantial research focusing on sports leagues in North America (for examples see: Lenton, 2015; Mills & Fort, 2014; Salaga & Fort, 2017). This can be attributed to the origins of the concept in Baseball and Rottenberg's seminal paper in 1956. Indeed, there are still very few studies to date that have analysed both models of professional team sport in direct comparison. One such study was conducted by Buzzacchi, Szymanski and Valetti (2003). They analysed the number of teams that had the highest win percentages, in the regular season of the MLB, NFL and NHL, and the number of teams that won the league championships in football in England, Italy and Belgium between 1950 and 1999 and found that open leagues are less balanced than closed leagues in general.

In relation to European professional team sports, there have been several studies that have focused on competitive balance, most notably in football but occasionally in other sports such as rugby union (e.g. Williams, 2012). Previous research examining competitive balance in football has almost exclusively focused on the aforementioned 'big five' leagues (England, France, Germany, Italy and Spain) with very few focusing on smaller leagues. Furthermore, Ramchandani (2012) also cited the paucity of competitive balance literature outside of the 'big five' leagues in Europe. We will return to this point later in this section to strengthen our rationale for analysing Asian leagues. In relation to previous studies focusing on European football, the findings present an inconclusive picture. Some authors found no significant changes in competitive balance across multiple leagues and multiple time periods. This list of authors includes; Goossens (2006) (German, French and Spanish first divisions (1963/64 -

2004/05), Groot (2008) (French and Spanish first divisions (1946-2006)), Koning (2000) (Dutch first division (1970-2000)), Michie and Oughton (2004) (French first division (1948-2004)), and, Szymanski (2001) (English first division (1978-1998)).

Contrastingly, a number of other authors do report a decline in competitive balance in some European leagues, with some findings even being cited in the same studies above. For example a decline in competitive balance was evident in the English and Italian first division (Goossens, 2006) and the English, German, Italian and Dutch first divisions (Groot, 2008).

Additionally, a number of more recent studies have stated a decline in competitive balance in the Spanish first division between 1928/29 - 2011/12 (Montes, Sala-Garrido & Usai, 2014) and the English first division (both as an individual league over time and compared to the rest of the English football league industry (three other divisions) between 1992/93 - 2015/16 (Ramchandani et al., 2018; Plumley et al., 2018). Findings in this regard were partially influenced by the financial disparity between teams in the EPL and the Football League in the case of England. A summary of these papers and their findings is also provided in table 1 for reference.

<Table 1 about here>

Further angles of academic enquiry that retain a focus on competitive balance but are slightly different to the studies above are Plumley and Flint (2015) who analysed the competitive balance of the UEFA Champions League group stages and Ramchandani, Plumley, Preston and Wilson (2019) who looked at whether or not there is an optimum (or 'best') number of teams that should compete in a league to deliver better competitive balance (using the EPL as an example). The former found flaws in the ranking and seeding system used by UEFA and provided statistical evidence that, historically, the group stages of the Champions League have seen competitive imbalance. The latter found that the current structure of 20 teams in

the EPL comprises the overall level of competitive balance in the EPL and that the 'best' number of teams in that league would be somewhere between 10 and 19 (although they could not pinpoint precisely which league size would be the 'most' competitive).

The findings outlined above have also stimulated interest in the articles analysing for levels of concentration and dominance within leagues as previously outlined by Evans (2014). Curran, Jennings and Sedgwick (2009) focused their paper more on measures of dominance to track competitive balance over time in the EPL. The authors formulated a "Top 4 Index" by counting the number of occasions that each team finished a league season in the top four places, summing the incidence of the four teams with the most occurrences and expressing the total as a proportion of the total number of available places over the period of the measure. They calculated values from the 1948/49 to 2007/08 seasons (inclusive) and for ten year intervals. Their findings suggested that competitive balance in the English top league has decreased and that the league is in danger of becoming a monopoly of the few.

2.2. How should competitive balance be measured?

The measurement of competitive balance has been contested in sport management literature; particularly whether or not the empirical evidence can ever be 'correct' given a long history of differing measures and proxies used for competitive balance (e.g. Mills & Fort, 2014; Owen & King, 2015: Martinez & Willner, 2017). York and Miree (2018) used an extensive list of variables to measure competitive balance in the NHL including standard deviation of winning percentages, Gini coefficient, competitive balance ratio, mean margin of victory, HHI and a number of dominance measures. Papers that focus more on European football have tended to use a variation of HHI labelled HICB (a normalised version of HHI) and also dominance measures such as unique (different) title winners and unique (different) top 4 finishes (usually linked to qualification spots for European competitions) (e.g. Ramchandani et al., 2018). The

majority of papers covered in this literature review use a number of measures found in these papers.

However, we also find contention around variable selection, which tends to centre on the structure of the leagues being analysed. Penn and Berridge (2016) and Martinez and Willner (2017) identified the design and application of a wide range of measurement tools; from concentration or inequality to win ratio or league points data, by a variety of authors to capture the degree of competitive balance and/or imbalance. Each of the measures used have their respective strengths and weaknesses which revolve around an attempt to encapsulate a complex phenomenon within one summary measure (Mills, & Fort, 2014; Owen, & King, 2015). Fort, Maxcy, and Diehl (2016) identified that the standard deviation of win percentage can be used to identify competitive balance in North American sports where drawn games are rare. However, such techniques are difficult to apply in a European team sport context (most notably football) given the frequency of tied matches, making win percentage a biased indicator (Pawlowski, et al., 2010).

Some authors have also suggested recently that competitive balance is not as important as previously suggested in past studies (e.g. Andreff & Scelles, 2015; Pawlowski &Anders, 2012). However, these papers focus more on analysing competitive balance against the concept of UOH and fan attendance whereas our paper is concerned with the concept of ACB over time in respect of league structures. Notwithstanding these issues, it is clear, given the extant literature, that competitive balance research is still a fundamental part of sport economics research. We now return to the point of Ramchandani (2012) who cited the paucity of competitive balance literature outside of the 'big five' leagues in Europe to justify our rationale for focusing on the Asian football industry.

Competitive balance research has been conducted on some sport leagues in Asia including Korean baseball and Chinese table tennis (e.g. Lee, Jang, & Fort, 2016; Tainsky, Xu, & Yang, 2017). Moreover, these papers fall more in line with the UOH strand of research and not ACB. To the authors' knowledge there are only two papers that measure competitive balance in the growing Asian football industry (e.g. Jabari, et al., 2013; Naghshbandi, et al., 2011). Furthermore, the paper by Naghshbandi et al. (2011) chose to benchmark Iranian league against the 'big five' European leagues which we argue is an unrealistic comparison given the current market position and power of those leagues. Additionally, the paper by Jabari et al. (2013) only analyses one season in isolation. Consequently, we argue that our study is timely given the growth of the Asian football industry in recent years. The current study also makes a contribution to the strand of competitive balance research in professional team sports by analysing an industry and leagues where there has been a shortage of empirical research in the past.

2.3. Asian football league development

The Asian Football Confederation (AFC), the governing body for football in Asia and Australia, oversees the organisation of 46 top division club competitions in a calendar year. It also organises its own tournaments including the AFC Champions League, AFC Cup (Asia's premier club competition), AFC Asian Cup (Asia's premier national competition) and FIFA World Cup Qualifiers for its affiliated nations. Unlike the European Leagues, the Asian Leagues are different in terms of both organisation and governance, with salary caps, limits on the total number of foreign players in each team and governance of the league by the Football Federation of the respective country instead of a separate private body (like the English Premier League, for example).

Weinberg (2012) analysed the role of AFC to develop football in Asia and argued that the continental body depends on exchanging resources and co-operating with clubs, member associations, governments and other partners in order to achieve sustainable development in Asian football. However, there is still little academic research to measure the actual impact of some of these developments in relation to the product on the pitch. Structural problems have also been observed on the governance of Asian football leagues in recent years with allegations surrounding the suppression of human rights and the President using finances from the AFC to fund personal goals (Dorsey, 2015).

Szymanski (2016) identifies that the creation of professional leagues in Asia has come relatively late in the history of Asian football with the average gap between the foundation of the federation and the professional league being 56 years. He attributes this to political disruption in the 20th century creating an unstable environment leading to slow development of professional leagues in the continent. While countries like Japan and Korea experienced relative success in establishing professional leagues over the last 30 years, owing to a high standard of living and higher population than most Asian countries, China and India had failed to produce many great players despite being the two most populous countries of the world due to limited football infrastructure in these countries (Szymanski, 2016).

Since 2012, the Chinese Super League has gained prominence as it attempts to become a market leader in global football, attracting star names from South America and Europe to become the top club competition in Asia (AFC, 2019). However, since the introduction of a super tax on foreign players (clubs have to now pay double the transfer fee and give half to the Chinese Football Association to develop youth football) the big money imports from across the world have stalled. Szymanski (2016) also argues that for Asian football to challenge the dominance of European football significant investment would be required from wealthy benefactors were the state not willing to invest.

2.4. The Big Five in Asian Football

At the time of writing (August 2019), the Chinese Super League (China), Qatar Stars League (Qatar), K-League (Korea Republic), UAE Arabian Gulf League (UAE) and Persian Gulf Pro League (Iran) are labelled as the 'big five' in Asia, according to the club competition coefficient rankings (AFC, 2019). These rankings are based on the performance of club teams at AFC Club Competitions (AFC Champions League and the AFC Cup) during the last four years (rolling).

Professional Asian leagues are relatively young with those used in this paper emerging after 1960. While the first National Association in this territory was formed in Iran in 1947 league football did not take place until 1970. The Qatar Football Association was formed in 1960 with the first season of the Qatar Football League beginning in 1963-64. The UAE held a test league in 1973-74 to determine the format for the competitive league in the country and the South Korean (1983) and Chinese (1994) leagues were formed much later.

By 2019, all of these leagues have committed to a round-robin format, recognisable across world football but there have been structural changes in the leagues (both of terms of number of teams competing and scoring systems) since the early 1990s. For example, in 1994, Qatar introduction a system, which only lasted one season, whereby matches that ended in a draw were decided by penalty shoot-outs in a bid to boost attendance.

Some leagues (e.g. South Korea and Iran) began as closed leagues but have since moved to an open league structure with promotion and relegation, a format commonly found in Europe. Other governing bodies (e.g. Qatar Football Association) have used other incentives to attempt to enhance their product. For example, in 2003, the Qatar Football Association attempted to develop the league by allocating each club a sum of $10m to sign big-name foreign players and increase popularity, leading to Roland de Boer, Frank de Boer, Pep

Guardiola and Gabriel Batistuta playing in the league. We have seen similar attempts by the Chinese Super League in recent years although the 'luxury tax' which has recently been added to transfer fees in this country has slowed the rate of expensive foreign imports somewhat.

The development in these Asian leagues over the last 30 years will have affected the competitive balance especially since a number of these changes have been made to enhance the sporting product and make the leagues more competitive.

The key objective of this paper is to measure competitive balance in Asian football. By analysing the 'big five' leagues in Asia we can compare our findings with the existing research in the European football market, heralded as the benchmark by Szymanski (2016) above. To the author's knowledge, there have only been two papers that have analysed CB in the Asian football industry (Jabari, et al., 2013; Naghshbandi, et al., 2011). Yet, these studies only focus on cross-sectional data (one season). Our approach is to consider the situation in the major Asian football leagues, longitudinally, and to identify trends over time.

3. Methodology

Our dataset covers the time period from 1996-97 to 2017-18 providing 22 seasons worth of data for the five biggest leagues in Asian football (Chinese Super League, Qatar Stars League, Korean K-League, UAE Arabian Gulf League and Iranian Persian Gulf Pro-League). Table 2 shows the number of teams in each league over the 22 seasons.

<TABLE 2 ABOUT HERE>

Our study employs multiple measures of competitive balance. To measure concentration, we first utilised Mitchie and Oughton's (2004) Herfindahl Index of Competitive Balance (HICB) to measure within-season competitive balance. The use of HICB has been commonplace in previous academic research focusing on football leagues particularly in Europe (e.g. Pawlowski et al., 2010; Plumley, et al., 2018; Ramchandani, et al., 2018).

HICB scores were calculated using the formulas listed below:

(HHI / (1/n)) x 100)

HHI is the sum of the squares of the points share for each club contesting a league in a given season and N is the number of teams in that particular league and season. For a perfectly balanced league of any size, the index takes a value of 100. As the index rises, competitive balance declines. For a league of any size, the lower bound of the HICB would be 100 (the value attained in a perfectly balanced league). The upper bound is sensitive to the number of teams in the league. For a league with only four teams (as in the case of the UAE in 2003/4 - see Table 2) the upper bound is around 156, whereas for a league with 18 teams (e.g. in the case of Iran from 2007/8 to 2012/13 - see Table 2) the upper bound is around 137.

Because the upper bound of HICB can vary according to the number of teams in a league, we also calculated a standardised version of this measure (SHICB) for each season within each league. SHICB was calculated using the formula (HICB / Max HICB (N)) × 100, where HICB is the Herfindahl Index of Competitive Balance in a league in a given season (as described previously) and Max HICB is the upper bound HICB score for that league in that season and N refers to the number of teams. So for example in 2017/18 the HICB score for the Chinese Super League was 109.42 and the league was made up of 16 teams in that particular season. The Max HICB score for a league with 16 teams is 137.78. Therefore the SHICB in the Chinese Super League in 2017/18 is 79.42 (i.e. (109.42 / 137.78) x 100). A score of 100 for SHICB represents the least balanced position (i.e. in a completely unbalanced league). As the value of SHICB declines, competitive balance improves. This approach allowed for a more like-for-like comparison between leagues comprising different number of teams.

In addition, we also considered the level of team dominance in each league. In order to examine the levels of dominance we considered the following indicators across the 22 seasons examined: the number of different teams to win the league title; the maximum number of league titles won by a single team; the number of different teams to finish in the top 3 positions in the league; and the maximum number of top 3 finishes achieved by a single team. The use of these indicators was informed by previous research in the context of European football (Curran, Jennings, & Sedgwick, 2009; Ramchandani et al, 2018) as well professional ice hockey (York & Miree, 2018).

Two types of statistical procedures were performed on the data. First, differences in HICB and SHICB scores between leagues were examined using one-way analysis of variance (ANOVA) and relevant post hoc tests. Second, the pattern of HICB and SHICB within each league over time was analysed using Pearson's correlation coefficient (r).

4. Results

4.1. Measures of concentration

Figure 1 shows the mean HICB and SHICB scores across the 22 seasons for each league. Both HICB and SHICB scores for each league were normally distributed as determined by the Shapiro-Wilk test ($p > 0.05$).

<FIGURE 1 ABOUT HERE>

When analysing concentration within each league over time (see table 3), we found no significant variation in HICB over the 22 seasons examined (China: r=-0.03, p=0.90; Qatar=-0.34, p=0.12; Korea: r=-0.15, p=0.52; UAE: r=0.12, p=0.59; Iran: r=0.31; p=0.16). A similar statistically insignificant time trend was observed for SHICB, with the exception of Iran, for which there was a moderate increase in SHICB scores, which is indicative of a decline in

league concentration (China: r=0.07, p=0.76; Qatar=-0.17, p=0.46; Korea: r=0.06, p=0.80; UAE: r=0.35, p=0.11; Iran: r=0.46; p=0.03).

<TABLE 3 ABOUT HERE>

A one-way ANOVA was then employed to test for significant differences in concentration levels between leagues (see Table 4). The Levene test of homogeneity of variances was significant for both HICB and SHICB ($p < 0.05$) and the Welch test of equality of means was also statistically significant for each concentration measure (HICB: Welch's $F(4, 49.916) = 11.909$, $p < 0.001$; SHICB: Welch's $F(4, 49.672) = 8.594$, $p < 0.001$). A Games-Howell post-hoc test revealed that the mean HICB scores for each of the Chinese Super League, the Korean K-League and the Iranian Persian Gulf Pro League were significantly lower (i.e. better) in comparison with the Qatar Stars League and the UAE Arabian Gulf League ($p<0.05$). By contrast, no statistically significant differences in mean HICB scores were observed between the leagues in China, Korea and Iran ($p>0.10$). The mean HICB scores between the leagues in Qatar and the UAE were also insignificant ($p>0.10$).

<TABLE 4 ABOUT HERE>

The mean SHICB scores for each of the Chinese Super League, the Korean K-League and the Iranian Persian Gulf Pro League were significantly lower (i.e. better) in comparison with the Qatar Stars League ($p<0.05$). Korea and Iran also had significantly lower (i.e.) better mean SHICB scores relative to the UAE ($p<0.05$).

4.2. Measures of dominance

Figure 2 plots the number of different teams in all five leagues to have won the domestic league title in all seasons analysed (on the horizontal axis) against the maximum number of domestic league titles secured by the most successful team in each league in the same time frame on the vertical axis. In respect of Figure 2, the top left quadrant would depict less

competition for the title whilst the bottom right quadrant would depict more competition for the title. The axes intersect at the median values for the two indicators (7 in each case).

<FIGURE 2 ABOUT HERE>

Figure 2 shows that the most competitively balanced league in terms of dominance for the title in our sample is the Qatar Stars League. A total of nine different teams in Qatar won the league title and the most successful teams in the 22 seasons examined (Al Saad and Lekhwiya) won the league title on five occasions each. By contrast, only six different teams in the UAE Arabian Stars League won the league title in the same time frame. The maximum number of domestic league titles won by the most successful team in this league was 9 (Al Ain).

We now broaden our analysis to consider the dominance for the top three positions in each league. The rationale for choosing the top three positions is because for the majority of Asian football leagues finishing in the top three places means qualifying for the Asian Champions League competition. Figure 3 illustrates that on this measure the Chinese Super League is the most balanced in terms of its dominance scores being positioned in the bottom right quadrant. The Chinese Super League has seen a total of 22 clubs finish in the top three positions over the last 22 years with a maximum of 10 top three finishes by a single team (Beijing Guoan). Conversely, Iran and UAE appear to be the least competitive based on Figure 3. Iran had 15 different clubs finishing in the top three positions whilst the UAE had 12. However, both these leagues have seen a single club finish in the top three positions on 17 (Esteghlal in Iran) and 14 (Al Ain in the UAE) separate occasions.

<FIGURE 3 HERE>

5. Discussion

To date, there has been limited research on the state of CB in football leagues outside of Europe. Previous attempts to analyse CB in the context of Asian football leagues by Jabari et al. (2013) and Naghshbandi et al. (2011) only considered a single season, thereby limiting meaningful conclusions. As such, our study presents a more thorough and longitudinal analysis of CB in Asian football compared with previous efforts. Our study also incorporates measures of league concentration and dominance to provide a more holistic view of CB in Asian football.

Our analysis presents a mixed picture of competitive balance in the top five Asian leagues. In terms of league concentration, while both HICB and SHICB scores have varied over time in individual leagues these fluctuations are by and large not statistically significant, with the exception of Iran that showed a moderate decline in SHICB over time. We did, however, find some significant differences in league concentration levels between the five leagues under consideration. When comparing these findings to European football, for which there is a larger body of research, there appears to be a similar trend. Our results are broadly consistent with the findings of Goossens (2006), Groot (2008), Koning (2000), Michie and Oughton (2004), Ramchandani et al., (2018) and, Szymanski (2001).

In relation to measures of dominance, our findings resonate with the work of Curran et al. (2009), who formulated a "Top 4 Index" in the English Premier League, and Ramchandani et al. (2018), who analysed dominance in European football. Curran et al. (2009) suggested that competitive balance in the English top league has decreased and that the league is in danger of becoming a monopoly of the few. Ramchandani et al. (2018) highlighted that certain leagues in Europe were more dominant than others in respect of individual club success (e.g. Juventus in Italy and Bayern Munich in Germany). Our findings do not state such a bold case

in respect of Asian leagues at present but there have been instances of dominant teams over time in the leagues in the UAE in particular and to a lesser extent Iran.

Concentration and dominance are distinct measures of CB. The former is a measure of CB for the league as a whole whereas the latter is a more restrictive measure and fewer teams are taken into consideration (i.e. those winning the league or qualifying for continental competitions). In theory, it is possible for a league with a high level of concentration to also have a high level of dominance and vice versa. For example, even though the Qatar league has the second lowest concentration level as measured by both HICB and SHICB it is also the least dominant along with Korea in terms of the number of different teams to win the league title.

The case of the Chinese Super League is an interesting one. In our results, China was found to be one of the leagues with a relatively low level of concentration and dominance. It can be argued that China is still in the developmental stage in relation to professional football with the Chinese Super League only recently achieving global media attention through the signing of high profile Western players. The development of a professionalized and commercialized football league in China began in 1993 and was followed, in 1994, by the launch of a league system that was modelled on the systems of Western countries. With support from the market, football clubs became more financially solvent and moved away from government intervention and aid. State-owned football clubs were replaced by privately owned and collectively owned clubs (Hong & Zhouxiang, 2013). The league continued to grow at a substantial pace and by 2016 the migration of players from Europe to Chinese clubs had reached a critical mass with significant transfer fees and player salaries being offered, all to put Chinese football on the global map (Chadwick, 2015).

Throughout this time, the Chinese Super League was gaining worldwide attention and the ability to attract young, overseas talent owing to the clubs' collective financial power put China firmly in the minds of the global football market as a potential leading player in the future. However, new rules governing overseas players appear to have dented clubs' buying powers recently. The Chinese FA has imposed a 100% tax on foreign player transfer fees - which it proposes to use to help the nation develop its own football talent - and this has subsequently slowed down clubs' transfer activities (Din, 2018). This effectively means that if a club wish to sign a player for £50m then that transfer fee doubles instantly to become £100m with the extra £50m in tax going to the Chinese FA. The notion is sound in view of ambitious plans by the Chinese government to become a leading player on the national field and win the World Cup in 2050 but there is little doubt that the tax has gone some way to stopping the influx of foreign players - a move which also has implications for the sporting product and competitive balance of the league itself. The Chinese Super League has made positive strides to improving the professionalism of the league over the course of the last twenty years and competitive balance within the league has remained relatively stable in the same time period. It will be interesting to see whether or this picture changes in years to come if the tax on foreign players continues.

It is clear that the Asian football market has seen positive growth during the last twenty years or so given the expansion of the leagues in terms of the number of clubs competing in the competitions. However, it is also still very clear that European football and its leagues and member clubs are the market leader so there is perhaps a question of whether or not the Asian football market is actually striving to catch up with the rest of the market or whether or not it can achieve this given the current market power of European leagues (in particular the English Premier League). In the European game there have been strong suggestions in recent years of the formation of a European Super League with the prospect of the biggest clubs

breaking away from their national federations and forming their own league and governance structure. If some of the clubs in the Asian football market were to become more prominent in the market (especially the Chinese Super League clubs for example) then does this, alongside the progression of Major League Soccer in America and the Indian Super League in India, open up the possibility of a World Super League at some point in the future? Leading figures in the game have suggested recently that major change is on the horizon so perhaps this is not outside the realms of possibility.

A further possibility is that the two continents (Europe and Asia) could in fact help each other. We have already seen high profile players moving to Asia and then lucrative pre-season friendly matches occurring as part of the deal (e.g. Andres Iniesta and his transfer from Barcelona to Vissel Kobe in Japan). Furthermore, many big European clubs (e.g. Real Madrid, Bayern Munich and Borussia Dortmund) have set up official offices in Asia and see the importance of having a presence on the continent. In time, this could lead to a more structured distribution or exchange of star talent which could benefit the domestic leagues and at the same time may affect competitive balance.

6. Conclusion

To our knowledge, this is the first study of its kind to look at competitive balance in a longitudinal way in Asian football and as such our study provides a clear contribution to knowledge. Additionally, through the use of our unique SHICB measure, we have contributed to the methodological advancement of competitive balance measurement. Our SHICB formula adds further robustness to the findings of this paper and is also strengthened by the fact that barring one difference (in the ANOVA comparisons) the measure returned comparable results to HICB. Thus, we can be confident that the measurement techniques employed to measure ACB in professional team sports are correct in their application.

In conclusion, our study indicates that it may be the case that competitive balance does not necessarily present a problem for league organisers to consider at the current time. Our evidence points to a generally stable state of CB for the top five Asian football leagues.

Sporting competition and integrity is still at the heart of any debate around the structure of sport leagues and despite the theoretical debate around the measures and relevance of competitive balance there is little doubt that it remains an important component of modern day sport. Future research should attempt to consider analysing the wider Asian football industry in countries such as India where there is currently a big governance challenge in respect of a potential merger between the I-League (domestic league) and the Indian Super League (franchise league). It would also be worthwhile to consider other emerging football markets such as North America and Africa.

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