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Competitive balance and demand for European men’s football: a review of the literature

Tsjalle van der Burg

Faculty of Behavioural, Management and Social Sciences, University of Twente, Enschede, The Netherlands

ABSTRACT
Research question: In European men’s club football, competitive balance is decreasing. Review articles have concluded that the empirical studies do not provide a unanimous answer to the question whether this decrease leads to lower utility for the fans. This paper investigates whether the conclusion of the reviews is (still) correct.
Research methods: Qualitative analysis is applied to get a better interpretation of the results of the empirical studies.
Results and findings: There are three types of uncertainty of outcome: short-term, seasonal, and long-term, with possible different dimensions within one type. A possible interpretation of the literature is the following: a decrease in one or two types of uncertainty of outcome, or a certain dimension, can lead to serious reductions in welfare, while the conclusion may be different for other types or dimensions. Several studies suggest that a decrease in (a certain type of) competitive balance has no effect on welfare, or just a small effect, if the competitive balance remains above some minimum level whereas once the competitive balance is below this level, further decreases in it result in serious welfare reductions. Taking these and other points into account, the review concludes that it is highly plausible that the present level of competitive balance is below the welfare-maximising level in most competitions at least, and any further decrease in it will seriously reduce welfare.
Implications: Policies that improve competitive balance will plausibly also improve welfare.
Research contribution: Compared to other review studies, this paper pays more attention to the reasons why different empirical studies get different results, which enables a less ambiguous conclusion.

1. Introduction
In European men’s club football, the differences on the playing fields have increased in many national and European competitions (Groot, 2008; Plumley et al., 2018; Ramchandani et al., 2018; Rohde & Breuer, 2016; Scelles et al., 2020). To give an illustration: The 25 seasons between 1997 and 2022 saw 31 different clubs winning the top division title in England, Italy, Spain, Germany and France as compared to 48 different clubs winning the title between 1946 and 1971.

The question for this paper is whether the decrease in competitive balance leads to less
utility (or in other words pleasure) for the fans, and so to lower welfare. The empirical studies in this field do not all answer the question in the same way. This paper critically reviews the literature, hoping to improve the answer. Such an improved answer could be helpful in evaluating the pros and cons of measures to improve competitive balance in the present league system. It could also be helpful in evaluating a Super League, a competition which would have considerable effects in the field of competitive balance (Beck et al., 2022; Brannagan et al., 2022; Hoehn & Szymanski, 1999; Van der Burg, 2020).

It is necessary to provide some definitions first. Perfect competitive balance means that all teams have equal playing strengths. The larger the differences in playing strengths, the lower the competitive balance. A related concept is uncertainty of outcome. There are three types of uncertainty of outcome: short-term or match-level uncertainty, which concerns the outcome of individual matches; medium-term or seasonal uncertainty, which concerns the season’s results; and long-term uncertainty, which concerns the question whether one or a few teams dominate a competition over a substantial number of seasons. The larger the differences in playing strengths (and so the lower the competitive balance), the lower the uncertainty of outcome in each of the three time periods above (For a single match, where home advantage also plays a role, the relation is slightly different. For the above, see Cairns et al., 1986; El-Hodiri & Quirk, 1971; Rottenberg, 1956). Note that the distinction between utility and demand is neglected below, as higher utility levels (normally) imply higher demand, and vice versa.

Section 2 discusses the empirical studies that were discussed in the overview study by Van der Burg (2014). This study focuses on publications that were based on the revealed preferences approach and were published before 2014. (The discussion of this overview study helps shorten the present paper, which presents the main conclusions of the overview study while referring to that study for most of the evidence.) Section 3 deals with the more recent studies based on the revealed preferences approach. Section 4 focuses on the stated preferences approach. Section 5 presents the conclusions.

2. The revealed preferences approach: studies before 2014

2.1. Introduction

The hypothesis that a high degree of uncertainty of outcome makes team sports more attractive, thereby increasing demand, has been the starting point for many empirical studies. This hypothesis has been tested in, among other things, empirical studies in which the dependent variables are attendance or TV viewership figures from the past (which means we are dealing with revealed preferences). Van der Burg (2014) discussed four overview studies concerning European football (soccer) and other team sports in- and outside Europe: Szymanski (2003), Borland and Macdonald (2003), Downward et al. (2009) and Dobson and Goddard (2011). Szymanski (2003, p. 1156) concluded his overview as follows: “Overall, of the 22 cases cited here, ten offer clear support for the uncertainty of outcome hypothesis, seven offer weak support, and five contradict it.” Borland and Macdonald (2003, p. 486) discussed 33 studies, and summarised the results as follows: “Evidence of an effect of match-level uncertainty of outcome on match attendance is relatively weak” (this specific conclusion was based on a review of 18 empirical studies), while “There is much stronger evidence of an effect of season-level uncertainty on attendance” (this was based on 19 empirical studies). They also remarked that only a small group of studies have analysed long-term uncertainty of outcome, with two studies finding “considerable support for a positive relation between long-run uncertainty of
outcome and attendance”, while some earlier studies found little support. Downward et al. (2009) and Dobson and Goddard (2011), who discussed 25 respectively eight empirical studies, also concluded that the empirical research results are mixed.

Van der Burg (2014) investigated why the results are so different. Regarding the studies that conclude that uncertainty of outcome has no positive effect, he argued that this conclusion is, or may be, the result of imperfect research in a number of cases. Some of the imperfections are related to the measurement of uncertainty of outcome. For instance, for a match it is difficult to measure the probabilities of a home team win and an away team win, and therefore it is difficult to measure match-level uncertainty of outcome (which is high when the teams have about equal win probabilities). To give a more specific example here: Peel and Thomas (1988, 1992) used the betting odds of English bookmakers as a proxy for the probabilities of winning, but Forrest and Simmons (2002) show that in the English system of “fixed odds” betting the odds are biased estimates of these probabilities.

Some other imperfections are related to the fact that the demand for football is affected by several variables, with uncertainty of outcome possibly being one of them, while there is a correlation between uncertainty of outcome and some other explanatory variables. In this context, Sections 2.2 to 2.5 explore the demand for stadium tickets. Section 2.6 discusses the demand of TV viewers.

2.2. Uncertainty of outcome versus preference for a home team win

As noted above, demand for football is affected by several variables. In this context, a first observation is that many stadium visitors want the home team to win (Szymanski, 2006). From this perspective, visitors prefer matches where the probability of a home win is high. At the same time, they may also like uncertainty of outcome. From that perspective, they may prefer both teams to have equal chances. Thus, there can be opposing forces. This could explain why Knowles et al. (1992) and Rascher (1999), who focused on Major League Baseball (where draws are absent), found that the demand for match tickets peaks when a home team’s probability of winning is somewhere between 0.6 and 0.7. Rascher and Solmes (2007) had a similar result for the National Basketball Association. A plausible explanation is that the two opposing forces lead to a point in-between the point where the uncertainty of outcome is at its maximum and the point where the home win probability is at its maximum. In relation to this, the three studies above concluded that their results support the idea that uncertainty of outcome has a positive effect on demand.

These studies may lend some credibility to the following hypothesis: the marginal utility of uncertainty of outcome decreases when uncertainty of outcome rises. For instance, an increase in the home win probability from 0.5 (where the uncertainty of outcome is at its maximum in sports without draws, and quite high in other sports) to 0.6 has a small negative effect on demand (as far as uncertainty of outcome is concerned), while an increase from 0.7 to 0.8 has a larger negative effect. This could help explain why the maximum in the studies above is at a point where the home win probability is somewhere between 0.6 and 0.7; at higher probabilities, the wish for uncertainty of outcome may dominate the wish for a home team win because the marginal utility of uncertainty of outcome is high.

Given the studies above, we can first have a short look at the empirical studies that tested the hypothesis that league level attendance peaks at the point where the long-term uncertainty of outcome is at its maximum (which implies all teams have equal playing strengths). Some of these studies did not find any significant evidence that supports this hypothesis (Van der Burg, 2014). However, this does not automatically imply that long-term uncertainty
of outcome is not important. If stadium visitors prefer matches where the home win probability is between 0.6 and 0.7, as suggested by the studies above, and if a home win probability between 0.6 and 0.7 is not only the result of the home advantage but also of the home team having a better squad, then it is possible that league level ticket demands will peak at a point where teams with a large fan-base and a large stadium have better squads and win more often than teams with fewer fans. (This possibility becomes a certainty if the increase in ticket demand of the larger clubs that is the result of these clubs getting a better squad outweighs the decrease in ticket demand of the smaller clubs that is the result of these clubs getting a weaker squad.) Now, the existence of this possibility means that the empirical studies on long-term uncertainty of outcome mentioned above did not pay enough attention to the possibility that demand is affected by several factors, including the wish for a home team victory, and therefore their conclusion that long-term uncertainty of outcome does not stimulate demand may be wrong.

2.3. Superstars and brand strength, and the David and Goliath effect

Another observation is that ticket demand is also stimulated when the home team plays teams with an excellent brand strength and/or superstars (Baimbridge et al., 1996; Czarnitzky & Stadtmann, 2002; Pawlowski & Anders, 2012). In addition, demand for matches where the home team meets a much stronger opponent can be stimulated by the possibility that the home team surprisingly defeats this strong opponent, like David beating Goliath (Szymanski, 2006). The brand and superstar effect and the David and Goliath effect both imply that, ceteris paribus, many fans of non-top clubs may like to see their team playing a much stronger team. Such a wish opposes the possible embracement of uncertainty of outcome and the wish for a high probability of a home team win.

2.4. A theory of demand for match tickets

Given the above, and assuming that the marginal utility of uncertainty of outcome decreases with increasing uncertainty, a partly new theoretical framework can be used to justify the relationship between ticket demand and the probability of a home win. After explaining the theory, I will use the possibility that it is plausible to criticise some of the empirical studies.

The theory starts at the point where the home win probability is close to zero (see also Figure 1). Assuming the clubs plays in a high-quality league, this means that the away team is very strong; it has one or more star players and (probably) an excellent reputation. At this point, there will be a certain demand for tickets, possibly at a level close to that of a friendly against a top team. When the home win probability rises from the close-to-zero point to a slightly higher level, the demand will rise because the uncertainty of outcome rises, with the chance of David beating Goliath rising from practically zero to a level where this chance is at least sufficiently high to be taken seriously. Demand then reaches a local maximum at a point where both the David and Goliath effect and the brand and superstar effect are substantial (still). When the home win probability increases further, the David and Goliath effect becomes less important. The same holds for the brand and

Figure 1. Ticket demand and home win probability.
superstar effect since (for any given home team) a higher home win probability implies a weaker away team. These two points cause a decrease in demand, which is not fully compensated by the positive effect of a higher uncertainty of outcome – also because the marginal utility of uncertainty of outcome decreases when the home win probability gets closer to the probability of the away team winning (implying uncertainty of outcome is increasing).

At some point, the David and Goliath effect and the brand and superstar effect become negligible (or very small), and the demand reaches a local minimum. This may be a point where the uncertainty of outcome is substantial, implying a low marginal utility of uncertainty of outcome. At this point, the preference of the fans for a home team victory begins to dominate the preference for uncertainty of outcome, and further increases of the home win probability will lead to higher demand.

This brings us to the range where the probability of the home team winning is larger than the probability of the away team winning, which implies that further increases in the home win probability reduce the uncertainty of outcome. At some point, another local demand maximum is reached. Here, the marginal utility of the uncertainty of outcome has become high (again), and therefore the preference for uncertainty of outcome starts to dominate the preference for a home team victory, causing the demand to decrease when the home win probability rises to higher levels.

In my view, the theory outlined above is not fully implausible. It is also possible that it is only partly correct in the sense that only one of the two local maxima described above exists, meaning there is one minimum and one maximum.

2.5. The U-shaped demand function: some critical remarks

With this in mind, it is possible to make some critical remarks regarding the fact that some empirical studies found a U-shaped function for the relationship between demand and home win probability, which means that ticket demand reaches a minimum value when the uncertainty of outcome is high. The Buraimo and Simmons (2008) study gives an example. These authors found that demand for stadium tickets in the Premier League reaches a minimum when the home win probability is 0.35; according to the authors, this is rather close to the 0.45 mean (recall that football matches, unlike baseball and basketball matches, can end in a draw). Buraimo and Simmons concluded that their evidence shows that high competitive balance is associated with reduced gate attendance, and interventionist measures to improve competitive balance are not needed as far as stadium visitors are concerned.

However, this conclusion may be wrong if the theory outlined above is (partly) correct. Buraimo and Simmons only tested the hypothesis that match demand reaches a maximum or a minimum with some home win probability; their estimated quadratic function makes it possible to find one minimum or one maximum only. Therefore, their finding that demand reaches a minimum when the uncertainty of outcome is high, can (also) be consistent with the theory outlined above. In other words, the finding does not rule out the possibility that a decrease in uncertainty of outcome has serious negative effects on demand (especially) in cases where the uncertainty of outcome is in the lower ranges. This example, and the earlier one about long-term uncertainty of outcome, illustrate the problem that the possible effect of uncertainty of outcome on demand is difficult to investigate because of the existence of other explanatory factors. In relation to this, the conclusion by some empirical studies that uncertainty of outcome has no positive effect on the demand for stadium tickets may be wrong (for more details see Van der Burg, 2014).
2.6. The demand of TV viewers

The demand of TV viewers has different characteristics, an important reason being that relatively many viewers will be fan of the away team, or neutral. This means that the preference for a home team win will be smaller on average; in some cases, most viewers may even prefer the away team to win. In relation to this, uncertainty of outcome may be more important for the average TV viewer as compared to the average stadium visitor, or it may be easier to discover with statistical research.

Indeed, Buraimo and Simmons (2009) observed that Spanish television viewers like a close contest, while stadium visitors do not. On the basis of a few other empirical studies, Van der Burg (2014) concluded that television viewers may well have a relatively high preference for uncertainty of outcome, but there is no certainty yet.

2.7. Concluding remarks

After giving such arguments as the ones above, Van der Burg (2014) summarised his discussion of the revealed preference studies with three remarks. First, it is plausible that, if uncertainty of outcome has a positive effect on demand, such an effect will, in certain cases, become visible only if the uncertainty is below some minimum level. Second, the empirical studies concern matches and competitions in the past, and quite often in the previous century, while the competitive balance of European football has been decreasing over the years. This means that a lack of competitive balance may have been a more severe problem in 2014 than that encountered by empirical studies published before 2014. Third, despite the difficulties encountered when doing empirical research, there are also many empirical studies that support the idea that increases in short-term, seasonal or long-term uncertainty of outcome have a positive effect on demand, which makes it plausible that uncertainty had a positive effect in quite a few cases. Overall, Van der Burg concluded it is plausible that, in 2014 or in the years soon after that, the competitive-balance level was below the welfare-maximising level.

3. The revealed preferences approach: recent studies

3.1. Seasonal uncertainty of outcome

The remainder of this paper deals only with studies concerning European football. In recent years, many new studies based on the revealed preferences approach have been conducted. Seasonal uncertainty of outcome has received relatively a lot of attention here, often using in this context the concept of competitive intensity. Competitive intensity is “the degree of competition within the league/tournament with regards to its prize structure” (Kringstad & Gerrard, 2004, p. 120). Competitive intensity can be seen as the main dimension of seasonal uncertainty. (Another dimension is to finish as high as possible in the league table irrespective of the special prizes associated with some of the places). Kringstad and Gerrard paid tribute to Jennett (1984) and other earlier studies that analysed elements of competitive intensity. (Note that, although such studies were not mentioned explicitly in Section 2, they were discussed in Van der Burg, 2014, on which Section 2 was based.) However, starting with Kringstad and Gerrard competitive intensity has been analysed in a more systematic way.

For instance, Scelles et al. (2016) operationalised the concept for the French Ligue 1 in the period 2008–2011. They distinguished nine prizes: winning the league, not being relegated, and seven other prizes related to positions that give, or may give, access to the UEFA Champions League or the Europa League. Before a match, a club can be in contention for one or more prizes. If it entailed more than one prize, the study focused on the effect of being in contention for the highest prize only. Competitive
intensity is a negative function of the point difference with the closest team (in the current league table) that is contending for the same prize. In principle, the smaller the point difference, the higher the measure of competitive intensity, but the measure also takes into account the possibility that the fans only perceive a club to be in contention for a prize if the point difference can be bridged by a small number of matches. The study concluded that competitive intensity has a positive effect on the attendance for all nine prizes.

Scelles et al. (2013a, 2013b) came to similar conclusions based on the same observations but different model specifications. (These two studies were neglected in Section 2 even though they were published before 2014. The main reason is that they were neglected by Van der Burg, 2014, on which Section 2 was based. Discussing these two studies in Section 3 also improves readability.)

Bond and Addesa (2020) analysed the Italian Serie A in the period 2012–2015 and distinguished six prizes: the championship, direct entry to the Champions League, entry to its qualifying rounds, direct entry to the Europa League, entry to its qualifying rounds, and avoiding relegation. Competitive intensity has a positive impact on match-day attendance for all prizes except Europa League qualification.

Bond and Addesa (2019) focused on TV demand for Serie A matches in the same period. They found a positive impact of competitive intensity for all the six prizes above, but all the coefficients were small implying the impact is low.

Addesa and Bond (2021) focused on match-day attendance in the Serie A in the period 2012–2019, using a method which is partly different from that of Bond and Addesa (2020). They found that being in contention for the league title has a positive effect on ticket demand, and the same holds for being in contention for Champions League qualification, Europa League qualification and relegation.

Buraimo and Simmons (2015) investigated whether TV demand for a match in the English Premier League over the 2000–2008 period was higher if either of the two teams was contending for one of the following three prizes: the championship, qualification for either the Champions League or the Europa Cup, and avoiding relegation. They found no significant result for any prize. Their results are based on the idea that a team is in contention for a prize if the point difference with one or more competitors is less than, or equal to, two times the number of matches still to be played. So, according to them, if a team is 20 points behind the leader(s) with 10 matches to go, it is still contending for the title.

Scelles (2017) did not think this is realistic. This is because Scelles et al. (2013b) showed that being in contention for a prize positively affects demand especially if the point difference can be bridged within two or three matches. Using an improved measure and data from the 2013/14 Premier League season, Scelles (2017) found that both championship intensity and Champions League intensity positively affect TV demand, while there are no significant results for the Europa League, potential Europa League, and relegation intensity.

Pawlowski and Nalbantis (2015) investigated championship uncertainty in Austria and Switzerland during the 2008–2013 period. They found that if the home team is in contention for the national title, it has a positive effect on attendance.

Besters et al. (2019) focused on stadium attendance in the highest Dutch league during the 2000–2016 period. They noted that uncertainty about the final ranking stimulates demand towards the end of the season.

3.2. Studies focusing on short-term uncertainty, and possibly on seasonal uncertainty too

We now turn to studies that investigated short-term uncertainty of outcome, while possibly
also paying attention to seasonal uncertainty. Schreyer et al. (2018), who analysed all 571 Premier League games broadcast in Germany between 2011 and 2016, spotted that short-term uncertainty of outcome has a positive effect on German TV demand for English Premier League football.

Martins and Cró (2018) analysed match attendance in the highest Portuguese league in the five seasons from 2010 to 2015. They came up with a U-shaped demand curve. In other words, matches in which the win probabilities of both teams are about equal (implying high uncertainty of outcome) attract less spectators. They also found that while fans prefer the home team to win, they also like to watch an away team with a good reputation. According to them, these factors, together with a wish for “loss aversion” (a wish to avoid situations where the match result for one’s favourite team is worse than the expected value of the result), help explain the U-shape. However, as argued in the previous section, a U-shaped demand curve can also correspond to a theory in which fans like uncertainty of outcome instead of having loss aversion. Martins and Cró also analysed seasonal uncertainty of outcome. Their hypothesis that attendance increases when the home team is in contention for the championship or Champions League qualification was confirmed for both prizes.

Cox (2018), who focused on the demand for Premier League football over the 2004–2012 period, also discovered a U-shaped demand curve which means, in his interpretation, that stadium visitors prefer low uncertainty of outcome over high uncertainty. At the same time, he also saw that TV viewers prefer high uncertainty of outcome over low uncertainty. Cox also investigated seasonal uncertainty, finding that attendance is higher when the home team is contending for the championship.

Reilly (2015) focused on the League of Ireland match attendance in the 2012–2015 period. He noted that a decrease in short-term uncertainty of outcome has a negative effect on attendance, but only if the home win probability is below 0.25 to start with.

Humphreys and Pérez (2019) investigated the Spanish La Liga matches in the period 2008–2016 and found that the relationship between home win probability and TV demand is U-shaped.

Scelles and François (2021) evaluated the effect of competitive balance on demand for stadium tickets in the national leagues in Europe in the 2006–18 period. Their measure for competitive balance in a national league is based on the points which each of the participating clubs have won at the end of the season. Basically, the smaller the differences between the clubs in terms of points won, the higher the competitive balance in the season concerned. The authors did not specify whether such higher competitive balance means that match-day uncertainty of outcome is higher, or that seasonal uncertainty of outcome is higher, or both. In my view, it is reasonable to assume it can mean both. Scelles and François found that, on average, higher competitive balance leads to higher demand. A special point is that the reverse holds in those countries where income inequality is low. Nevertheless, the conclusion regarding the average situation implies that UEFA should promote competitive balance in Europe as a whole.

Wills et al. (2022) focused on the UEFA Champions League (UCL) in the 2013–19 period. They analysed the TV audience of every single UCL match shown during this period in one of the following six countries: the UK, Germany, Spain, Italy, France and the Netherlands. They found that TV demand was not positively affected by match uncertainty of outcome (measured as the absolute difference in the two teams’ probabilities of winning the match). Given the fact that quite some studies (see the previous analysis and Section 4) have shown that uncertainty of
outcome may (well) play a role especially when the uncertainty is in the lower ranges, it is regrettable that Wills et al. did not address the question whether a decrease in uncertainty of outcome has a negative effect on demand once the uncertainty is in the lower ranges.

Wills et al. (2022) also analysed competitive intensity. In the group stage, the competitive intensity of a match is 1 where there is no qualification for the knock-out stage of either the UCL or the Europa League at stake, and 0 otherwise. Here, competitive intensity has a positive effect on demand (which corresponds with a negative coefficient) in two countries, a negative effect on demand in two other countries, and no impact in the remaining two countries. It would be interesting to see whether these conclusions change if a distinction was made between qualification for the knock-out stage of the UCL and qualification for the knock-out stage of the Europa League. After all, it is not impossible that the demand for broadcasts of the larger clubs drops once these clubs, disappointingly, can no longer qualify for the former but only for the latter. For the knock-out stage, Wills et al. (2022) measured the competitive intensity of the second leg as the absolute goal difference after the first leg. They found competitive intensity had no significant effect in all the six countries. It would be interesting to investigate if this also holds if the effect of home advantage is not neglected when measuring competitive intensity.

3.3. Concluding remarks

My conclusions on the recent studies that are based on the revealed preferences approach are as follows. Regarding the effect of short-term uncertainty of outcome, the results are mixed. Some studies found a U-shaped function for the relationship between demand and home win probability, which means that demand is lowest when uncertainty of outcome is at, or close to, its maximum value. Unfortunately, these studies did not pay any attention to the fact that a U-shaped function still leaves open the possibility that lower uncertainty of outcome reduces demand in the ranges where the uncertainty is (very) low. Put differently, they did not take account of the possibility that the marginal utility of uncertainty of outcome decreases with increasing uncertainty. In addition, while competitive imbalance has been increasing over the years (see Section 1), all the studies published after 2014 used data from 2019 or earlier, with the average observation being made in the 2012/13 season (according to a rough estimate, and more specifically the estimate the reader can get if he assumes that every study on short-term uncertainty discussed above is based on the same number of observations). Combining the points above, the U-shaped demand curves do not show at all that a lack of uncertainty of outcome is not a problem in 2023. Moreover, some other studies did not find a U-shaped function but found that short-term uncertainty of outcome stimulates demand. All in all, the studies together do not contradict the proposition that, in 2023, the inequalities between the teams are above the welfare-maximising levels in quite a few competitions due to insufficient short-term uncertainty of outcome. Note that a similar conclusion was drawn from the studies published before 2014 in Section 2.

Regarding seasonal uncertainty of outcome, I will first repeat Borland and Macdonald’s (2003) conclusion in their overview study: there is much stronger evidence of an effect of seasonal uncertainty on match attendance than evidence of an effect of short-term uncertainty of outcome. I can now add that the overview of the recent studies on seasonal uncertainty shows that, according to 11 of the 13 studies (or 12 out of 14 if we take the study of Scelles and François to concern seasonal uncertainty), uncertainty about winning specific prizes at the end of the season, or in other words competitive intensity, has a positive effect on demand for either all the
investigated prizes or a significant part of them. The other two studies found no positive effect (or found no positive effect on average), but this may be (partly) the result of weak operationalisation. Finally, I have not come across any recent study that analysed the effect of long-term uncertainty of outcome.

4. Studies based on the stated preferences approach

4.1. Description of the individual studies

Several scholars have conducted surveys in which the consumers were asked about their perception of the attractiveness of football and the factors contributing to it. Koenigstorfer et al. (2010, p. 150) interviewed 1,404 committed fans of 12 selected teams from the German and English top divisions on-line. The fans answered different sets of questions. One set of questions, for instance, concerned the attractiveness of the Champions League. The answers to these questions were used to estimate the attractiveness of that league in the perception of each respondent. Another set of questions concerned the competitive balance in the Champions League, where the answers were used to estimate the perceived competitive balance for each respondent. On the basis of statistical analysis, it was then found that the perceived competitive balance has a positive effect on the perceived attractiveness of the Champions League, for both English and German fans. Another conclusion was that the perceived competitive balance of the national top division is the most important factor influencing its attractiveness in both England and Germany.

Pawlowski (2013) interviewed 710 stadium visitors and 493 football fans who were watching matches in a bar. In addition to some general questions, the fans had to answer questions about competitive balance. One question was how they rated the level of competitive balance (or, more to the letter, the level of suspense) in the German Bundesliga overall, on a scale of 0–10. They also had to give their opinion about 11 more specific items, on a 4-point scale. Each of these 11 items related to one of the three dimensions of uncertainty of outcome (short-term, seasonal, and long-term uncertainty). For instance, one question regarding seasonal uncertainty was to which extent the interviewee agreed with the statement that the fight for the title remains exciting late into the season (1 = I do not agree …… 4 = I agree completely). Subsequently, the researcher used regression analysis to show that there was a highly significant positive correlation between each of the three dimensions of perceived uncertainty of outcome and the overall perceived competitive balance. Finally, three questions were asked to determine whether the Bundesliga was close to any tipping point beyond which poor perceived (overall) competitive balance (suspense) would significantly deter fans from being interested in football. More specifically, the fans were asked at which level of suspense (on the 0–10 scale mentioned above) they would start to lose interest in the Bundesliga or not watch a match in the stadium or on TV. The answers were used to estimate demand curves that showed the relation between stated demand and perceived competitive balance. Using a similar approach, Pawlowski and Budzinski (2013) interviewed German, Danish and Dutch football fans. They also asked these fans how much they were willing to pay for (1) a higher level of suspense, and (2) for making sure that the level of suspense does not decrease.

A conclusion of both studies is that perceived uncertainty of outcome is important for the fans; a decrease in perceived competitive balance negatively affects stated consumption behaviour in all three countries. In addition, according to Pawlowski and Budzinski (2013) many fans are willing to pay money to preserve or improve the existing state of the competitive balance.
Pawlowski and Budzinski (2013) added that their data confirmed their hypothesis that the relationship between competitive balance and consumption includes a discontinuity: once the competitive balance falls below a certain tipping point, the consumption of a fan decreases significantly as a result of any further decrease in competitive balance, whereas if the changes in competitive balance remain above the tipping point, they will have little effect on consumption. Budzinski and Pawlowski (2017, p. 114) further explored this idea using insights from behavioural economics, and suggested that fans will not spend scarce resources on improving their consumption pattern with the help of detailed information about competitive balance as long as the balance remains above a “satisficing” threshold.

A different interpretation of Pawlowski and Budzinski’s data is also possible. In their estimated demand curves (which concern the demand of all fans in a country taken together), small decreases in competitive balance from the base-level cause small reductions in demand, while larger decreases in competitive balance cause disproportionally larger demand reductions. Put differently, the slope of the national demand curve is steeper when the uncertainty of outcome is lower. Such a national demand curve can either be the result of the existence of a tipping point (situated at different levels of competitive balance for different fans), as suggested by Pawlowski and Budzinski, or it can also be the result of (more gradually) decreasing marginal utility of uncertainty of outcome. In any case, the main conclusion is the same: reductions in uncertainty of outcome have a serious negative effect on demand once the uncertainty is in the lower ranges.

Nalbantis et al. (2017) conducted an online survey among fans of VfB Stuttgart concerning their intention to go to the stadium to watch one specific match of their club. The survey was accessible for three days, until 15 min before the kick-off. The researchers received 875 completed and quality-corrected questionnaires. The questions concerned the perceived level of suspense, the willingness to pay for the match (WTP), and other issues. A conclusion of the study is the following: “The more the game is perceived suspenseful, the higher the WTP (….) but only until a certain level after which increases in the degree of suspensefulness have no additional impact.” (p. 496).

Pawlowski et al. (2018) sent a questionnaire to football interested individuals recruited from a German-wide representative online panel, to investigate the intention to watch a game live on TV. Their two surveys were accessible in the days prior to two different Bundesliga match days. The total number of completed surveys was 3,029 for the first matchday and 3,303 for the second one. The researchers found that perceived game suspense has a positive impact on the stated intention to watch a game.

However, the researchers also noted that perceived game suspense is different from perceived game uncertainty. Game uncertainty concerns the outcome of a match viewed in isolation. The researchers found that perceived game uncertainty, measured on the basis of the respondents’ subjective estimates of the probability of a home win, is strongly correlated with a more objective measure of game uncertainty that is based on the probability of a home win as derived from bookmakers’ betting odds. Regarding the relation between the intention to watch a game and the probability of a home win, the authors found a U-shaped curve. In other words, stated demand is low when (perceived) game uncertainty is high. From this and other observations the authors conclude that their findings are consistent with the idea that perceived game suspense measures something different than (perceived) game uncertainty and may be related rather to seasonal uncertainty unfold at the level of a certain game.
4.2. Concluding remarks

All stated preference studies confirm the hypothesis that uncertainty of outcome has a positive and considerable effect on demand. Some studies suggest that this positive effect exists especially when the uncertainty is low. For this last finding two alternative possible explanations can be given. First, uncertainty of outcome affects demand only below a certain tipping point. Second, there is (more gradually) decreasing marginal utility of uncertainty of outcome.

Some additional remarks can be made. The conclusion of Pawlowski et al. (2018) that game suspense is not the same as game uncertainty and may be related rather to seasonal uncertainty unfold at the level of a game, suggests that game uncertainty viewed in isolation is not important. At the same time, it suggests that game uncertainty is important. After all, a single match can only add to the seasonal uncertainty if the outcome of the match itself is uncertain to begin with. In other words, there must be at least a small but significant chance that the outcome of the match will differ from the most likely one. This may lend some support to the idea that reducing match uncertainty of outcome to very low levels will decrease match demand. Anyway, if seasonal uncertainty is important, match uncertainty must also be important for all matches that can affect end-of-season results.

For future research, it could be interesting to study the relation between match uncertainty and seasonal uncertainty more precisely. For instance, suppose that, with three matches to go, Arsenal needs eight points for the English title, and its next match is a home match. An interesting question is then which of the following home win probabilities would maximise demand for the next match: a probability of 70, 80, or 90 percent? Finally, Schreyer and Ansari (2022) present an informative scoping review of the stadium attendance demand research. They provide many valuable insights about issues such as the methodologies used, helping the reader to get a broader view.

5. Conclusions

This final section focuses on the question whether the uncertainty of outcome is currently so low as to harm utility and welfare. We start with the empirical studies based on the revealed preferences approach. Here, the results of both older and recent studies are mixed as far as short-term uncertainty of outcome is concerned. However, it has been possible to criticise some of the studies which conclude that short-term uncertainty has no positive effect on utility levels. The criticism has been as follows: a decrease in uncertainty may cause only a (very) small reduction in utility as long as the uncertainty remains reasonably high. Due to the intrinsic difficulties of statistical research, some studies may not have observed this small effect even though it could exist. In addition, all studies that found no effect do (in my view) leave open the possibility that, once the uncertainty of outcome is in lower ranges, further decreases in it will reduce utility (much) more seriously – either because the marginal utility of uncertainty of outcome (gradually) decreases with increasing uncertainty, or because there is a tipping point below which further reductions in uncertainty do reduce demand. In this context, it is relevant that the uncertainty of outcome is presently lower than in the past, while all the empirical studies discussed in this paper are based on data from before 2019 and often far before 2019. This could help explain why some studies concluded that the uncertainty of outcome was not too low; they might have concluded differently if they had used data from around 2023. In addition, one should not forget that the statement above that there are mixed results also implies that quite some studies found evidence of a positive effect of short-term uncertainty of outcome on demand. Overall, it is not implausible that,
either in 2023 or in years soon to come, low short-term uncertainty of outcome will harm welfare to a serious extent in several competitions.

There is much stronger evidence of an effect of season-level uncertainty on attendance, both in the older studies and the more recent ones. Focusing on the recent studies (which provide most of the evidence), 11 of the 13 recent studies conclude that uncertainty about the question whether a team will win one or more specific prizes at the end of the season has a positive effect on demand for either all the investigated prizes or for part of them. The remaining two studies found no positive effect, but this is possibly (partly) the result of weak operationalisation. Apart from these two studies, all the studies conclude that uncertainty in the race for the championship and the race for Champions League qualification stimulates demand. In addition, uncertainty in the race for Europa League qualification may have positive effects, although the results are a bit mixed here. The same holds for the race to avoid relegation. The above implies it can be useful to take measures to improve competitive balance in the top half of the league. However, it is difficult to imagine measures which improve the balance there while not improving it in the lower half of the league too, which means it can be useful to enact measures that improve the balance everywhere in the league – also because it is possible that the race to avoid relegation does stimulate demand.

Finally, I have not seen recent studies about the effects of long-term uncertainty of outcome, while the results of the older studies are mixed (which may be the result of weak operationalisation in some cases).

The stated preferences approach has been used in several relatively recent studies, which were all published after 2009. These studies all conclude that uncertainty of outcome stimulates demand. Quite a few studies also found that, at the time of the surveys (2019 or earlier), the uncertainty of outcome was below the optimum level, or at a critical level at least. In addition, some surveys investigated whether large decreases in uncertainty cause disproportionately larger reductions in utility than small decreases, and the answer was positive.

It is useful to note the following here: If there are no problems with one or two of the three types of uncertainty of outcome, while there is a serious problem with the other type(s), then lack of uncertainty of outcome is a serious problem and policy measures could be useful. This considered, the overall conclusion is that it is highly plausible that the present level of uncertainty of outcome is below the welfare-maximising level in most competitions at least, and any further decreases in uncertainty will significantly reduce welfare. For a discussion of measures that can improve competitive balance, the reader is referred to Beck et al. (2022). The conclusion of the present paper, however, is the following: if there exist good measures to improve competitive balance, they should be taken.

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ORCID
Tsjalle van der Burg http://orcid.org/0000-0002-1965-1247

References


