

Competitive Stakes: Definition and Measurement

Almost everywhere in the world, violence is on the rise in sports stadiums: assaults, racist abuse, throwing of projectiles, vandalism... are all too common¹. Why? Because of the economic and symbolic stakes now associated with professional sport, many observers argue loudly and clearly². The stakes have become the enemy of the game. Far be it from us to condone the excesses mentioned above, quite the contrary. However, in our view, the stakes involved in sporting contests are not the enemy of the game. In fact, they have always been one of their essential ingredients. It is therefore necessary to take this into account if we are to fully understand the interest shown by (television) viewers in sporting contests. According to sports economists, public interest can be measured by looking at television audiences and attendance figures at sports venues (Artero et al, 2019). It is determined by a wide range of variables (Andreff, 2025). In sport, the moment the final whistle blows, the (technical) actions that contributed to the spectacle are transformed into a result. Once this result is known, it becomes possible to look back at the basic elements of the match. This retrospective analysis is largely shaped by the consequences associated with the result achieved. Ah, if only the referee hadn't (unfairly...) awarded that penalty, the course of events would surely have been quite different, is a comment often heard around football fields! Although the stakes involved in sport are the source of numerous abuses, they also contribute to the economic value of sporting contests. However, the stakes are not determined solely by future factors. The history and context of the match also influence its significance. Like Andreff (2012), we therefore believe it is important to define the concept of the stakes in sporting matches more precisely and then to attempt to provide an estimate based on its multiple dimensions. To this end, we will proceed in four stages. After assessing the role of the stakes in analyzing the determinants of interest in sporting contests (1), we will consider how exactly to define and measure them (2) and propose a 'table of competitive stakes' (3), which we will use to assess the level of sporting stakes in twenty matches (4).

Literature Review

Two Specific Concepts: Competitive and intensity balance

The question of what makes people interested in sporting competitions has long been of interest to sports economists. Generally speaking, they accept the following premise:

¹According to a report by the National Division for Combating Hooliganism (NDCH), in France during the 2024–2025 season, 910 people were arrested in connection with football matches, representing a 26.7% increase compared with the 2023–2024 season. 83 professional football matches saw significant incidents. <https://www.vie-publique.fr/en-bref/301967-hooliganisme-dans-le-football-le-bilan-du-ministere-de-linterieur>

²<https://www.lemonde.fr/blog/latta/2013/06/03/le-jeu-lenjeu-le-spectacle/>

Historically, the foundations of this line of reasoning were first laid by Rottenberg. In his pioneering article (1956), he emphasized the first stage of engagement ((1) in our diagram above), which he linked to attendance figures at sports venues. A few years later (1964), Neale emphasized the second stage of involvement ((2) in our previous diagram): the more uncertain a competition is, the greater the spectators' interest and therefore the higher the league's revenue (Andreff, 2012, 2025). Two important consequences for the economics of sport follow from this perspective:

- This concept distinguishes sporting events from other live performances where the notion of uncertainty regarding the outcome is irrelevant. In addition to the various statistical measures already mentioned (Groot, 2008; Evans, 2014; Doria et Nalebuff, 2021), one reason for its success lies in the analytical possibilities it offers. To name but a few³: what are the effects (effectiveness) of the various existing regulatory instruments on their development? (Késenne, 2000; Fort et Maxcy, 2003; Plumley et al., 2019; Avila-Cano et Triguero-Ruiz, 2023). To what extent does the design of competitions affect it? (Szymanski, 2003, 2012; Owen et King, 2015) What is its influence on viewership? (Forrest, Simmons et Buraimo, 2005; Di Domizio, 2010; Rodríguez-Gutiérrez et Fernández-Blanco, 2017) On stadium attendance? (Schmidt et Berri, 2001; Coates et Humphreys, 2010; Sung et al., 2020; Mangelaja et Szeróvay, 2024)

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How can recruitment be optimized to maintain it? (Flores, Forrest and Tena, 2010; Meletakos et al., 2016). In Europe, what is its relationship with the financial health of clubs? (Andreff, 2009; Carreras et Garcia, 2018)... However, six main criticisms have been levelled at it (Bouvet, 2020), one of which is that it completely disregards the concept of stakes. Clearly, interest in sporting events also depends on other factors. It is this observation, moreover, that has led other authors to introduce into the literature the concepts of perceived competitive balance (Pawlowski et Budzinski, 2013) and, above all, competitive intensity (Kringstad et Gerrard, 2004).

Kringstad and Gerrard's aim is to move beyond the concept of competitive balance by placing specific emphasis on another element that underpins interest in sporting events: the stakes. Schematically, the first proposed definition of competitive intensity takes the following form:

$$\text{Competitive intensity 1} = \text{competitive balance} + \text{stakes}$$

Although it is central to this definition, the concept of 'stakes' is, paradoxically, not really defined by these two authors. Most often, they are equated with the significant consequences of an outcome: qualification, overall victory, relegation... According to Scelles and Durand (2010), taking sporting stakes into account is not sufficient to perfectly define competitive intensity. They propose adding the concept of twists. A second definition of competitive intensity can then be formulated as follows:

$$\text{Competitive intensity 2} = \text{competitive balance} + \text{stakes} + \text{twists}$$

Consequently, competitive intensity can be estimated for a single match, in which case it is referred to as in-match competitive intensity (Scelles et al., 2011; Scelles, 2021), or for a competition, in which case it is referred to as in-tournament competitive intensity (Scelles et al., 2013; Wagner et al., 2022). Intra-match competitive intensity comprises two main components.

Uncertainty, measured by the percentage of playing time during which the score could change at the next score update,

- fluctuations in the score during the match, assessed in terms of the potential consequences of a goal being scored (Scelles et Durand, *Ibid.*, p. 43).

Following a similar logic, intra-league competitive intensity comprises:

- intra-league uncertainty, calculated by summing the percentages of teams likely to experience a change in their league position in strategic

places⁴ over the next two matchdays at the times considered relevant, divided by 8,

- intra-league fluctuations, calculated by summing the number of changes in team positions in the standings in strategic places, divided by the number of matchdays minus one (Scelles et Durand, 2012, p. 43).

In this second model of competitive intensity, the concept of stakes is not introduced explicitly but indirectly through the potential for the score (or ranking) to change and the frequency with which the score (or ranking) changes.

The commitment of those promoting the concept of competitive intensity is to be commended. One of the key benefits of this concept is that it leads to recommendations aimed at optimizing the format of competitions (Scelles et Durand, 2010 and 2012). Furthermore, several measures of the concept can be proposed (Wagner et al., 2020; Andreff et Scelles, 2021; Guironnet, 2023). This proposal, however, calls for several comments. It is largely based on the concept of twists, which is appealing but defined in a debatable manner. Furthermore, whilst this notion can easily be applied to team sports, it is more difficult to use it to analyse individual matches and/or competitions (Cabau et al., 2016). Moreover, as Durand and Scelles acknowledge⁵, the consideration of the notion of stakes is indirect and centered on the course of matches or competitions.

The concepts of balance and competitive intensity have been the subject of extensive research in sports economics (Andreff, 2025). However, they do not fully account for the interest in sporting competitions: five other factors relating to the conduct of the match can (and must) be considered⁶.

Other factors relating to the match: the presence of star players on the field, the level (quality) of the players, the atmosphere of the match, the nature of the experience and what is at stake

Since the pioneering work of Rosen (1981) and Adler (2006), numerous studies in the English-speaking world have examined the ‘superstar effect’. This term refers to the impact that the presence of star players has on others in sporting competitions (and can therefore be regarded as an externality). The research focuses on effects in three areas: the performance of other competitors (Babington et al., 2020; Meisner and al., 2021), the overall remuneration levels of teams, primarily in football (Lucifora et Simmons, 2003; Kuethe et Motamed, 2010) and/or their marketing impact (Hoeghele et al., 2014; Pifer et al., 2015) and, the area of greatest interest to us here, on the appeal to fans, both in stadiums and in front of screens.

As regards the influence of star players on fan attendance at matches, following the early work of Brandes et al. (2008), Ormiston (2014), Jane (2016); Sung et Mills (2018) show, for example, that the MLS relies heavily on the

⁴Strategic positions correspond to the various stages of the league table, distinguishing between distinctive strategic positions – positions that have a specific outcome, such as victory, qualification or relegation – and non-distinctive strategic positions.

⁵“The model does not explicitly refer to sporting stakes”, 2010, p. 43.

⁶More generally, spectator preferences, their socio-economic profiles, their income, the size of the market, the cost of attending sporting events, certain situational factors, violence, and the economic and health climate may also be taken into account.

presence of superstars via the designated player rule to ensure the continuity of its development. According to Chmait et al. (2020), the presence of superstars has a significant influence on ticket sales at the Australian Open. Stephenson's (2024) paper highlights that not all stars elicit the same behavior; for example, the star effect is greater for Alex Morgan and Abby Wambach compared to that of Sam Kerr and Carli Lloyd in the National Women's Soccer League. As for the influence on audiences, here too, following the pioneering article by Hausman et Leonard (1997), Berri et Schmidt (2006) confirm Hausman et Leonard's findings for the NBA. Humphreys et Johnson (2020) show that stars play a key role in the fan identification process in Germany. According to Grimshaw et Larson (2021), the appeal of stars depends on two main factors: their geographical proximity to fans and their level (quality) of play.

Although one of the qualities traditionally attributed to star players is that they are 'decisive' – in other words, particularly effective in high-stakes matches – to the best of our knowledge, no specific research has been conducted on this topic. It could therefore provide an interesting avenue for future research.

Except for the studies by Buraimo et al. (2006), Buraimo et Simmons (2009), Madden (2012), and Saá Guerra (2012), which focus broadly on the quality of sporting competitions, few studies in sports economics have examined the standard of play among professional athletes. However, in the run-up to matches, the standard of performance achieved by competitors is one of the factors that contributes to the interest shown by (television) viewers in sporting events, according to the following causal sequence:

percentage of successful actions (+ sustained success) $\implies$ high technical standard $\implies$ interest in the show

According to Bouvet (2020), the 'exceptional' nature of the performances delivered by professional players must therefore be considered. From this perspective, "competitive exceptionality" can be defined as the difference in standard that characterizes one competition relative to another taken as a benchmark (absolute exceptionality) or specific to that competition (relative exceptionality). Based on interviews with regional and national coaches in football, tennis and golf, this author proposes the following indicator:

$$CE_{xp} = \sum_{J=1}^X \sum_{a=1}^n [(PSA_{pro} - PSA_{ama}) + (\overline{DSA_{End}} - DSA_{Beginning})]$$

where:

- a: number of selected actions
- CE_{xp} : the competitive exceptionality indicator,
- J: The number of players making teams. Equal to 2 for individual sports,
- PSA_{pro} : the percentage of successful selected actions, i.e. successful technical gestures (passes, shots, stops ...) by the professional players,

- 1 - PSA_{ama} : the average percentage of comparable actions that amateur
- 2 players achieved,
- 3 - DSA_{End} : the difference between the percentages (average) of the
- 4 successful actions at the end of the game by the professional players and
- 5 the amateur players,
- 6 - $DSA_{Beginning}$: the difference between the percentages (average) of the
- 7 successful actions at the beginning of the game by the professional
- 8 players and the amateur players.

9
10 This indicator can be applied to a match, a specific competition (tournament)
11 or a sporting season (championship). This indicator focuses on the technical
12 quality of the actions performed, regardless of the context of the match, and
13 therefore logically does not take into account the stakes involved.

14 The ‘superstar effect’ and competitive exceptionality are factors specific to
15 on-pitch performance. The other three factors are external.

16 Building on the work of Mehrabian et Russell (1974), Uhrich et
17 Koenigstorfer (2009) analyze how atmosphere is created in stadiums and the
18 implications this has for stakeholders. Uhrich et Benkenstein (2010) propose a
19 theoretical definition of the concept of atmosphere and then construct a model
20 to attempt to measure it. They ultimately conclude that it is a significant source
21 of pleasure and excitement for fans. Chen et al. (2013) develop a ‘atmosphere
22 scale’ for stadiums: this encourages fans to attend matches.

23 Atmosphere is one of the key factors in what is now commonly referred to
24 as customer experience. The customer experience in stadiums and sports venues
25 has been a central area of research in sports marketing since the seminal work of
26 Wakefield, Blodgett et Sloan (1996), who introduced the concept of the
27 ‘sportscape’. The sportscape refers to all the built elements of the stadium
28 environment, such as accessibility, the aesthetics of the facilities, the quality of
29 the scoreboard, the comfort of the seats and ease of movement (Dobson et
30 Goddard, 1992). These dimensions have a significant effect on the enjoyment
31 experienced by spectators, their desire to stay and their intention to return.
32 Beyond this functional approach, subsequent research has highlighted the
33 sensory and social dimensions of the experience: the sensoryscape, social
34 interactions and the sense of belonging each have a direct positive impact on fan
35 satisfaction. Perceived service quality also plays a key role (Yoshida et James,
36 2010). More recently, the digitalization of stadiums has added a new dimension
37 to this issue: perceptions of smart applications, personalized design, digital
38 development and technological convergence significantly influence spectators’
39 flow experience (Biscaia, 2024; Zhang et al., 2025), again without considering
40 the competitive aspect.

41 The other external factor is the stakes involved in sporting competitions,
42 referred to in this paper as ‘competitive stakes’. We propose to define and
43 measure this in the following sections.

Research Question: How Can the Stakes Involved in Sporting Competitions Be Defined and Measured?

Early Research

In its broadest sense, the stakes can be defined as what is at gain in any undertaking. In the sporting arena, the stakes are therefore closely linked to the outcomes of matches. This is a central concept. Paradoxically, it has received little attention in the specialist literature⁷. There are undoubtedly two reasons for this.

- the stakes in sport are less significant in closed leagues than in open leagues (risk of relegation) or in certain individual sports (risk of elimination),
- being of a more qualitative nature, this concept proves more difficult to express mathematically.

It is, however, undeniably a factor that influences the interest that (television) viewers may take in sporting events. More specifically, three categories of spectators can be identified:

- those who attend all the matches, at least the home games, of the team they support: the ‘fans’. They usually hold a season ticket and are very attached to the club. For them, the stakes of the match are an element that adds extra interest to the games,
- in contrast, others attend matches based on personal criteria (availability, ticket prices, weather, safety conditions, etc.). For them, the stakes are just one factor among many that influence their decision,
- those who mainly wish to attend the ‘big games’. For them, the stakes are essential, as they are precisely one of the determining factors.

For television viewers, the stakes are not a simple binary choice: with or without. They are a matter of degree. Except for so-called ‘friendly’ matches⁸, all matches have stakes; it is the LEVEL of those stakes that may vary. The indicators proposed to date (Jennet 1984; Borland, 1987; Cairns, 1987) have focused on the number of remaining fixtures allowing the clubs concerned to win the title. In our view, this type of approach raises at least two questions:

- is the stakes of a confrontation solely defined by future events?
- When there is no risk of exclusion from the competition (relegation, loss of eligibility to play), is it not nevertheless essential to win?

⁷“Some twenty years ago, a number of studies paved the way for an analysis of the stakes in sport and defined indicators of the stakes in matches, but this line of research was subsequently abandoned.” (Andreff, 2012, p. 324).

⁸And even then... That’s open to debate.

These two questions alone make it clear: the concept of sporting stakes needs to be clarified.

Three Determining Factors

There is a reciprocal relationship between competitors' desire to win, and the stakes involved in the competition. When multiple consequences are linked to on-field performance, the desire to win is strong. Conversely, the stronger the desire to triumph, the greater the perceived stakes. The question that arises is therefore: what factors drive competitors to want to 'win at all costs'? Some are objective and easily discernible: the stage of the competition, associated rewards, the risk of elimination... Others are more subjective and closely linked to the perception of the symbolic attributes associated with the result: revenge, exceptional nature, international dimension... The latter may have historical origins and are correlated with the prestige of the competitions.

The history of the rivalry

In individual sports, for example when players face each other on numerous occasions, but particularly in team sports where clubs founded many years ago compete against one another, past events can contribute to increasing the importance attached to the result by the players and the club's support network. These past events may be incidents that occurred during previous matches – such as refereeing errors, fights, or a significant points gap – or may be linked to cultural rivalries inherent in the history of the clubs or players. This is particularly true of derbies.

Although in France matches between neighboring clubs - such as Lyon and Saint-Étienne in football, for example - are often referred to as 'derbies', in its original sense a derby is a match between two teams from the same city (Bromberger et Marriottini, 1994). Beyond the struggle for regional supremacy and thus the legitimacy of local roots, these rivalries often reflect major divisions within the urban population. These antagonisms may have religious origins (Celtic and Rangers in Scotland), political origins (FC Barcelona and Espanyol de Barcelona in Spain) or social origins (Juventus and Torino in Italy). They lend an extra dimension to the contest and thus to its outcome. The interest generated by the symbolic stakes associated with derbies has not escaped the attention of the media and sports event organizers. The problem is that such derbies are few and far between and depend on the presence in the topflight of two neighboring or nearby clubs. There was therefore a strong temptation to develop other 'historic' rivalries based on a seemingly similar logic. Thus the 'Classico' was born. Originally, this term referred to the match that has for many years featured Real Madrid and FC Barcelona. In recent years, the term has also been used for matches between leading clubs in other leagues (OM/PSG in French football).

However, we must not be under any illusion. Unlike derbies, the aim here is to create an added sense of stakes by capitalizing on long-standing rivalries that have been amplified for economic reasons.

Whether based on deep-rooted historical antagonisms or more recent media coverage, these matches define a first category of matches or the history of the rivalry, because it is so significant that it is synonymous with added stakes. In the same vein, two other groups of matches can be distinguished. The first comprises those where one or more past events of a more factual nature, influence the perception of their importance. Examples include: the transfer of a player between the two clubs facing each other, a refereeing error in a recent match between the two clubs, the need to overturn a heavy defeat in a first-leg match⁹ - which would be a resounding feat - a recent elimination from another competition, 'excesses' by 'enemy' supporters, ill-intentioned statements by opposing officials... As these events are more isolated, they have a less decisive influence on the perception of the players and their entourage than deeper-seated rivalries¹⁰. They must be assessed on a case-by-case basis and require an examination of the 'match history', which sports commentators are, fortunately, very fond of.

Finally, a third category of matches comprises those between teams for which no particular historical event is worth noting.

The past can influence the stakes involved in sporting matches. The same applies to the context in which they take place.

The prestige of the match

Historically, prestige was an illusion created by witchcraft or magic. Over time, the meaning of the term has evolved somewhat. For individuals, it now refers to the ability to make a strong impression, command respect and/or possess natural authority. In the context of a sporting competition, it corresponds to the 'appeal' that can captivate and attract potential spectators and viewers. Appeal and stakes are linked. The more a contest is likely to arouse the interest of observers, the more its outcome will be eagerly anticipated and thus a source of excitement. The prestige of a sporting contest can stem from several factors: its exceptional nature, its degree of international significance, its rarity, and/or its context, particularly its geographical setting.

In light of these observations, we believe it is necessary to distinguish between three categories of sporting competitions:

- National competitions and, by extension, those that are not (i.e. purely regional, country or local),
- international competitions held annually,
- 'rare' international competitions, in the sense that they are scheduled less frequently.

Matches taking place as part of national championships or cups belong to the first category. Annual international events (Grand Slam tournaments, European cup finals, the Super Bowl final, etc.) constitute the second category.

⁹A situation now often referred to as a '*remontada*' following FC Barcelona's 6–1 victory in the second leg of their Champions League quarter-final against PSG in 2017.

¹⁰In some team sports, given the increasing number of transfers, this may need to be nuanced.

The third category includes competitions such as the FIFA World Cup, the Rugby World Cup, the Olympic Games, the Ryder Cup, solo round-the-world yacht races, etc. This classification is based on the following three observations:

- Competitions in the first category often serve as qualifiers for those in the other two categories,
- as a result, they bring together the best specialists in the discipline, and,
- are therefore characterized by extremely strong competition.

The consequences of the observed result define the third group of determinants - which, incidentally, is usually the first to spring to mind - of the competitive stakes. At first glance, there is a strong correlation between these consequences and the prestige of the competitions. For certain aspects - such as the prize money awarded in the final of an international competition being higher than that awarded following a national competition - this is undoubtedly the case. Nevertheless, in other competitions such as the Ryder Cup, this is not the case, as the players representing Europe and the United States derive no immediate sporting benefit and are not (or only very minimally, compared to other competitions) remunerated for their participation.

The consequences of the result of the confrontation

In sport, results indicate what has been won or lost in a ‘specific endeavor’: the match or the competition. Regardless of the context in which they take place, the stakes of such confrontations are therefore directly proportional to the implications of the observed result. Three consequences, ranked in order of increasing significance, must be distinguished: continuing or remaining in the competition, automatic and/or indirect economic consequences, and (sporting) consequences limited to the result of the contest. The first type of consequence carries the highest stakes, since in the event of defeat, the loser is eliminated from the competition or barred from participating in future events. In team sports, this is the case in ‘cups’ where only the winner earns the right to continue in the competition or is awarded the title. In golf, the “Q-School” is the archetype of a competition where the stakes reach their peak due to the resulting consequences: at the end of a multi-day tournament, a player may be granted the right to gain entry to (or retain their place on) the DP World Tour, the third most lucrative golf circuit in the world, depending on whether they sink or miss a putt!

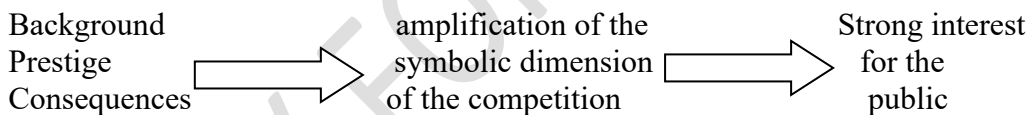
Fortunately for professional athletes, not all matches have such dramatic consequences. Even if they do not definitively determine the future of the team or the player, certain results do have direct financial implications. Examples include: the revenue associated with victories and, conversely, the opportunity cost (lost revenue) associated with certain defeats; the amount of TV rights fees paid to clubs; progress in the league table, which means qualification for other prestigious competitions; changes in subsidies... Other consequences are more indirect and less automatic. These may include a change in strategy, the dismissal of certain employees, transfers, retirements, the renegotiation of partnership agreements, a decline in spectator numbers, or a reduction in the

costs covered by organizers... Other matches have more limited consequences, which boil down to the result of the match.

According to these factors, the matches in which there is no chance of a 'comeback' are those where the stakes are highest. From this perspective, the stakes rise as the competition draws to a close (knockout stages and/or end of the season) and depend on the competition format, with 'knockout' competitions tending to increase them. Taking the two extremes, there is more at stake in a final than in a group stage match between two teams that have already been eliminated... Consequently, it might be tempting to consider a widespread adoption of knockout competitions, an option that is difficult to envisage, particularly due to the loss of revenue for certain stakeholders¹¹.

Whether a team remains in or is eliminated from the competition because of the outcome is a clear-cut distinguishing criterion. The extent to which the economic consequences are automatic is open to debate. However, given the wealth of information surrounding sporting matches today, combined with the other criteria mentioned above, we believe these are sufficient to:

- propose the following definition of competitive stakes: *the competitive stakes of a sporting contest correspond to the totality of real (sporting and/or economic) and symbolic (perceived) consequences following its result in a given context,*
- outline the influence of stakes on the potential appeal of sporting contests as follows:



- to consider developing a table of competitive issues in sporting competitions.

Methodology: Developing a Table of Competitive Stakes

Principles of Construction

The conceptual framework adopted for constructing a table of competitive stakes is the one used to draw up numerous 'tables' in economics and sociology: aggregate economic tables, input-output tables, use-of-resources tables, mobility tables, etc. The general principle of construction involves determining what should appear in the columns and rows and then 'cross-referencing' the information.

In economic theory, the uncertain consequences - particularly when negative - of any action are associated with the concept of risk. This is most often

¹¹Looking at how the format of many competitions has evolved suggests the opposite is true

defined as a danger, a probable disadvantage to which an individual may be exposed¹². Frequently, a distinction is made between financial risks - the risks of losing money because of a financial transaction -and economic risks - the risks associated with the operations of businesses and organizations (Beucher et al., 2004; Longaretti, 2020). To assess them, probability calculations are often used. This results in a contrast between a probabilistic future, in which future events can be anticipated, and a non-probabilistic future, where the probabilistic relationship between future events is entirely unknown (Passaga et Salin, 2021).

In the world of sport, the dichotomy between the possible consequences of a result - and thus the potential risks - is largely based on their automatic nature, with certain defeats automatically leading to a loss of revenue, and on the likelihood of their occurrence, as a particularly heavy defeat could lead to the sacking of the manager, for example. As regards the future dimension of sporting stakes, beyond the case of exclusion from the competition, it therefore seems important to us to distinguish between cases where there are certain (direct) and/or possible (indirect) economic consequences and cases where the consequences are limited to the result of the match.

On this basis, the stakes of a sporting contest are therefore jointly determined by past, present and future factors of varying significance. As shown in Table 1, seven possibilities and three typical situations arise from this: the simultaneous existence of future, present and past stakes; only past and present stakes, or past and future stakes, or present and future stakes; or exclusively past, present or future stakes.

Table 1. *The various possible scenarios depending on the source of the stake*

Situation	Past	Present	Future	Possibilities
1				a
2				b
2				c
2				d
3				e
3				f
3				g

On this basis, assuming that:

- H1: the overall significance increases when several types of issues (past, present, future) exist simultaneously,
- H2: the significance is at its highest when past, present and future elements are combined,
- H3: future stakes take precedence over present stakes, which in turn take precedence over past stakes,

it is possible to distinguish the seven possibilities listed in Table 1 in descending order according to the letter that characterizes them. Thus:

¹²Source: Larousse Dictionary

- according to H2, a is a match where the overall stakes are at their highest since past, present and future stakes are combined,
- according to H3, b is a confrontation where the stakes are higher than c and d because present and future stakes take precedence over past stakes,
- according to H3, c is a confrontation where the stakes are higher than d because future and past stakes take precedence over present stakes,
- According to H1 and H3, e is characterized by greater stakes than f, which itself is characterized by greater stakes than g.

Therefore:

- if we apply the corresponding weighting factor: *1 for g, *2 for f, *3 for e, *4 for d, *5 for c, *6 for b, *7 for a,
- and if we weight the three levels of stakes - past, present and future - with coefficients 1, 2 and 3 respectively, according to their nature: absent, factual, significant; national, international, rare international, sporting consequences, sporting and economic consequences (possible or certain), remaining in the competition or victory, it is possible to propose the following table of competitive stakes.

The table of competitive stakes

Table 2. Table of Competitive Stakes

Stakes Possibilities	Past			Present			Future		
	1	2	3	1	2	3	1	2	3
a (27)	7	14	21	7	14	21	7	14	21
b (9)				6	12	18	6	12	18
c (9)	5	10	15				5	10	15
d (9)	4	8	12	4	8	12			
e (3)							3b	6b	9
f (3)				2b	4	6a			
g (3)	1	2a	3a						

In this table:

- for the past: 1 denotes a match between two teams (players) who have already met, for which there is no specific history; 2 denotes a factual history; and 3 denotes a significant history (derby or classico). For the present: 1 denotes a domestic fixture, 2 an annual international competition, and 3 an international competition that takes place less frequently. For the future: 1 denotes competition where the consequences are purely sporting, 2 where the consequences are both sporting and economic, and 3 where the result leads to either elimination from the competition or victory.
- The figures shown correspond to 'competitive stakes points'. For situations e, f and g, they are not additive and correspond to nine standard

situations presented below. Above the double line, the competitive stakes points associated with the various situations can be added together to calculate the competitive stakes of the match in question.

- For b, c and d, 9 possibilities are conceivable; for a, 27. For example, a World Cup final between two long-standing rivals would be expected to reach the maximum level of competitive stakes of 63 points¹³.
- Below the double line, the figures directly express the overall level of stakes, as only a single determinant of the stakes is present.

Different possibilities and combinations can lead to the same level of competitive stakes. Table 3 below provides an initial general overview of the nine distinct possibilities.

Table 3. *Characteristics of the various matches highlighted*

Options	Characteristics
a	'Important' match
b	First time encounter
c	Regional encounter
d	Friendly match
e	First regional encounter
f	First friendly match
g	Regional friendly match

Based on these two tables, the levels of competitive stakes associated with the nine typical situations listed in the lower part of Table 3 are as follows:

- 1: a regional friendly match between teams with no particular historical rivalry,
- 2a: regional friendly match between two teams with a certain history of rivalry,
- 2b: first friendly encounter at national level,
- 3a: regional friendly match between two teams with a strong historical rivalry,
- 3b: first regional encounter with limited consequences,
- 4: first international friendly match,
- 6a: first international friendly match in a non-annual competition,
- 6b: first regional match with direct and indirect consequences,
- 9: first regional match in a knockout competition.

More generally, this table allows a level of competitive stakes to be assigned to any sporting competition.

¹³The 1974 World Cup final is a case in point.

Results: Using the Competitive Stakes Table

Principles of use and examples

The competitive stakes table presented above can be easily used *ex-ante* or *ex post*. In other words, it allows us to estimate the level of competitive stakes in past matches (see below) but also to predict the level of competitive stakes in a future match where the line-up is known. Such a prediction, as summarized in Table 4, is of definite interest to many stakeholders in professional sport.

Table 4. *The benefits of estimating the level of stakes of a sporting competition for six actors in the world of sport*

Sports business actors	Interest linked to high-stakes situations
Event organisers	Increased appeal and a source of positive externalities should national athletes succeed
Professional sports clubs	‘Showcases’ enabling them to promote their young talents
Athletes	An opportunity to increase their profile and/or reputation and thus, indirectly, their value
Broadcasters	A factor likely to influence (TV) audience
Sponsors	Enhancement of their brand or product thanks to attendance figures and audience ratings
Sports bettors	Depending on the odds, the hope of high winnings

To demonstrate the potential applications of this table, we have chosen to examine twenty sporting competitions that took place on 31 March 2024 at regional (Burgundy), national (France), continental (Europe) and international (world) levels. This choice is not entirely random. The day chosen is Sunday, a weekend day on which many competitions traditionally take place. The month is one in which there are national league matches in almost all sports and in which there are numerous international competitions. For the regional matches, our ‘selection’ was dictated by the possibility of obtaining, through reading the regional press, all the necessary information to use the table of competitive stakes. The results of the national, continental and world competitions were obtained by consulting specialist sports news websites. For comparison purposes, these matches have been included in the same table.

1 **Table 5.** *Estimated level of competitive stakes in twenty sporting rivalries*

Geographical area	Sports	Competitions ¹⁴	Matches	Stake level
Burgundy Franch-Compté	Volleyball	National League 2	Sennecey / Besançon	14 + 7 + 7 = 28
	Football	U 18 - D2 - GA	TMF / Bois du Verne	5 + 5 = 10
	Basketball	Women's Pre-National League	Chalon BC / Elan Chalon	15 + 5 = 20
	Football	Regional League 3 Group B	Le Breuil / Decize B	5 + 5 = 10
	Tennis	Friendly match	Gueugnon / Dijon	2
France	Football	French Championship	OM / PSG	21 + 7 + 7 = 35
	Rugby	French Championship	Bayonne / Toulon	7 + 14 + 7 = 28
	Basketball	French Championship	Paris / Nanterre	14 + 7 + 7 = 28
	Football	Women's French Championship	Paris / Dijon	7 + 7 + 7 = 21
	Volleyball	Men's Elite	Arles / Chalon	7 + 7 + 7 = 21
	Football	English Championship	Manchester City / Arsenal	14 + 7 + 7 = 28
	Ice Hockey	Swiss Championship	Lausanne / Davos	7 + 7 + 7 = 21
Europe	Handball	German Championship	Lemgo / Kiel	7 + 7 + 7 = 21
	Badminton	Spanish Masters	Final Kean Yew / Junior Popov	7 + 14 + 21 = 42
	Judo	Antalya Grand Slam	Heavyweight final + 100 kilos Riner / Sato	7 + 14 + 21 = 42
	Tennis	Miami tournament	Final Dimitrov / Sinner	7 + 14 + 21 = 42
	Basketball	NBA Regular season	San Antonio / Golden State	7 + 7 + 7 = 21

¹⁴Unless otherwise stated, these are men's competitions.

World	Baseball	MLB	Seattle Mariners /	14 + 7
		Regular season	Boston Red Sox	+ 7 =
				28
	Table Tennis	WTT	Final	7 + 14
		Champions	Calderano / Liang	+ 21
		Incheon		= 42
	Boxing	WBA Belt		7 + 14
		Light	Goulamirian / Ramirez	+ 21
		Heavyweight		= 42

Referring to the first row of Table 2 (since the three factors influencing the stakes are all present for this match), the level of stakes in the ‘classico’ between Olympique de Marseille (OM) - Paris Saint-Germain (PSG) is 35 because:

- there is a fierce rivalry between these two clubs, which have historically dominated French football (21),
- this is a domestic competition (7),
- with limited stakes, given that PSG are well clear at the top of the league and there are still eight league matches remaining (7).
- Furthermore, it should be noted that,
- as might be expected, the stakes levels obtained for regional competitions are lower than for national or international competitions,
- the stakes level for a regular league match where there is no particular rivalry between the teams is 21,
- the stakes level for a final where there is no particular rivalry between the teams is 42,
- the stakes levels obtained for this date range from 2 to 42 (average 26.5),
- only one specific economic outcome can be associated with the selected matches, which is most certainly due to the observation date¹⁵,
- gender and age do not influence the calculated stakes levels.

Discussion and limitations

This analysis serves two purposes:

- to fill a gap in sports economics by proposing a definition of the stakes involved in sporting competitions, referred to as ‘competitive stakes’ to reflect the concepts of balance and competitive intensity,
- to enable the competitive stakes to be estimated in a straightforward manner.

The advantage of the proposed definition is that it does not link the stakes of sporting matches exclusively to future events, which we feel is too narrow a view. However, unlike the approach developed within the framework of the concept of competitive intensity, it does not take into account certain in-game

¹⁵The Aviron Bayonnais vs Toulon match was moved to San Sebastián. Bayonne’s heavy defeat could call this type of relocation into question.

developments (such as unexpected twists) that may occur during matches. This is a deliberate choice, as we believe it is essential to distinguish between the factors that contribute to the interest shown by television viewers in sporting matches before, during and after the event, in relation to its context. Nor is the stage of the competition a factor directly taken into account. Indirectly, however, it is present in our distinction regarding the greater or lesser significance of the result, as the final stages most often involve direct elimination.

Three main limitations must nonetheless be mentioned:

1. With the exception of derbies, whose definition is precise — even if this term is now used extensively — it is necessary to have a thorough knowledge of the sport being observed in order to determine the "weight of the past" in the historical dimension of the stake.
2. Difficulties may arise in assessing the importance of the economic consequences of certain matches.
3. Although, by relying on the present and future determinants of the stake, it allows for an approximation to be provided (second row of the table, b) — since in this case taking historical elements into account is not possible — the proposed table does not allow for the estimation of the stake in competitions where several competitors face each other simultaneously (cycling races, motor races, athletics events...).

Furthermore, the assumptions regarding the historical hierarchy of stakes and multiplying factors must be accepted.

Despite these limitations, the proposed table makes it possible to quickly characterise the level of stakes of any match in both individual and team sports — information which, as we have seen, is crucial for many analysts and stakeholders in the sports business.

Conclusion

The notion of stakes is, in a sense, the poor relation of professional sports economics. There is little research on this topic. Studies related to competitive intensity are those that address it most, yet the consideration of stakes remains indirect in such cases. This is why we believe it is worthwhile to go further. Past, present and future elements all influence the level of stakes in sporting confrontations. Across these three dimensions - historical background, the prestige of the confrontation, and the consequences of the result - by distinguishing the elements that impact the stakes of sporting confrontations to a greater or lesser extent, and then assigning them a logical weighting, it is possible to construct a table of sporting stakes. Provided one has access to certain information - today easily obtained by browsing the specialist press - it then becomes possible to determine the level of stakes of any given "match".

Competitive balance does not explain everything! A confrontation between two low-ranked opponents of equal standing will attract less interest from (tele)viewers than a more unbalanced encounter between high-level players or

teams. Likewise, all else being equal, a derby, a final, or an international match generally generates¹⁶ more interest than a friendly match.

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¹⁶Even more so if several of these conditions are met simultaneously!

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