South African Journal for Research in Sport, Physical Education and Recreation, 2009, 31(1):95-113.
Suid-Afrikaanse Tydskrif vir Navorsing in Sport, Liggaamlike Opvoedkunde en Ontspanning, 2009, 31(1):95-113.
ISSN: 0379-9069

AN APPLICATION OF ATTRACTIVENESS MEASURES TO EVALUATE THE OPTIMAL STRUCTURE OF CURRIE CUP RUGBY

Krige SIEBRITS & Johan FOURIE
Department of Economics, Stellenbosch University, Stellenbosch, Republic of South Africa

ABSTRACT

Recent remarks in the media suggest that the Currie Cup competition, the premier rugby union competition in South Africa, is in need of a revamp. This paper uses new measures of the attractiveness of rugby union matches to argue that the Currie Cup has become one of the less attractive competitions in the rugby-playing world and that the participation of weak teams has contributed significantly to this tendency. Against this background, the paper discusses two proposals for restructuring the competition to restore its attractiveness: a competition with only the five teams that have historically dominated Currie Cup rugby, and a competition with this five and one additional team. It is found that that the five-team structure should yield the most attractive outcomes, but a six-team competition also would be relatively more attractive than most rugby union competitions and would be more likely to be acceptable to key decision makers in South African rugby.

Key words: Economics of sport leagues; Match attractiveness; Rugby union; Currie Cup.

INTRODUCTION

The Currie Cup has a venerable history, having been the premier prize in South African domestic rugby since 1892 (History of the Absa Currie Cup, 2008). Public interest in Currie Cup rugby peaked during the years of South Africa's isolation from international sporting competition, but the status of the competition has declined after the country's return to test-match rugby in 1992 and the launching in 1993 of the Super 10 competition involving the best players from South Africa, Australia and New Zealand.[1] The Currie Cup competition now takes place in the second half of the crowded South African rugby season. It follows the Super 14 and is sandwiched between mid-season internationals (tours from northern hemisphere countries and the Tri-Nations competition involving the national teams of Australia, New Zealand and South Africa) and end-of-season tours to Europe. International commitments and injuries sustained during the first half of the season have increasingly prevented current members of the national team (the Springboks) and other top players from regularly playing Currie Cup rugby. Particularly poor attendances at Currie Cup matches in 2006 and 2007 strengthened the perception that the competition is in decline and prompted Dr. Steve Booysen, the outgoing chief executive of Absa (the financial services group that currently sponsors Currie Cup rugby), to call for the restructuring of South African domestic rugby (Sponsors unhappy with Currie Cup, 2007). Addressing the rugby union fraternity at the Player of the Year awards function on 7 November 2007, Dr. Booysen suggested that the

[1] The expansion of the competition to 12 and later 14 teams saw it renamed Super 12 in 1996 and Super 14 in 2006.

status of the Currie Cup competition should be downgraded to that of a feeder tournament for a proposed elite five-team local competition involving all the best players in the country (Del Carme, 2007).

The notion that public interest in South African domestic rugby would be boosted by the establishment of an elite competition consisting of the best teams and involving all the best players has considerable intuitive appeal: all other things equal, one would expect rugby fans to prefer close matches between star-studded sides to one-sided ones involving large numbers of less gifted players. This conjecture could be formulated as a hypothesis: restricting participation to the best teams would make the average match in the premier domestic rugby union competition in South Africa more attractive..

This paper explores this hypothesis. It develops new measures to quantify the attractiveness of rugby union matches, and uses these measures to show that Currie Cup matches in the last three seasons (2006, 2007 and 2008) were less attractive, on average, than those in other rugby competitions and in earlier Currie Cup seasons. Furthermore, it shows that the historical data and a counterfactual experiment tentatively support the notion that restricting participating to the best teams increases the attractiveness of Currie Cup matches. These findings imply that serious consideration should be given to restructuring top-class domestic rugby in South Africa by reducing the number of participating teams, and the paper concludes with a discussion of options for achieving such restructuring.

MEASURING THE ATTRACTIVENESS OF RUGBY UNION MATCHES

To remain financially viable, it is important for professional sports leagues to maintain a high demand for their major outputs: games between specific teams and championships involving all participating teams. As was pointed out by Borland and McDonald (2003: 479),[2] the essence of the demand for sports contests is fan interest. Sports fans derive utility from two aspects of sports contests: (i) identification with specific teams, and (ii) the quality of contests, which depends on uncertainty of outcome and demonstration of the physical and mental skills required to excel at the game. The reality that high-quality matches are likely to appeal to spectators suggests that measures of the attractiveness of rugby games should incorporate proxies for these two dimensions of quality.

The notion that fan interest in a sports contest is linked to the predictability of the result is one of the basic building-blocks of economic analysis of sports leagues. Fourie and Siebrits (2008: 4) explained this proposition as follows: "... uncertainty about the outcome of matches and championships enhances their appeal because spectators prefer close games and tight championship races to predictable or one-sided ones, *ceteris paribus*. This hypothesis implies that approximate equality in the playing strengths of the participating teams should stimulate

[2] Various other factors also contribute to or detract from the overall experience of watching a sports contest. This is confirmed by empirical studies of the demand for attendance of sports contests, which include variables such as habit, team loyalty, admission prices, the opportunity cost of attendance, the size and income of the population of potential spectators, the availability and prices of alternative forms of entertainment, the facilities at and timing of contests, the quality of the contest, and the capacity of stadiums (Borland & McDonald, 2003: 481-483). This paper ignores these factors, because its focus is the attractiveness of the play itself, not that of the experience of attending it.

spectator interest in matches and championships". Empirical studies have approached the relationship between the demand for sport contests and the predictability of the result from three angles, namely uncertainty about the outcomes of specific matches, championships in specific seasons, and championships over time (*i.e.* the absence or otherwise of long-term dominance of leagues by one or a small number of teams) (Szymanski, 2003: 1155-1156).[3] What is of interest for estimation of the attractiveness of matches is uncertainty about the demand of specific contests.

Demand studies focus on the expected (or *ex ante*) predictability or unpredictability of matches and championships, because decisions to see games (either live or on television) are influenced by potential spectators' prior assessment of how closely the teams would be matched on the day. The indicators of uncertainty of outcome in such studies have included the difference between the log positions or the winning percentages of the two teams on the day of play and various betting odds (Cairns *et al*., 1986: 17-19; Szymanski, 2003: 1156). Owen and Weatherston (2004a; 2004b), for example, used New Zealand Totalisator Agency Board (TAB) odds on home-win probabilities as an indicator of match uncertainty in studies of the determinants of attendance of New Zealand National Provincial Championship and Super 12 rugby games.

The notion of match attractiveness, however, has to do with the actual (as opposed to the expected) spectator appeal of matches. The relevant dimension of uncertainty of outcome then is the closeness of the match itself: the drama of a sports contest is enhanced when its outcome remains in the balance until the final whistle, and measures of the actual appeal of matches should capture this aspect of sporting competition. The margin of victory (*i.e.* the difference between the numbers of points scored by the two teams) is an obvious quantitative measure of this *ex post* dimension of the attractiveness of rugby matches.

Rottenberg (2000: 11) summarised the second dimension of high-quality sports contests in the following statement: "The quality of a game is higher, the more grace and skill with which it is produced [and] the larger the number of instances of extraordinary physical achievement that appear in it". The task of quantifying this aspect of high-quality sports contests could be approached in two ways. The first would be to compile a comprehensive composite measure of the demonstration of pysical and mental skills for the sports code in question. This is likely to be a daunting task, however, especially for sports such as rugby union where a wide range of skills are on display.[4] Moreover, such an approach would give raise to difficult aggregation and weighting questions. Hence, this paper adopts the alternative approach of employing a simple proxy for demonstration of skills. This proxy is the total number of points scored in a match, based on the assumption that skillful play creates opportunities for scoring points (such opportunities include winning penalties: teams often concede penalties when skillful play by the opposition creates sustained pressure, and good kicking skills are required to convert penalties into points).

[3] The evidence is reviewed in Cairns *et al*. (1986: 17-21), Downward and Dawson (1999: 9-13), Borland and McDonald (2003: 485-487) and Szymanski (2003: 1155-1156).

[4] These skills include elusive running, solid defensive tackling, accurate goal and field kicking, lineout jumping, strong scrumming and good handling and passing of the ball.

To be sure, this proxy of demonstration of skills focuses on attacking play aimed at scoring points and downplays the contribution to the attractiveness of rugby matches of defensive play that prevents scoring. It effectively attributes all high scores to skillful attacking play while ignoring the reality that such outcomes sometimes reflect poor defensive play that detracts from the quality of rugby matches. Analysts and other connoisseurs of the game therefore would be justified in claiming that the total number of points scored in a match is an incomplete proxy of demonstration of skills. To large numbers of spectators, however, the attractiveness of rugby matches is linked closely with attacking play aimed at scoring tries. This was acknowledged by the renowned rugby expert Dr. Danie Craven, who wrote: "No matter how perfect lineout work and scrummaging are, we should remember that few people are pleased thereby. They want to see movements, players who take gaps at lightning speed and score tries. They seek the spectacular, the gripping, open rugby…" (Craven, 1948: 19, translated from the original Afrikaans).

Over time, efforts to make the game more appealing to increasingly fickle audiences[5] by encouraging more attacking running play have included adaptation of the system of scoring and other laws of rugby union.[6] Another indication of the growing emphasis on attacking play is the recent introduction in a growing number of rugby competitions of log bonus points for teams scoring four or more tries.[7] The resulting changes in patterns of play – which are described by Eaves *et al*. (2005), Williams *et al*. (2005), Quarrie and Hopkins (2007) and the International Rugby Board (2005) – have contributed to a significant increase in the scores of top-class rugby matches. Figure 1 shows that the average number of points in international matches between eight traditional rugby-playing countries increased from 8.83 in 1900 to 40.97 in 2008.[8] There is no evidence of widespread concern that this trend has resulted from a general deterioration in defensive play or other developments inimical to the popularity of the game. On the contrary, rugby union seems to be growing in popularity worldwide, as is confirmed by the steady increases in live and television audiences of successive Rugby World Cup tournaments.[9] Hence, the total number of points scored in a match appears to be an adequate proxy of the demonstration of the skills enjoyed by large numbers of rugby supporters.

[5] Skinner *et al.* (2003: 64) ascribed such fickleness to the spread of postmodern values, which changed the preferences of rugby spectators from "display of traditional craft, skill and ritual" to an eclectic blend of entertainment, amusement, the spectacular and the tactical".

[6] For a summary of the systems of scoring in force since 1891, which has seen the value of tries increase from one to five points and that of dropped goals decrease from four to three points, see Van Rooyen (1993: 299). The most recent move towards stimulating more expansive rugby was the introduction of the Experimental Law Variations (ELVs) in the 2008 season (see International Rugby Board, 2008).

[7] Incidentally, bonus points are also awarded to teams losing by seven or fewer marks – which confirms the importance of close-run matches, the second indicator of attractive matches explained earlier.

[8] These countries are Australia, England, France, Ireland, New Zealand, Scotland, South Africa and Wales. Matches played between the British and Irish Lions (combined teams from England, Ireland, Scotland and Wales that were previously known as Great Britain and the British Lions) and Australia, New Zealand and South Africa also are included in the seasonal averages.

[9] Audiences increased steadily from 600 000 live and 300 million television viewers in 1987 to 2.3 million live and 4 000 million television viewers in 2007 (Deloitte & Touche, 2008: 9, 11)

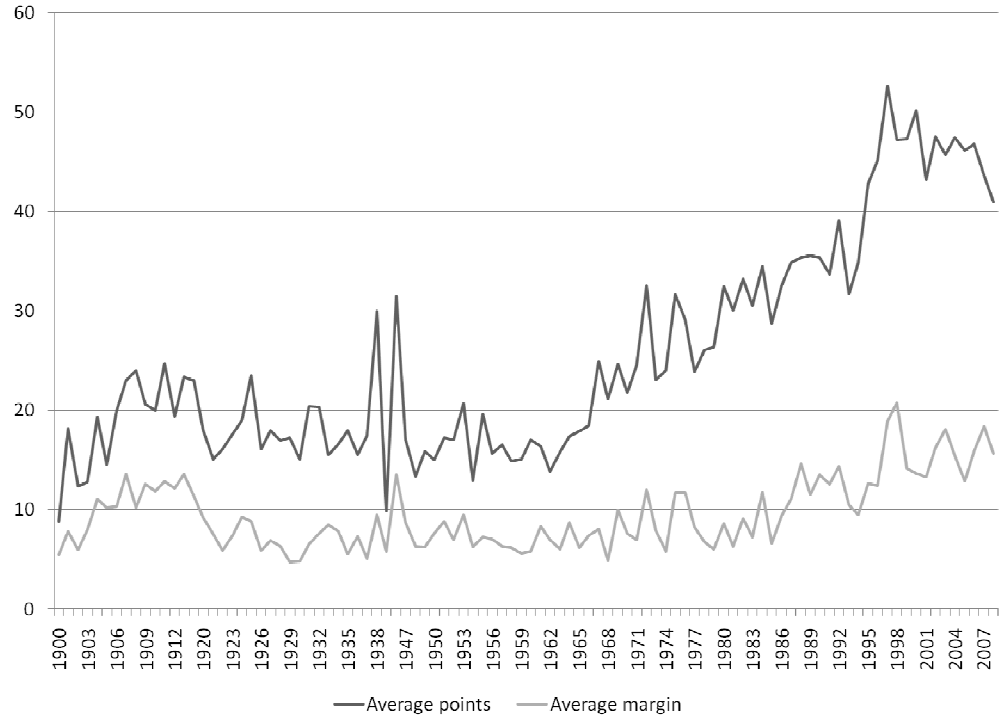

FIGURE 1: **AVERAGE POINTS AND MARGIN IN MATCHES INVOLVING TOP 8 COUNTRIES, 1900-2008**

The argument advanced in this section therefore is that attractive rugby union matches combine the drama and tension of a close contest with the excitement of skillful play that yield high scores. Fourie and Siebrits (2008) proposed three indicators that reflect this conceptualisation of the attractiveness of rugby matches. These measures, which correspond to Newton's famous gravity equation, are:

$$(1) \quad A_{ij} = \frac{T_i + T_j}{M_{ij}} \qquad (2) \quad A_{ij} = \frac{(T_i + T_j)^2}{M_{ij}} \qquad (3) \quad A_{ij} = G\frac{T_i + T_j}{M_{ij}^2}$$

FIGURE 2: **MEASURES OF SEASON ATTRACTIVENESS**

where A_{ij} is defined as the attractiveness of matches in a particular league or competition, T_i and T_j are the scores of Team i and Team j in each match, M_{ij} is the difference between the team scores calculated as the absolute margin and G is a constant. Whereas equation (1) weights the total match score and the points margin evenly, equation (2) gives greater weight to the total match score (*i.e.* the demonstration-of-skills aspect of attractive matches) while equation (3) is biased towards the points margin (*i.e.* the close-contest aspect of attractive

matches). The measures are not calculated for each individual match. They are calculated after summing the scores and points margins of a league, competition or season. This is done to avoid the exclusion of drawn matches. The squared margin (M_{ij}^2), however, is calculated for each match and then summed across all matches. For all three measures, higher values indicate more attractive matches.

The indicators are simple to calculate and interpret – the only data required to compute their values are the results of matches – and can be used to compare competitions with different structures (*e.g.* competitions with different numbers of teams and competitions involving different numbers of matches). Hence, they should be useful for various purposes, including analyses of the attractiveness of matches in specific competitions over time, comparisons of the attractiveness of matches in different competitions, and studies of the effects of rule changes on the attractiveness of rugby matches.

A COMPARISON OF COMPETITIONS

This section uses the new measures to compare the attractiveness of Currie Cup matches to those of eight other major rugby union competitions: the Air New Zealand Cup, the Anglo-Welsh EDF Energy Cup, the European Challenge Cup, the French Top 14, England's Guinness Premiership, the European Heineken Cup, the Magners League featuring top clubs from Ireland, Scotland and Wales, and the Super 14. The comparison is based on the results of the three most recent seasons. The data were obtained from the official websites of the various competitions.

Table 1 contains the results of the comparison. The first two columns show that Currie Cup rugby produced, on balance, the highest average number of points scored per match and the second largest average victory margin across the three seasons. According to measures (1) and (3), the Currie Cup was the second-least attractive of these nine rugby leagues; only the European Challenge Cup fared worse. The most attractive competitions in terms of these measures were the Guinness Premiership, the Magners League and the Super 14. The Guinness Premiership also took the top spot in the comparison based on measure (2), followed by the Super 14.

The Currie Cup performed better in this comparison, obtaining the third place among the nine competitions. This largely reflected the high number of points scored in Currie Cup matches (as was indicated earlier, measure (2) gives considerable weight to total match scores). The poor showing of the Currie Cup in terms of the other two measures, however, suggests that the attractiveness of some high-scoring matches probably was compromised by their one-sided nature. Hence, in comparative terms, the Currie Cup clearly has not been a particularly attractive competition of late, at least not as defined in this paper.

TABLE 1: **MATCH ATTRACTIVENESS SCORES IN TWELVE COMPETITIONS, 2006-2008**

	Average total score	*Average margin*	*Equation (1)*	*Equation (2)*	*Equation (3)*	*Seasons*
Air New Zealand Cup	46.14	16.07	2.87	132	11.0	2
Currie Cup	57.88	22.96	2.52	146	6.3	2
EDF Energy Cup	45.15	15.16	2.99	135	13.6	3
European Challenge Cup	50.29	23.10	2.18	110	5.3	3
French Top 14	42.01	14.61	2.89	121	11.4	2
Guinness Premiership	41.70	10.38	4.05	169	21.8	3
Heineken Cup	45.24	16.14	2.81	127	10.9	3
Magners League	39.34	12.06	3.27	129	16.4	3
Super 14	44.71	13.00	3.46	155	15.1	3
Tri-Nations	43.39	12.28	3.58	155	17.3	2
Vodacom Cup	55.18	18.77	2.94	162	9.4	2

THE ATTRACTIVENESS OF MATCHES IN CURRIE CUP SEASONS FROM 1986 TO 2008

This section attempts to establish whether the historical evidence is consistent with the notion that the attractiveness of Currie Cup matches is enhanced by applying the strength-versus-strength principle to restrict participation to the best teams. Such evidence should be regarded as suggestive rather than conclusive, because the number of participating teams is unlikely to be the sole determinant of observed trends in the attractiveness of Currie Cup matches. Factors such as the availability of Springbok players and changes to the laws of the game and playing tactics may well have contributed to these trends as well. The virtual ubiquity in debates about the format of the Currie Cup competition of the view that the attractiveness of the competition is linked to the number of participating teams nonetheless makes empirical analysis of this notion, however tentative, essential.

The analysis covers the period from 1986 to 2008. From 1986 to 1995, the Currie Cup was contested on a strength-versus-strength basis with the participating teams grouped into sections according to playing strength. Two sub-periods can be distinguished during which the strength-versus-strength principle was applied differently. During the first sub-period (1986-1990), end-of-season promotion-relegation matches between the last-placed team in each section and the winner of the next season ensured that all teams could over time advance to a section where the Currie Cup itself was at stake. The number of teams in the premier division increased gradually from six in 1986 to seven in 1987 and 1988 and eight in 1989 and 1990. The second sub-period started when promotion to and relegation from the premier division was abolished in 1990. This step entrenched the premier-division status of what was at the time known as the "test unions" (Eastern Province, Natal, Northern Transvaal, the Orange Free State, Transvaal and Western Province), and from 1991 to 1995 only these six teams competed for the Currie Cup itself.

It was believed widely that the strength-versus-strength system safeguarded the standard of South African rugby during the isolation period and contributed to the Springboks' victory in the 1995 Rugby World Cup. However, the structure of the Currie Cup competition had to be revisited in view of the complex new challenges of the mid-1990s: the financial and managerial demands resulting from the full professionalisation of the game, fierce competition for spectator interest from a rapidly expanding menu of local and international sport, and the imperative of making provincial and national teams more representative of the composition of the South African population. The result was a comprehensive overhaul of the competition in 1996. The number of provincial unions was reduced from 22 to 14, and the various sections were collapsed into a single 14-team league. At the time, the South African Rugby Football Union (SARFU) argued that these steps would reduce administrative costs, establish a more compact structure and give more players the opportunity to be involved in matches for the Currie Cup itself (Van Rooyen, 1995c: 18). Concern about the financial survival of rural teams in the professional era apparently was another major consideration (*cf.* Van Rooyen, 1995a: 18; Van Rooyen, 1995b: 16). Furthermore, the then managing director of SA Rugby (Pty) Ltd Rian Oberholzer's comment that "I still believe the 14 team Currie Cup was necessary to speed up the development process" (Rich, 2002a) suggests that the need to accelerate the development of players of colour also influenced the restructuring decision.

The 1996 season was characterised by several extremely one-sided matches, and the *South African rugby writers' yearbook* (Van Rooyen, 1997: 127) commented on the unhealthy gap between the playing strengths of the larger and weaker teams and the extent to which it had been exacerbated by the advent of professional rugby. Matters improved in 1997, leading Colquhoun (1999: 209) to note in the *South African rugby annual* that "the second year of a 14-province Currie Cup was a huge improvement as the mismatches of 1996 gave way to a series of upsets that shook some of the major provinces to their very foundations." Doubts about the quality of play in and the financial viability of a 14-team Currie Cup competition remained, however, and the year 2000 brought the introduction of a two-phase Currie Cup competition with a strength-versus-strength element. In this system, which was maintained for three seasons, the first part of the season served to sort the teams into an eight-team upper division that competed for the Currie Cup itself and a six-team lower division that competed for the Bankfin Cup.

The poor performance of South Africa's Super 12 teams and the Springboks in 2000 and 2001 gave further impetus to the debate about the format of the Currie Cup competition. Former Springbok coaches Nick Mallett (2001) and Harry Viljoen (Gilbert, 2001), journalist Gavin Rich (2002b) and former Springbok lock forward Krynauw Otto (Del Carme, 2002) all commented on the poor quality of South African domestic rugby and directly and indirectly called for a restructured Currie Cup competition with fewer but stronger teams. The debate focused mostly on the link between the format of the Currie Cup competition and the strength of the national team. However, some participants pointed out that the weak domestic competition was becoming a financial liability as well, especially to the stronger unions. In May 2002, newspapers reported that the Western Province Rugby Union planned to propose to SA Rugby Ltd that the Currie Cup competition be split into a top and a second division. Explaining the motivation behind the envisaged proposal, Western Province Rugby Ltd managing director Rob Wagner hinted that crowds had dwindled at matches against weaker teams: "Our customers have voted with their feet in recent years and have come in big numbers when the Top Eight stage of the Currie Cup starts" (Momberg, 2002). In addition,

some looked ahead to the 2005 review of News Corporation's television sponsorship of southern hemisphere rugby, fearing that the poor performances of South African Super 12 teams and the Springboks threatened SA Rugby's cut of the multi-million rand contract (Bruce, 2002).

It was against this background that SA Rugby (Pty) Ltd appointed consultancy company Accenture in February 2002 to investigate and make proposals with regard to various aspects of South African rugby, including the structures of domestic competitions. Accenture's proposals, which were accepted by SA Rugby (Pty) Ltd in June 2002, included a six-team Currie Cup competition and an eight-team second division (Nel, 2003: 22). SA Rugby (Pty) Ltd managing director Rian Oberholzer stated that the return to a strength-versus-strength system was necessary to restore the Springboks to the top position in world rugby (Rich, 2002a). Hence, it seems that the proposals were motivated by considerations of the playing strength of the national team, rather than financial issues. Be that as it may, the proposals were never implemented, mainly because the weaker teams were unwilling to accept what for most of them would have amounted to permanent exclusion from the premier division (Colquhoun, 2003: 13-14). The compromise reached was that the eight second-division teams (the Bulldogs, Cavaliers, Eagles, Elephants, Falcons, Griffons, Griquas and Leopards) had to play a preliminary competition at the start of the 2003 Currie Cup season to determine the two sides which were to join the five traditional powerhouse teams (Blue Bulls, Cheetahs, Lions, Sharks and Western Province) and the Pumas in the Currie Cup proper. The plan was to maintain this system for two seasons, after which two seven-team leagues with annual promotion-relegation matches between the bottom team in the premier division and the winner of the second division from 2005 onwards were envisaged. This plan, too, were not implemented fully and eight teams continued to contest the Currie Cup until the end of the 2008 season. Promotion-relegation matches between the two bottom-finishing teams in the premier division and the two top-finishing teams in the first division were instituted in 2007.

Figures 3, 4 and 5 (table 3 in the Appendix) show the three match attractiveness measures for the Currie Cup for the seasons from 1986 to 2007. In line with the discussion in this section, the following interpretation of these results distinguishes four sub-periods: 1986 to 1990 (a strength-versus-strength premier division consisting of six to eight teams with interdivisional mobility *via* promotion-relegation matches), 1991 to 1995 (a strength-versus-strength premier division consisting of six entrenched teams), 1996 to 1999 (a 14-team competition without the strength-versus-strength element), and 2000 to 2008 (a strength-versus-strength premier division consisting of eight teams determined by means of various mechanisms including, in some years, promotion-relegation matches). Only matches in the top division were used to calculate the attractiveness measures in seasons during which teams were split into two or more division, To ensure consistency with the system of scoring that has been in force in rugby union since 1992, the scores of all matches played from 1986 to 1991 were adjusted by increasing the value of tries from four to five points.

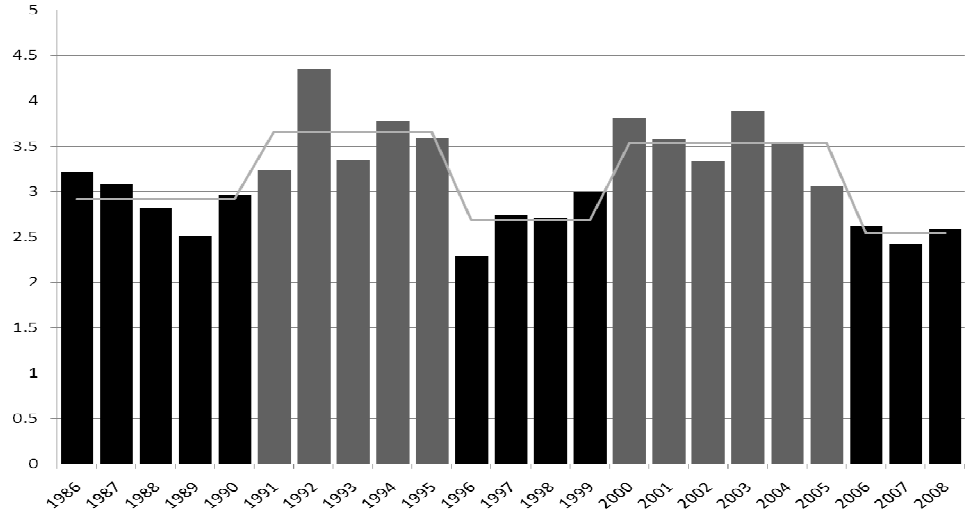

FIGURE 3: **EQUATION 1**

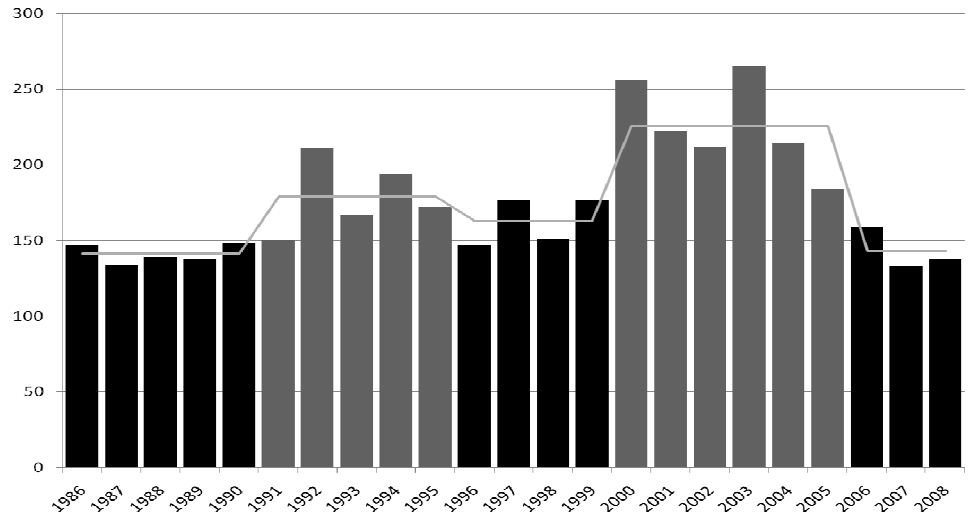

FIGURE 4: **EQUATION 2**

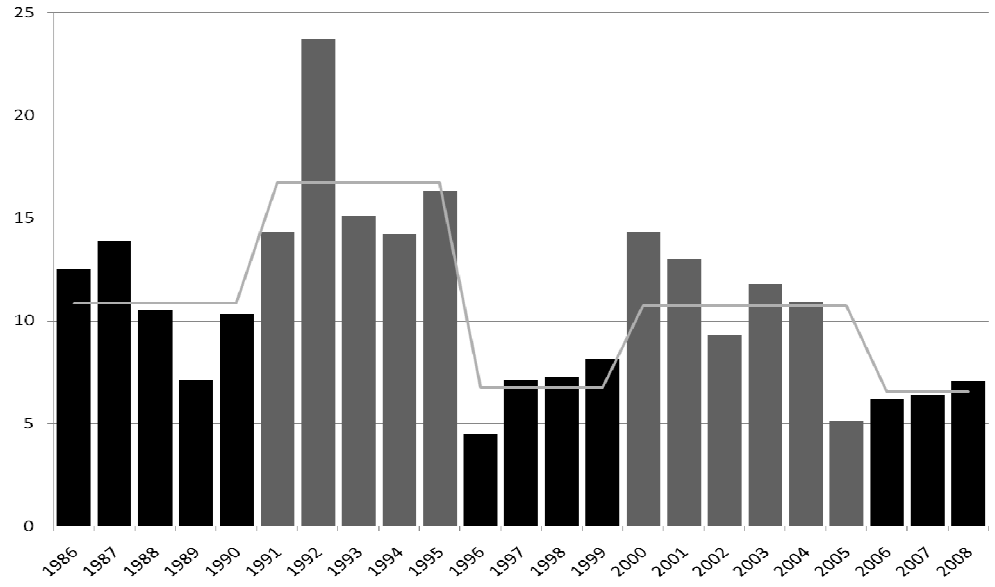

FIGURE 5: **EQUATION 3**

On balance, the period from 1991 to 1995, when only six teams competed for the Currie Cup, produced the most attractive matches in terms of measures (1) and (3) and ranked second in terms of measure (2). By contrast, the period when 14-team competitions took place (1996 to 1999) ranked last in terms of measures (1) and (3) and third as far as measure (2) was concerned. The periods from 1986 to 1990 and from 2000 to 2008 – which involved six to eight and eight teams, respectively – ranked between these two extremes.[10] The historical evidence therefore is consistent with the notion that seasons and periods during which the Currie Cup was contested on a strength-versus-strength basis generally produced more attractive matches, and *vice versa*.

The data in the two columns on the right-hand side of figure 6 (table 3) provide perspective on the mechanisms behind this apparent link. The average number of points scored in Currie Cup matches increased in irregular fashion during the second half of the 1980s and the 1990s, but stabilised and decreased somewhat thereafter. There is no clear-cut relationship between this trend and the number of participating teams; indeed, the reality that match scores in international games evolved along broadly similar lines (see figure 1) suggests that other factors (*e.g.* changes in rugby union laws and patterns of plays) may well have influenced the average number of points scored in Currie Cup matches more directly than the format of the competition did. By contrast, the relationship between victory margins in Currie Cup rugby and the number of participating teams appears to have been much stronger: on balance,

[10] A notable feature of the eight-team competitions from 2000 to 2008 is the sharp decreases in the absolute values of all three measures from 2004 onwards.

seasons and periods during which the strength-versus-strength principle held sway produced relatively more close-run games than those marked by greater diversity in the playing strengths of the participating teams. The historical evidence therefore tentatively suggests that restricting participation to the best teams mainly enhanced the attractiveness of Currie Cup rugby by increasing the number of close-run matches. An additional advantage of fewer participating teams is that it would become possible to complete the competition in a shorter time period, thus making it possible for Springbok players to play Currie Cup rugby in-between test-match commitments.

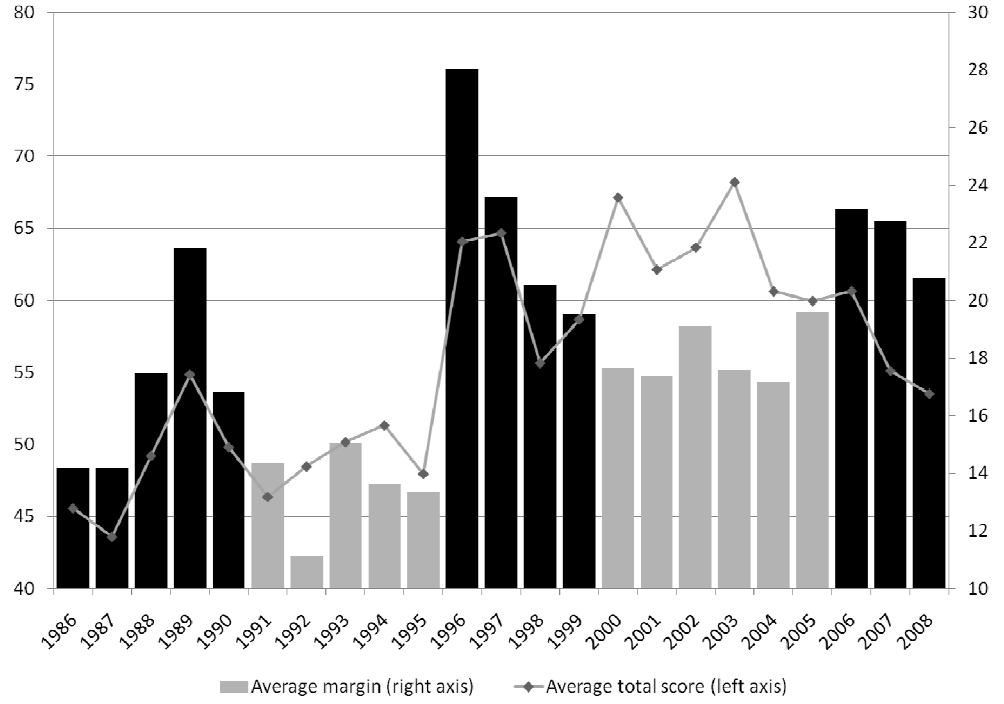

FIGURE 6: **CURRIE CUP AVERAGES, 1986-2008**

TWO PROPOSALS FOR RESTRUCTURING THE CURRIE CUP COMPETITION

As was pointed out earlier, poor attendances at Currie Cup matches during 2006 and 2007 – which probably reflected a large number of relatively unattractive matches – have reignited the long-running debate about an appropriate format for the competition. This section discusses two proposals for the restructuring of the competition. The first, which is very similar to the proposal of Dr. Steve Booysen referred to in the introduction of this paper but maintains the status of the Currie Cup as the premier prize in South African domestic rugby,

provides for a premier division that involves only the five strongest teams.[11] This proposal will be referred to as "Top 5". The second proposal was that made by Accenture Consultants in 2002 and reiterated by Rich (2008), namely to have six teams in the premier division of the Currie Cup competition and the remaining eight in the first division, Accordingly, it will be referred to as "Top 5+1".

A powerful argument for the "Top 5" proposal follows from the reality that the five strongest teams (the Blue Bulls, Cheetahs, Lions, Sharks and Western Province), which are also the *nuclei* of South Africa's Super 14 teams, have long dominated Currie Cup rugby. From 1892 to 2008, the five strongest teams have won the Currie Cup 61 times and shared it ten times (Colquhoun, 2008: p. 478). The other nine teams, by contrast, have won the Cup only three times (Griquas, formerly known as Griqualand West, in 1899, 1911 and 1970) and shared it twice (the Bulldogs, formerly known as Border, in 1932 and 1934). Hence, fully 38 years have passed since any team apart from the five traditional powerhouses has held the Currie Cup. Moreover, during the period analysed in this paper (1986 to 2008), the five powerhouses achieved 105 of the 115 top-five positions on Currie Cup logs. Restricting participation to these teams therefore may well be the best way to ensure that the competition remains attractive by producing close-run matches involving highly skilled players.

The second suggestion ("Top 5+1") involves a return to a six-team league system akin to that used from 1991 to 1995. This proposal acknowledges that a strength-versus-strength system is vital for ensuring a close competition that should stimulate attendance in the longer run. It argues, however, that pleasing the crowds is not the only objective of Currie Cup rugby. The competition should also serve other worthy objectives (such as maintaining and stimulating interest in rugby union in areas of South Africa not represented by the top teams and widening the pool of experienced players from which the national team could be chosen), and introducing an additional team may be necessary for meeting such goals.[12] An additional consideration is the practical issue that the rugby unions represented by the weaker teams have long resisted initiatives to permanently exclude them for participating in the premier division of the Currie Cup competition (De Koning, 2004; Sponsors unhappy with Currie Cup, 2007). As happened in the past, these unions are likely to use their voting rights in the top structures

[11] Press reports (Sponsors unhappy with Currie Cup, 2007; Del Carme, 2007) did not indicate which five teams Dr Booysen had in mind, but presumably they were either South Africa's Super 14 teams (the Bulls, Cheetahs, Lions, Sharks and Stormers) or the strongest Currie Cup teams (the Blue Bulls, Cheetahs, Lions, Sharks and Western Province). For reasons not outlined in press reports, Dr. Booysen proposed that the Currie Cup should not be at stake in the elite competition; instead, he envisaged that the Currie Cup competition should become a feeder tournament for the elite competition. The position taken in this paper is that the status of the Currie Cup should be be maintained because of its long association with top-class domestic rugby in South Africa.

[12] The literature suggests that sports leagues may pursue various objectives, including profit maximisation, revenue maximisation and utility maximisation (a catch-all term that includes objectives such as financial survival, international playing success and the maintenance of tradition) (Cairns *et al.*, 1986: 7-10; Schofield 1982: 339). Leagues interested in maximising revenues or profits are likely to put a much higher premium on achieving and maintaining close competition than leagues motivated primarily by utility maximisation. In utility-maximising leagues, competitive balance may take a back seat to objectives such as preserving the league status of weak but long-established teams, allowing the emergence of dominant teams that form the nucleus of successful national sides, *et cetera.* Viewed in these terms, the argument implies that the Currie Cup is a utility-maximising (as opposed to a revenue-maximising) league.

of South African rugby to block the introduction of a "Top 5" competition that permanently relegates them to the first division where prospects for sponsorships, gate revenues and attracting and retaining top players are poor (De Koning, 2004).

TABLE 2: **COUNTERFACTUAL OUTCOMES, CURRIE CUP 1986-2007**

Season	All	Top 5	Top 5+1	Included	Excluded
1986	3.22	4.18	3.22	Eastern Province, Northern Orange Free State	Natal
1987	3.08	3.44	3.15	Eastern Province	
1988	2.82	2.43	2.89	South West Africa	
1989	2.51	3.58	2.69	Eastern Province	
1990	2.96	4.13	4.30	Eastern Province	
1991	3.23	3.70	3.23	Eastern Province	
1992	4.35	4.89	4.35	Eastern Province	
1993	3.34	3.91	3.34	Eastern Province	
1994	3.77	4.47	3.77	Eastern Province	
1995	3.59	4.85	3.59	Eastern Province	
1996	2.29	4.11	3.23	Griquas	
1997	2.74	3.40	3.56	Griquas	
1998	2.71	4.72	4.73	Griquas	
1999	3.00	4.22	4.07	Eagles	
2000	3.81	5.33	4.75	Cavaliers	Blue Bulls
2001	3.58	3.64	3.88	Falcons	
2002	3.33	4.75	4.41	Pumas	
2003	3.88	4.98	5.11	Pumas	
2004	3.53	7.68	5.05	Griquas	
2005	3.06	3.45	3.23	Cavaliers	
2006	2.62	4.87	3.90	Griquas	
2007	2.42	3.36	2.88	Griquas	
2008	2.58	3.34	3.02	Griquas	
Average	3.15	4.24	3.75		

Table 2 provides further perspective on these proposals. It presents counterfactuals showing what the attractiveness measures would have been for each season had the two proposed structures been implemented since 1986. All five "powerhouse teams" (the Blue Bulls, Cheetahs, Lions, Sharks and Western Province) are included in all seasons, except the two during which one of them failed to reach the premier division of the Currie Cup (the Sharks, then Natal, in 1986 and the Blue Bulls in 2000). The equation (1) attractiveness measures for matches played between these five teams are shown in the column "Top 5". The results indicate that the Currie Cup would have been a particularly attractive competition had only these five teams competed. The average attractiveness score calculated over all 23 seasons of 4.24, for example, exceeded the 2006 to 2008 scores of all the competitions reported in table 1. Furthermore, the hypothetical seasonal attractiveness scores of a Top 5 competition would have been higher than the actual scores in each of the 23 seasons except 1988. The most extreme divergence would have occurred in the 2004 season, when the actual score for

the eight-team competition was an above-average 3.53 and the hypothetical score for the "Top 5" competition an exceptionally attractive 7.68. The latter figure implies that, on average, the total score per match was more than seven times the margin of victory.

The implications of the second proposal can be proxied by including the best-performing team apart from the five best sides when calculating the attractiveness measures for each season. Of course, this approach assumes that the best team apart from the five "powerhouses" could have been identified before the start of the competition, which is a strong assumption if promotion/relegation matches were played or if the winner was determined in a single play-off match. If a qualifying tournament took place and the team with the most league points was included in the premier division of the Currie Cup, however, the assumption that the best team had advanced is plausible.

It transpires from a comparison of the two counterfactual scenarios that the "Top 5+1" would have been a less attractive competition than the "Top 5". Its average score of 3.75 over the 23 seasons nonetheless would have made it highly attractive and a worthwhile alternative to the "Top 5" format, depending on the utility function of Currie Cup rugby (*i.e.* whether it is a revenue-maximising or a utility-maximising competition). The "Top 5+1" proposal may well be the most realistic option for the restructuring of South African domestic rugby in view of the likely unacceptability to the smaller unions of the "Top 5" alternative..

Two important issues arise as far as the actual implementation of such a "Top 5+1" format is concerned. The first is whether the sixth spot in the Currie Cup competition should be given to a specific team once and for all or determined annually by means of promotion/relegation matches. Valid arguments could be provided for both options. A permanent spot in the Currie Cup would assist the sixth team in attracting long-term sponsorships and in offering long-term contracts to potential players, which could help it to overcome the resource gaps between the five strongest and the other teams (see below). A promotion/relegation system, on the other hand, would ensure that the best team apart from the "big five" competes in the Currie Cup. Moreover, it would contribute to equality of opportunity in the sense that every team, whether strong or weak at this stage, would remain eligible to participate in and to win the Currie Cup competition. This latter consideration could well prove to be the determining one, because any option that permanently excludes some teams from participating in the premier division of the Currie Cup competition is unlikely obtain the approval of a majority of the rugby unions.

The second issue relates to inequality in the financial and player resources of the five strongest and the other nine teams. Four of the five "powerhouse" teams (the Blue Bulls, Lions, Sharks and Western Province) are based in metropolitan areas and the fifth (the Cheetahs) in a medium-sized city that provide them with well-developed player nurseries (*e.g.* top schools, universities and rugby academies), large spectator bases, ready access to sponsors and various amenities that attract top players. The resource gaps between the two groups of teams have widened notably since the advent of professional rugby and have reached levels where the weaker nine teams hardly could be expected to compete with the five strongest teams. In 2003, a SARFU task team reported that the salary bills of the five strongest unions averaged R16.3 million (R471 963 per senior player), compared to R3.9 million (R130 285 per senior player) for the other nine unions (Cronjé, 2003: 24). If anything, these discrepancies would have worsened since then. The sixth team initially may require financial and other assistance to attract and retain talented players in order to become competitive in the premier division of

the Currie Cup and, hence, self-sufficient as far as resources are concerned. Plans for the implementation of a "Top 5+1" format probably would have to provide for the financial implications of such assistance.

CONCLUSIONS

This paper suggests that there is a second reason for concern about the future of Currie Cup rugby apart from the well-publicised decline in the status of the competition as a result of intensifying competition from test-match, Super 14 and other international rugby. Quantitative analysis based on new measures of the attractiveness of rugby matches shows that the Currie Cup has become one of the less attractive competitions in the rugby-playing world. An analysis of the Currie Cup rugby since 1986 indicates that the structure of the tournament has had an important impact on the *ex post* attractiveness of matches within a season, mainly by influencing the closeness of matches. On balance, seasons and periods during which participation in the Currie Cup was restricted to the strongest teams produced more attractive matches, and *vice versa*. Against this background, the paper discusses two proposals for restructuring the competition to restore its attractiveness: a competition with only the five teams that have historically dominated Currie Cup rugby (the Blue Bulls, Cheetahs, Lions, Sharks and Western Province ("Top 5"), and a competition with these five and one additional team ("Top 5+1").

A comparison of the attractiveness of these two structures based on counterfactual results of previous Currie Cup competitions suggests that a competition involving only the five strongest teams should yield the most attractive outcomes. Even a six-team competition, however, would be more attractive than most current rugby union competitions worldwide, and compared to the "Top 5" option also would achieve broader participation in top-class South African rugby and expand the pool of players from which the national team could be chosen. Moreover, such a format is more likely to be acceptable to the majority of rugby unions in South Africa and therefore more realistic than the "Top 5" option. There are two options for choosing the sixth team: a once-and-for-all decision and an annual decision (perhaps based on a qualifying tournament). The inter-temporal arguments for a permanent decision are strong, but the option is unlikely to be acceptable to the smaller unions, as it eliminates the possibility of upward mobility into the premier competition. Plans for the implementation of a "Top 5+1" format probably would have to provide for the financial implications of temporary assistance to enable the sixth team to become competitive in the premier division of the Currie Cup.

REFERENCES

BORLAND, J. & McDONALD, R. (2003). Demand for sport. *Oxford Review of Economic Policy* 19(4): 478-502.

BRUCE, P. (2002). Oberholzer planning radical shake-up of local tournaments, contracts and powers. *Business Day*, 7 June.

CAIRNS, J.; JENNETT, N. & SLOANE, P.J. (1986). The economics of professional team sports: a survey of theory and evidence. *Journal of Economic Studies*, 13(1): 3-80.

COLQUHOUN, A. (Ed.) (1999-2008). *South African rugby annual*. Cape Town: MWP Media & SARFU.

CRAVEN, D.H. (1948). *Die grondbeginsels van rugby*. Kaapstad: Nasionale Pers.

CRONJÉ, H. (2003). Rugbysterre kry dalk minder. *Beeld*, 24 November.

DE KONING, J. (2006). "Big five" face minnows backlash. Available online [http://www.european-rugby.com/Tournaments/Currie_Cup/story_55557.shtml]. Accessed on 15 May 2008.

DEL CARME, L. (2002). Currie Cup too weak – Otto. *Pretoria News*, 27 May.

DEL CARME, L. (2007). Currie Cup sponsors unhappy. Available online: [http://www.supersport.co.za/rugby/article.aspx?id=235172]. Accessed on 14 May 2008.

DELOITTE & TOUCHE. (2008). Potential economic impact of the Rugby World Cup on a host nation. Report commissioned by the International Rugby Board. Dublin. Available online [http://www.deloitte.com/dtt/cda/doc/content/UK_SBG_IRB2008.pdf]. Accessed on 6 January 2009.

DOWNWARD, P. & DAWSON, A. (1999). The demand for professional team sports: traditional findings and new developments. *Working Paper No 99:7.* Stoke on Trent: Staffordshire University Business School (Division of Economics).

EAVES, S.J.; HUGHES, M.D. & LAMB, K.L. (2005). The consequences of the introduction of professional playing status on game action variables in international northern hemisphere rugby union football. *International Journal of Performance Analysis in Sport*, 5(2): 58-86.

FOURIE, J. & SIEBRITS, F.K. (2008). From competitive balance to match attractiveness in rugby union competitions. *Stellenbosch Economic Working Papers: 09/2008.* Stellenbosch: University of Stellenbosch (Department of Economics and Bureau for Economic Research.

GILBERT, M. (2001). Rekordnederlaag baie teleurstellend sê Harry. *Beeld*, 25 November.

HISTORY OF THE ABSA CURRIE CUP, THE. (2008). Available online [http://www.sarugby.net/default.asp?cID=7676&print=yes]. Accessed on 15 December 2008.

INTERNATIONAL RUGBY BOARD (2005). Changes in the playing of international rugby over a 20 year period: a statistical comparison and analysis of a group of international matches played in the early 1980s with a similar group of matches played 20 years later. Dublin. Available online [http://www.irb.com/mm/document/newsmedia/0/comparison1983to2003_541.pdf]. Accessed on 8 January 2009.

INTERNATIONAL RUGBY BOARD (2008). The IRB guide to Experimental Law Variations. Dublin. Available online [http://www.irb.com/mm/document/NewsMedia/0/080711IRBELVGuideEN_5897.pdf]. Accessed on 5 January 2009.

MALLETT, N. (2001). *Predictable last four.* Available online [http://www.planet-rugby.com/COLUMNISTS/Nick_Mallett/story_3289.sthml]. Accessed on 12 June 2002.

MOMBERG, A. (2002). WP plan to jack up rugby. *Cape Argus*, 2 May.

NEL, K. (2003). This is South African rugby. In A. Colquhoun (Ed.). *South African rugby annual 2003* (21-24). Cape Town: MWP Media & SARFU.

OWEN, P.D. & WEATHERSTON, C.R. (2004a). Uncertainty of outcome, player quality and attendance at National Provincial Championship rugby union matches: an evaluation in light of the Competitions Review. Economics Discussion Papers No 0408. Otago: University of Otago (Department of Economics).

OWEN, P.D. & WEATHERSTON, C.R. (2004b). Uncertainty of outcome and Super 12 rugby union attendance. *Journal of Sports Economics*, 5(4): 347-370.

QUARRIE, K.L. & HOPKINS, W.G. (2007). Changes in player characteristics and match activities in Bledisloe Cup rugby union from 1972 to 2004. *Journal of Sports Sciences*, 25(8): 895-903.

RICH, G. (2002a). Major revamp for SA rugby next year. Available online [http://www.superrugby.co.za]. (Accessed on 12 June 2002.)

RICH, G. (2002b). Reducing number of unions will lift rugby. Available online [http://www.supersport.co.za/rugby/columns.aspx?id=1383&headline=Reducing%20number%20of%20unions%20will%20lift%20rugby]. Accessed on 12 June 2002.

RICH, G. (2008). SA season needs a revamp. Available online [http://www.supersport.co.za/rugby/columns.aspx?id=6567&headline=SA%20season%20needs%20a%20revamp]. Accessed on 26 September 2008.

ROTTENBERG, S. (2000). Resource allocation and income distribution in professional sports teams. *Journal of Sports Economics*, 1: 11–20.

SCHOFIELD, J.A. (1982). The development of first-class cricket in England: an economic analysis. *Journal of Industrial Economics*, 30(4): 337-360.

SKINNER, J.; STEWART, B. & EDWARDS, A. (2003). The postmodernisation of rugby union in Australia. *Football Studies*, 6(1): 51-69.

SPONSORS UNHAPPY WITH CURRIE CUP (2007). Available online [http://www.sarugby.com/news/News/print/sid=8084.html]. Accessed on 12 June 2008.

SZYMANSKI, S. (2003). The economic design of sporting contests. *Journal of Economic Literature*, 41: 1137-1187.

TEST TEAM STATS FIXTURE LIST (2008). Available online [http://sv1.sotic.net/scrum/teams.php] .Accessed on 18 December 2008.

VAN ROOYEN, Q. (1995a). Kleiner unies gaan hul saak beveg. *Beeld*, 13 Julie.

VAN ROOYEN, Q. (1995b). Aantal provinsiale unies weer in kollig. *Beeld*, 1 September.

VAN ROOYEN, Q. (1995c). Getal unies verminder tot slegs twaalf. *Beeld*, 9 September.

VAN ROOYEN, Q. (Ed.) (1986-1997). *South African rugby writers' yearbook*. Pretoria: V&R Printers.

WILLIAMS, J.; HUGHES, M.D. & O'DONOGHUE, P. (2005). The effect of rule changes on match and ball in play time in rugby union. *International Journal of Performance Analysis in Sport*, 5(3): 1-11.

APPENDIX

TABLE 3: **MATCH ATTRACTIVENESS INDICATORS, CURRIE CUP 1986-2007**

	Average total score	*Average margin*	*Equation (1)*	*Equation (2)*	*Equation (3)*	*Number of teams*
1986	45.58	14.17	3.22	147	12.5	6
1987	43.60	14.17	3.08	134	13.9	7
1988	49.21	17.45	2.82	139	10.5	7
1989	54.86	21.82	2.51	138	7.1	8
1990	49.82	16.82	2.96	148	10.3	8
1991	46.37	14.37	3.23	150	14.3	6
1992	48.47	11.13	4.35	211	23.7	6
1993	50.17	15.03	3.34	167	15.1	6
1994	51.33	13.60	3.77	194	14.2	6
1995	47.97	13.37	3.59	172	16.3	6
1996	64.09	28.02	2.29	147	4.5	14
1997	64.68	23.58	2.74	177	7.1	14
1998	55.66	20.52	2.71	151	7.3	14
1999	58.68	19.54	3.00	176	8.1	14
2000	67.14	17.64	3.81	256	14.3	8
2001	62.14	17.36	3.58	222	13.0	8
2002	63.68	19.11	3.33	212	9.3	8
2003	68.21	17.57	3.88	265	11.8	8
2004	60.63	17.16	3.53	214	10.9	8
2005	59.97	19.59	3.06	184	5.1	8
2006	60.65	23.15	2.62	159	6.2	8
2007	55.11	22.75	2.42	133	6.4	8
2008	53.52	20.77	2.58	138	7.06	8

Mr. Krige Siebrits: Department of Economics, Stellenbosch University, Private Bag X1, Matieland 7602, Republic of South Africa. Tel.: +27 (0)21 808 3590, Fax.: +27 (0)21 808 4637, E-mail: johanf@sun.ac.za

(Subject editor: Prof. W.Hollander)