

A Scoring Change in World Cup Rugby

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Abstract

Following the World Cup in 1991, the International Rugby Foundation recommended that one more point be awarded for a try. Although the average number of points per match increased in the subsequent World Cup, the scoring change had no discernable impact on the relative number of tries or successful penalty kicks.

1 Introduction

The Rugby World Cup is held once every four years. The inaugural World Cup was contested in 1987 in Australia and New Zealand. The second was played in Britain and France in 1991 and the third in South Africa in 1995. A month after the 1991 World Cup, the International Rugby Football Board executive council recommended the adoption of a proposal for a seven-point try [1]. Heretofore a try (a scoring play in which the ball is grounded on or behind the opponent's goal line) was worth four points.

Before the upgrading of points for a try, teams could match an opposing team's try (and successful two-point conversion) by kicking two penalties, a penalty and a drop goal, or two drop goals. Teams played for position in order to kick for penalties and drop goals instead of running the ball in an attempt to score tries. The rationale was that it was easier to kick the ball twice successfully than to run it past 15 defensemen for a try. The World Rugby Federation recognized that this style of play was less enjoyable to watch. A ball endlessly kicked back and forth up and down the field was not appealing to fans. In order to encourage more running and less kicking, the scoring change was therefore introduced.¹ A try and a conversion are now worth seven points (instead of six)

¹The scoring change, the first since 1971, had it been in force for the 1991 World Cup, would not have altered the results of any matches.

and cannot be matched simply by two successful kicks.²

The purpose of this brief note is to assess the impact of this scoring change on the number of points scored in match play in 1995 vis-à-vis the two previous Rugby World Cups. Data are from (i) the following web sites: www.rwc99.com/87Fin/87FRes.html, www.rwc99.com/91Fin/91FinRes.html, www.rwc99.com/95Fin/95FinRes.html and (ii) various issues of *The Times* [2].³

2 Results

Table 1 shows the average number of points per match for (i) the "Round of 16" (24 round robin pool matches, six for each of four pools of four teams each) and (ii) quarterfinals, semifinals, and finals (eight final matches, including a third place playoff). For unadjusted scores, a try was worth four points in 1987 and 1991, five points in 1995. For adjusted scores, a try was hypothetically still worth four points in 1995. The comparisons involving unadjusted scores reveal a significant drop from 1987 to 1991 and a statistically discernible rebound in scoring from 1991 to 1995. Surprisingly, when a try is held constant at four points, there was no marked increase in scoring between 1991 and 1995 in pool matches ($p = .13$), although there was an increase in the final eight tournament matches ($p = .022$). Using adjusted scores, points per pool match were marginally (7.7 percent) lower in 1995 than in 1987 ($p = .51$).

Table 2 shows the breakdown of scoring plays: tries, conversions, penalties, and drop goals.⁴ The fraction of scoring plays (tries, penalties, and drop goals) that were tries was 148/291 or 50.9 percent in 1991. Four years later (after increasing the relative worth of a try) the corresponding figure was about the same, 51.4 percent, down from 61.0 percent in 1987. One might argue that the policy of increased points for a try might encourage teams to give away penalties rather than concede a try. The absolute number of penalties did indeed rise from 127 to 160 between 1991 and 1995. But, the relative frequency of

² If the scoring change had not been adopted, Ireland's 1995 Pool 3 match with Wales would have been drawn 21-21 rather than a 24-23 Irish victory. Both teams would have had identical 1-1-1 records. As it was, Ireland (and New Zealand) advanced to the Quarterfinals. Using four points for a try, Wales and Ireland would have scored the same number of combined points (59) against two common pool opponents, Japan and New Zealand. Yet, Wales would have allowed fewer points (39 v. 62).

³ There were numerous discrepancies with the detailed results reported at these web sites. The numbers of tries, conversions, penalties, and drop goals when multiplied by their respective values did not equal game point totals for the following matches: 1987 (Australia v. Japan; Wales v. Tonga; New Zealand v. Italy; Italy v. Argentina; Italy v. Fiji; France v. Scotland; France v. Zimbabwe; Scotland v. Romania; France v. Fiji; New Zealand v. France); 1991 (Canada v. Romania; Ireland v. Australia); and 1995 (Western Samoa v. Italy; England v. Italy; Wales v. Japan; New Zealand v. Wales; New Zealand v. Japan; France v. Ireland). The London-based *Times* provided the necessary match details.

⁴ A conversion is kicked after a try is scored. A penalty is also kicked and takes place from a tee when play is stopped by a referee. A drop goal may be attempted in open play. The ball is dropped and kicked on the half volley between the goal-posts.

penalties remained virtually the same (43.6 percent of all scoring plays excluding conversions in 1991 and 44.0 percent in 1995).

In 1992 the value of tries was increased to encourage more of them, that is, encourage players to run and pass the ball. Under the new values, the average number of points per match increased in the 1995 World Cup from the previous World Cup. If, however, the value of a try had been held constant at four points, there would have been no discernible increase between 1991 and 1995 in average points scored per pool match. Moreover, the increase in points for try scoring surprisingly had no discernible impact in 1995 on the relative frequency of tries or successful penalty kicks.

Despite the higher relative value of the try, the scoring change has apparently not diminished the importance of the kicking game or changed the style of play.

3 References

[1] D. Hands, Rugby ready to give ...ve points for try, The Times, November 7, 1991, p. 40.

[2] London's The Times, various issues.

| | Round of 16 | Unadjusted | Quarters, Semis and Finals | Round of 16 | Adjusted | Quarters, Semis and Finals |
|----------------------------------|-------------|------------|-------------------------------|-------------|----------|-------------------------------|
| 1987 | 53.50 | | 42.13 | | | |
| 1991 | 40.88 | | 27.00 | | | |
| <i>p</i> -value on difference | 0.014 | | 0.017 | | | |
| 1991 | 40.88 | | 27.00 | 40.88 | | 27.00 |
| 1995 | 55.75 | | 49.00 | 49.37 | | 44.75 |
| <i>p</i> -value on difference | 0.024 | | 0.018 | 0.13 | | 0.022 |
| 1987 | 53.50 | | 42.13 | 53.50 | | 42.13 |
| 1995 | 55.75 | | 49.00 | 49.37 | | 44.75 |
| <i>p</i> -value on difference | 0.75 | | 0.41 | 0.51 | | 0.72 |

Table 1. World Cup Average Game Point Comparisons, 1987-1995

| | Tries | Conversions | Penalties | Drop Goals |
|-------------------------------|-------|-------------|-----------|------------|
| Round of 16 | | | | |
| 1987 | 187 | 114 | 97 | 11 |
| 1991 | 127 | 76 | 94 | 13 |
| 1995 | 153 | 108 | 108 | 11 |
| Quarters, Semis and Finals | | | | |
| 1987 | 41 | 34 | 31 | 4 |
| 1991 | 21 | 12 | 33 | 3 |
| 1995 | 34 | 24 | 52 | 6 |
| All Matches | | | | |
| 1987 | 224 | 148 | 128 | 15 |
| 1991 | 148 | 88 | 127 | 16 |
| 1995 | 187 | 132 | 160 | 17 |

Table 2. Breakdown of Scoring Plays, 1987-1995