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STIRLING

Scotland's
University for
Sporting Excellence

VTH WORLD CONFERENCE ON SCIENCE AND SOCCER
UNIVERSITÉ RENNES 2
31ST MAY – 2ND JUNE 2017

**QUANTITY VERSUS QUALITY?
EVOLUTION OF THE NUMBER OF NATIONAL TEAMS AND IMPACT ON
OUTCOME UNCERTAINTY IN THE FIFA MEN'S WORLD CUP**

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Introduction

Background, aim and structure



- Outcome uncertainty related to competitive balance (equilibrium between teams) in the sports economics literature
- Often an assumption that increasing the number of teams will reduce competitive balance and thus outcome uncertainty
- Argument that the relative levels of the different teams justify such an increase
- Aim = to investigate the impact of the evolution of the number of national teams on outcome uncertainty in the FIFA men's World Cup
- Structure:
 1. Theoretical framework
 2. Methods
 3. Results
 4. Discussion

1. Theoretical framework

Competitive balance and intensity



- Competitive balance = a concept currently extremely well documented (François, Scelles & Dermit-Richard, 2017, to come; Scelles, 2016)
 - It postulates the necessity of equilibrium between teams to guarantee outcome uncertainty and thus generate fan demand
 - Weakness of competitive balance = not incorporating sporting prizes that allow possible measures of incentives for teams and fans (Kringstad, 2005; Andreff, 2009)
- ⇒ Need for a concept that includes both competitive balance and sporting prizes
- Kringstad and Gerrard (2004a, 2004b, 2005, 2007a) propose such a concept through competitive intensity but stopped with it in 2007 (Kringstad & Gerrard, 2007b)
 - My PhD (Scelles, 2009, 2010) and most of my subsequent research are based on this concept of competitive intensity

2. Methods

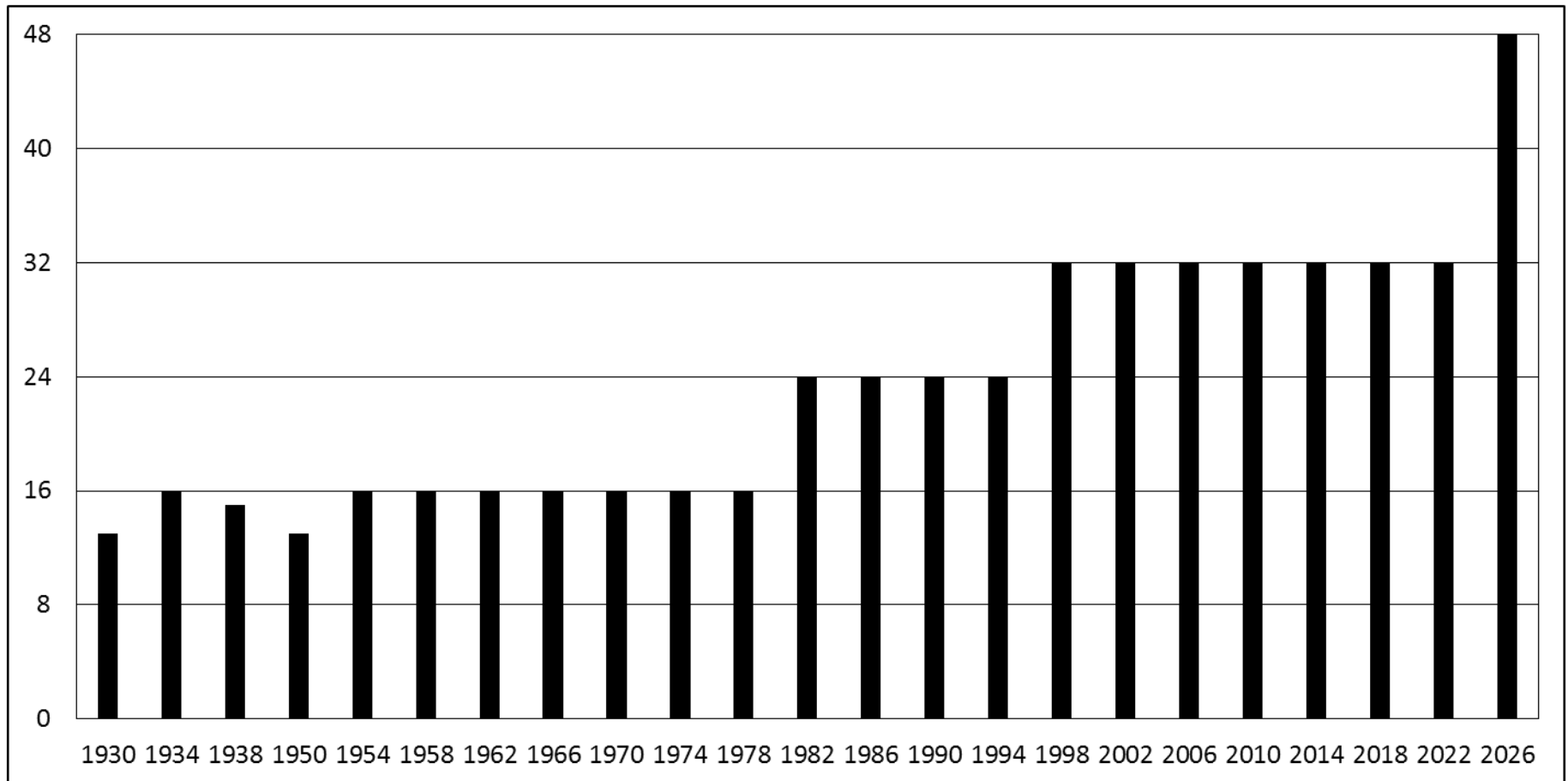
How to measure outcome uncertainty for a WC?



- Most of the measures used in the literature are appropriate for a championship but not for a tournament like a World Cup
- For the latter, concepts of intra-match competitive balance and intensity
- Intra-match competitive balance = percentage of time with a difference of no more than one goal between both teams
- Intra-match competitive intensity = percentage of time when a coming goal can change the situation of at least one team regarding its qualification or the team it will face next round
- The two concepts are different: a match can have a perfect competitive balance (CB) but no competitive intensity (CI)
⇒ importance to calculate the ratio CI/CB
- CB and CI are supposed to be dependent on the development of football (Scelles & Andreff, 2015), the number of teams (Szymanski, 2003) and the competition format (Scelles, 2016)

2. Methods

Evolution of the number of national teams



2. Methods

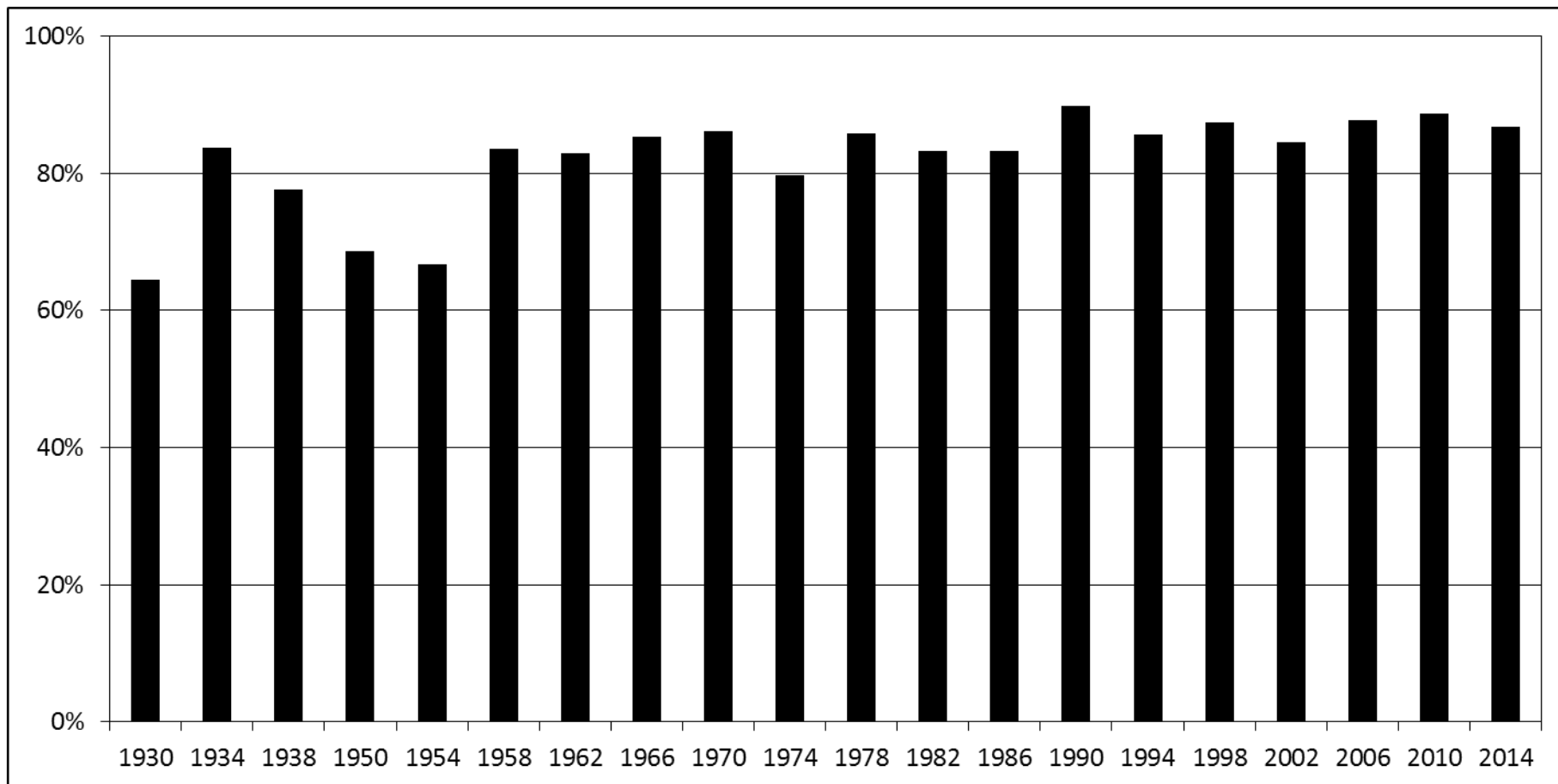
Evolution of the competition format



- 1930: 4 groups of 3 or 4 then semi-finals (only 1st of each group qualified, 31%)
- 1934 and 1938: knockout tournament
- 1950: 4 groups of 2, 3 or 4 then their 4 winners in a new group (only 1st of each group qualified, 31%) with the winner being World Champion
- 1954 to 1970: 4 groups of 4 then quarter-finals (1st 2 of each group qualified, 50%)
- 1974 and 1978: 4 groups of 4 then 1st 2 of each group in 2 new groups of 4 then semi-final
- 1982: 6 groups of 4 then 1st 2 of each group in 4 new groups of 3 then semi-final
- 1986 to 1994: 6 groups of 4 then round of 16 (1st 2 of each group + 4 best 3rd qualified, 67%)
- Since 1998: 8 groups of 4 then round of 16 (1st 2 of each group qualified, 50%)

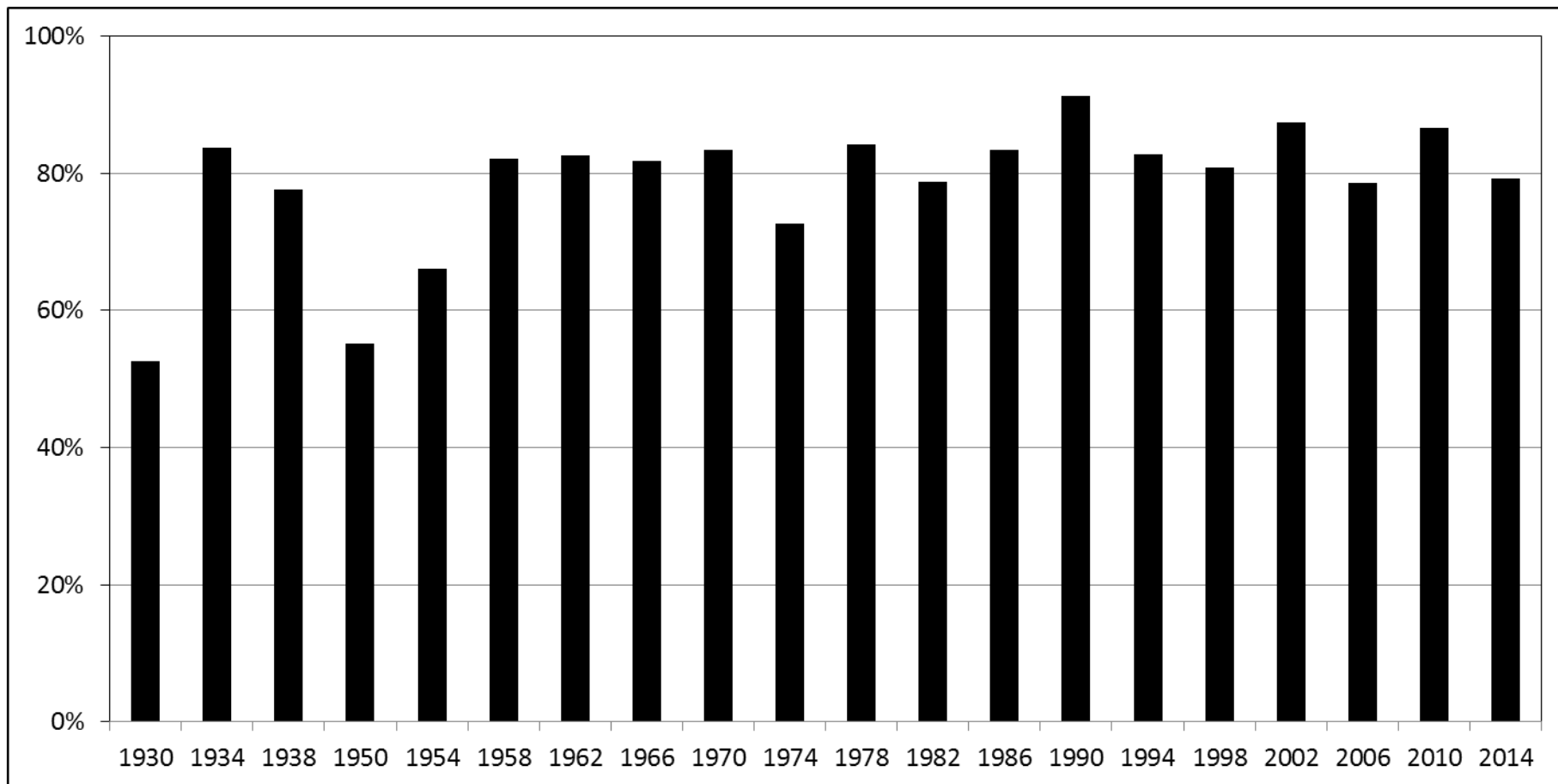
3. Results

Evolution of competitive balance



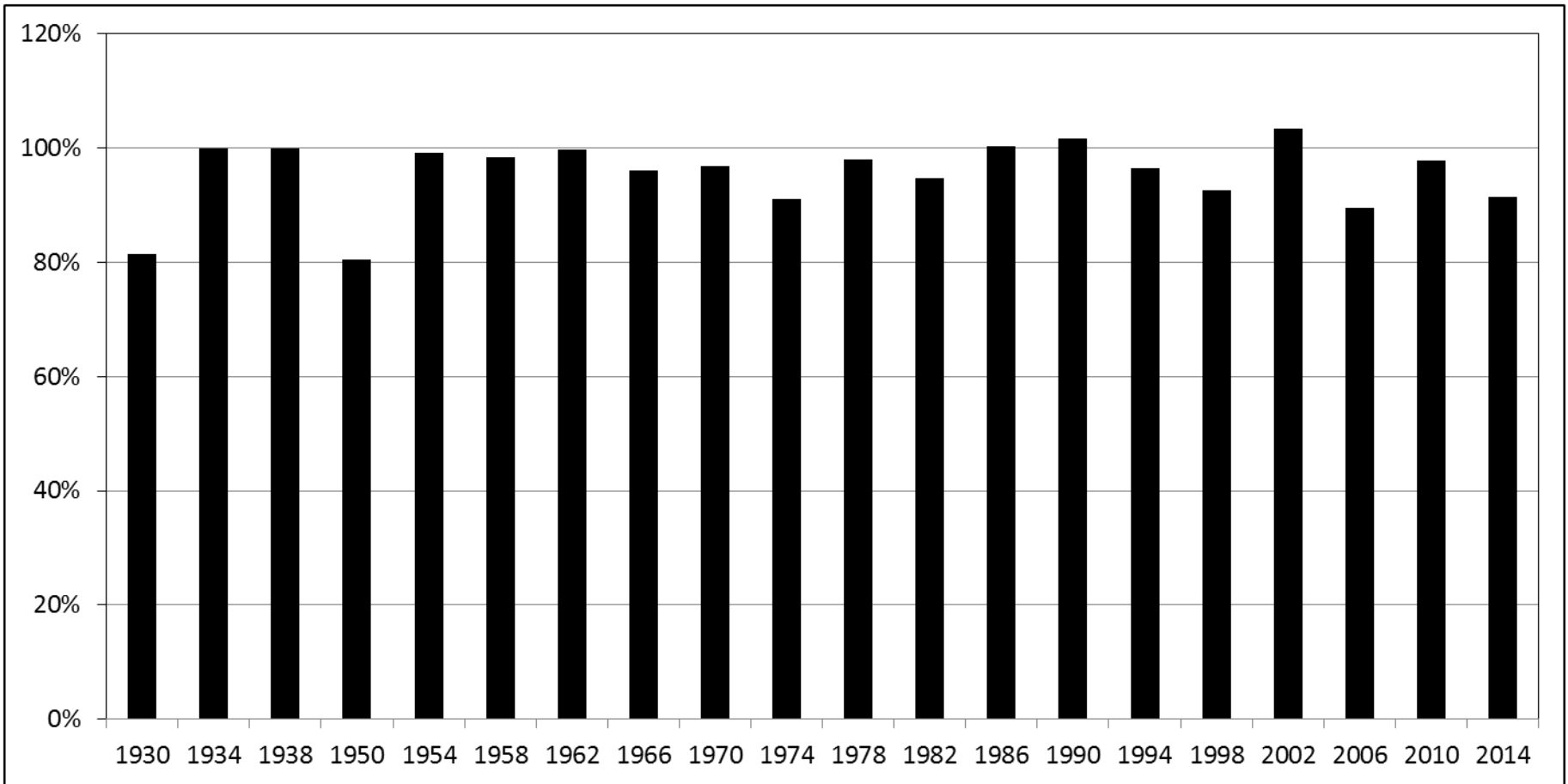
3. Results

Evolution of competitive intensity



3. Results

Evolution of the ratio CI/CB



4. Discussion

Main conclusions



- 1930 and 1950 with low competitive balance and percentage of teams qualified for the next round were the less uncertain World Cups
- 1934 and 1938 with only knockout tournament led to half or almost half of the teams travelling to Italy and France for only 1 game
- No negative impact of the successive increases in the number of teams on competitive balance, consistent with the idea of an increase in the general level in football over time
- Another interpretation is that the numbers of teams were too low compared to the optimal number for competitive balance, i.e. the maximum number without a decrease in competitive balance
- A group stage with more rather than exactly 50% of teams qualified for the next round is more likely to generate an optimal competitive intensity (CI/CB closer to 100%)
- Nevertheless, qualifying the best 3^{rds} is not the most straightforward rule

4. Discussion

48 teams, a number too high?



- Our main conclusions suggest the importance of the development of football without excluding that of the number of teams on competitive balance
- Question = to know whether 48 teams will be appropriate to ensure competitive balance in 2026 given the level of football development in the different continents at that time
- Proposed breakdown: Europe 16 teams (13 currently); Africa 9.5 (5); Asia 8.5 (4.5); South America 6.5 (4.5); Concacaf 6.5 (3.5); Oceania 1.5 (0.5) (FIFA, 2017)
- This may allow some countries like China and Canada to qualify
- From an economic point of view, reaching such countries is clearly interesting for FIFA
- Nevertheless, a model we built for the 2011-2013 period (Scelles & Andreff, in press) showed that they were around one goal short from the lowest qualified countries for the 2014 FIFA men's World Cup Honduras and Cameroon that did not perform well

4. Discussion

48 teams, a number not too high!



- The format of competition decided by FIFA (16 groups of 3 then round of 32) may limit the number of matches played by the lowest teams to 2
 - ⇒ Limited weight in the overall competitive balance and intensity
 - ⇒ Limited negative impact on them
- 67% of teams qualified at the end of the group stage then knockout stage from the round of 32 is positive for competitive intensity (and qualifying only the 1st 2 of each group is straightforward)
- As a whole, the new format should be beneficial from an economic point of view without being too detrimental for competitive balance and intensity
- Besides, it might generate an incentive to play their best in more matches for more teams during the qualification phase
- This might contribute to a general improvement in the level of football
 - ⇒ Quantity should not be detrimental to quality and might even improve it on the long term!



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**THANK YOU FOR YOUR ATTENTION!
ANY QUESTIONS?**

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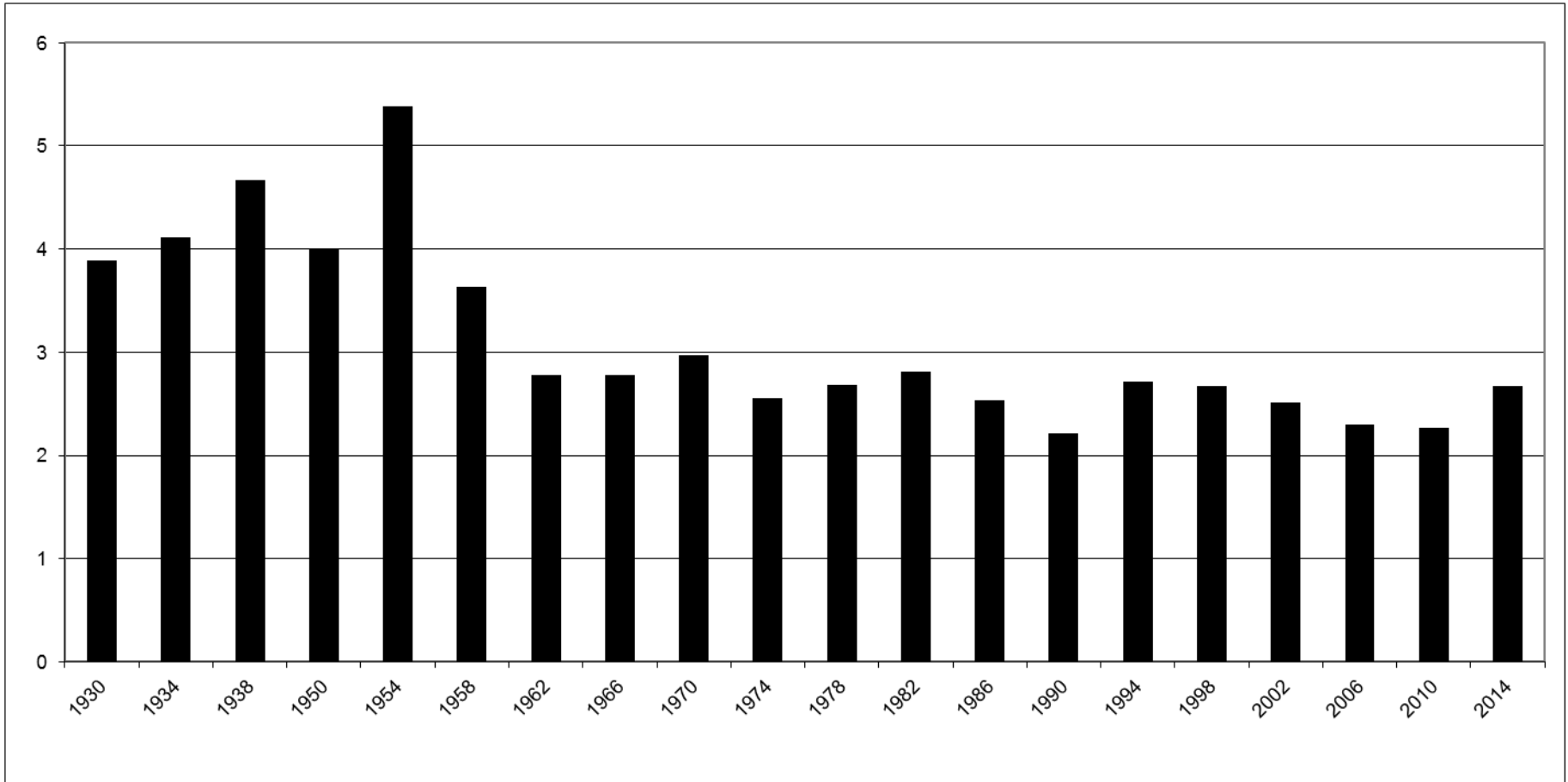
Appendices

Goals scored per match



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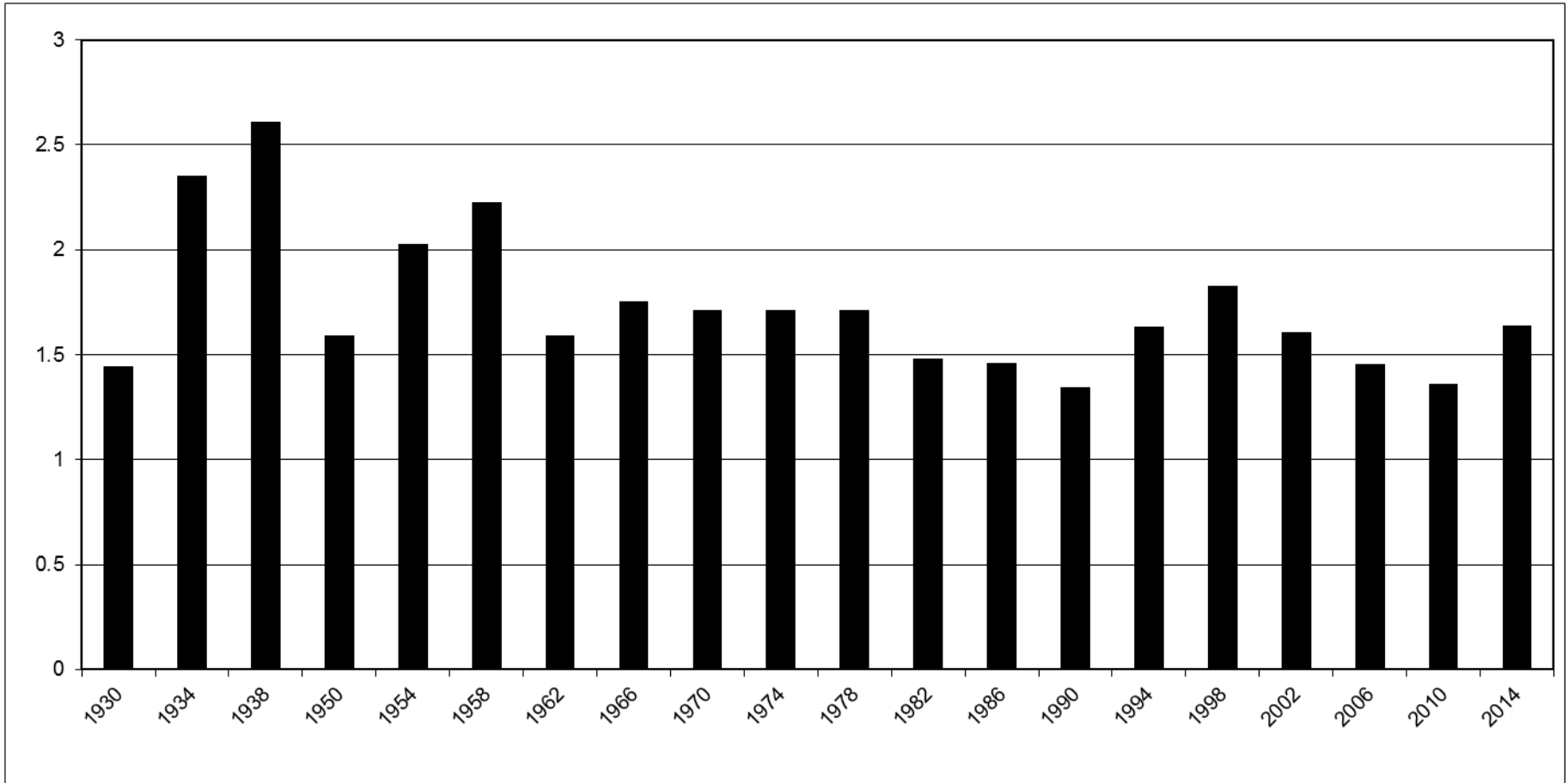
Appendices

Fluctuations per match (lead and equalizer)



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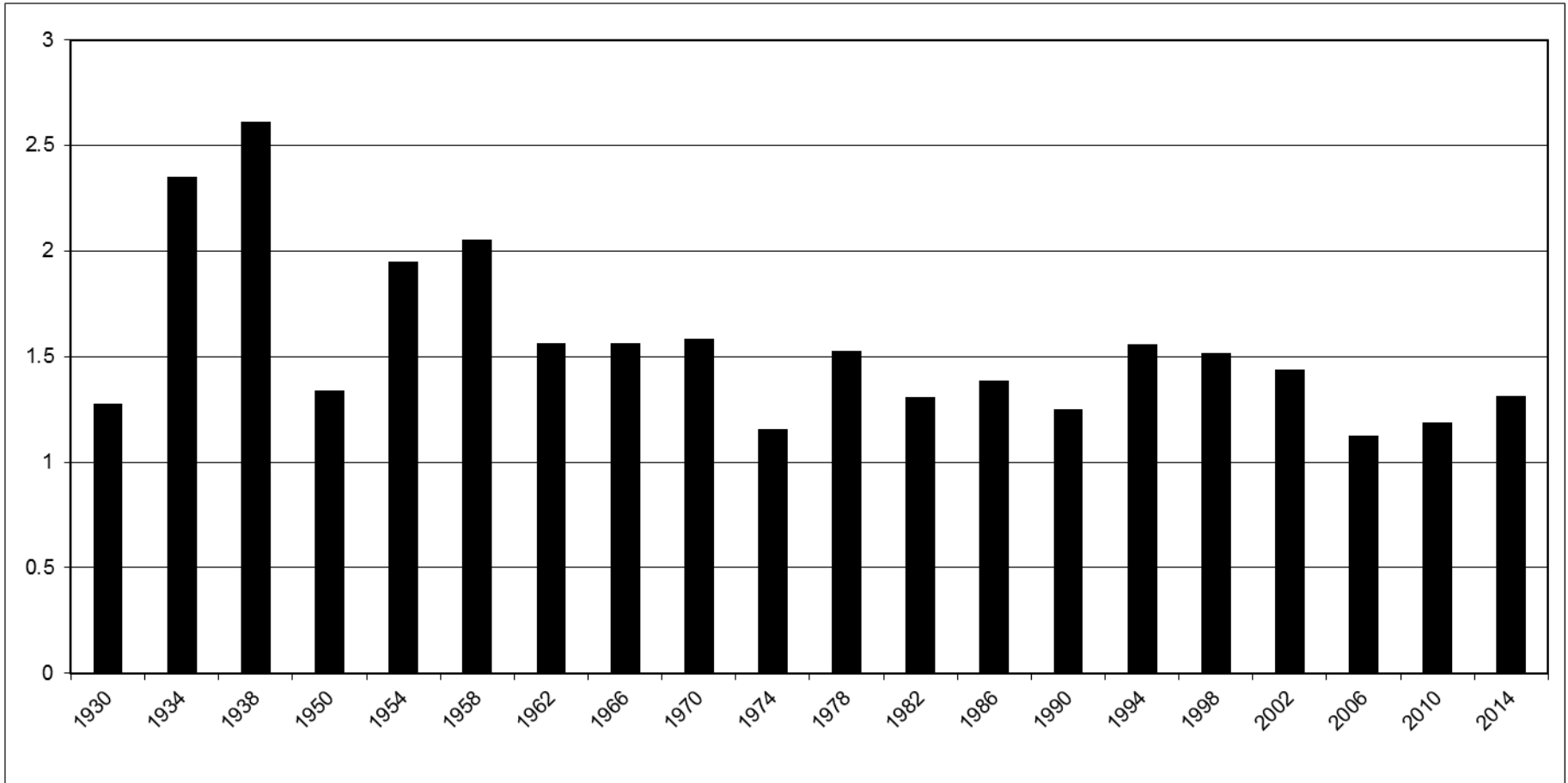
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'Actual' fluctuations per match



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Appendices

Cumulative TV audiences (FIFA, 2007)



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