

Book Review: Beautiful Game Theory: How Soccer Can Help Economics by Ignacio Palacios-Huerta

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Beautiful Game Theory uses soccer to test economic theories and document novel human behaviour. **Ignacio Palacios-Huerta** offers insights into game theory and microeconomics, covering topics such as mixed strategies, discrimination, incentives, and human preferences. **Peter Dawson** approves of the mix between analytical rigour and stories, and there are many aspects that would interest journalists and policy-makers alike.

Beautiful Game Theory: How Soccer Can Help Economics. Ignacio Palacios-Huerta. Princeton University Press. 2014.

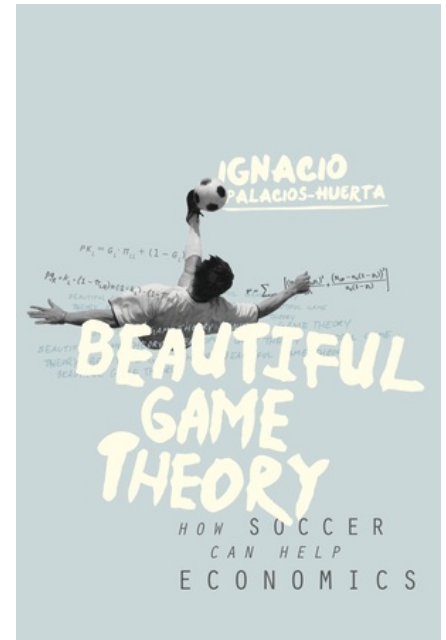
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Ever since the historian and essayist Thomas Carlyle described economics as ‘the dismal science’, economists have attempted to shake off this unwanted tag. And whilst the global financial crisis has undoubtedly increased interest in economics, it arguably remains accessible only to those with a keen interest in complex mathematical models. To counter this, a number of so-called “pop economics” books have appeared in recent years that aim to apply economics to relatable issues. Popular examples include the *freakonomics* trilogy by [Dubner and Levitt](#) and several excellent contributions from [Tim Harford](#).

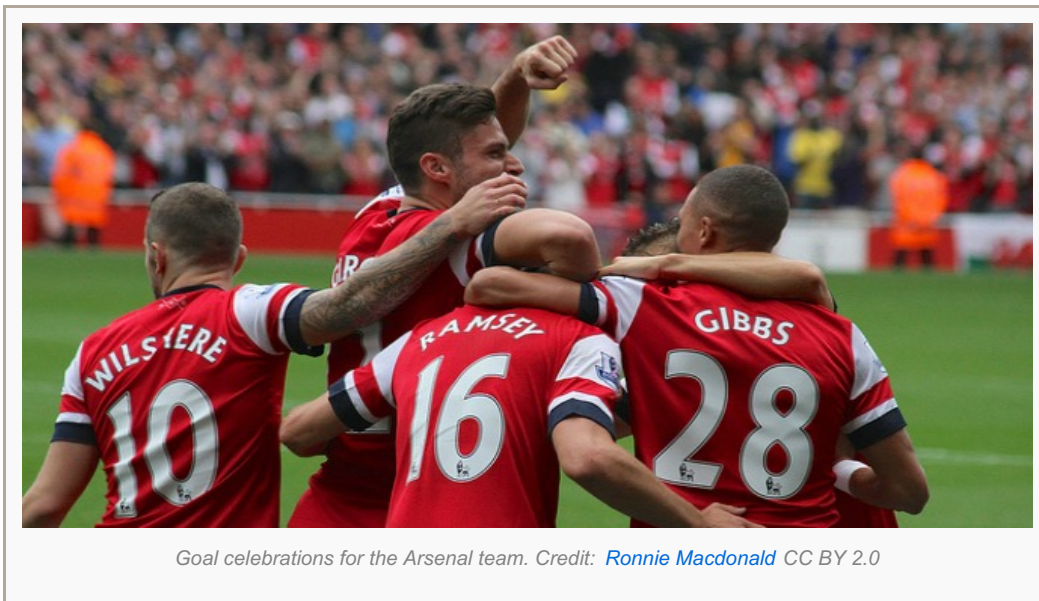
The focal point of *Beautiful Game Theory: How Soccer Can Help Economics* written by LSE Professor [Ignacio Palacios-Huerta](#) is obviously narrower, in that it focuses on sport, and just one sport in particular – soccer (association football) – but it adds to a small, but growing, number of contributions that have attempted to link economics with sport (see, for example, *The Numbers Game* by Anderson and Sally (2013), and *Soccernomics* by Kuper and Szymanski (2012)). In contrast to these contributions the analysis provided in Palacios-Huerta’s book is more focussed and more rigorous, with many of the chapters containing a good amount of technical detail punctuated with stories and anecdotes.

Its closest comparison is perhaps with the monograph *Economics of Football* by Stephen Dobson and John Goddard. However rather than focusing on the economics of football, Palacios-Huerta considers football through the lens of economics (economics *through* sport). The author makes it clear that this is an economics book with football being used as a vehicle to help understand and explain economic phenomena. That said, it also offers a number of answers to questions that might interest those with a more direct interest in football and sport more generally: are footballers rational and to what extent are they motivated by incentives?

Most, if not all, chapters can be described as testing aspects relating to behavioural economics and many are inextricably linked with game theory. A feature that is prominent in the first half of the book is that it sets out an approach to test the minimax theorem – a decision rule for minimising the possible loss while maximising the potential gain. This is achieved under the sphere of penalty-kicks, which lends itself quite naturally to a straightforward zero-sum type game (one agent wins whilst the other loses) where two decision-makers (penalty taker and goalkeeper) make simultaneous strategic decisions (to shoot or dive to the left or right). The work presented in chapter 1 might be familiar to some, since it is based on a 2003 paper written by the author and published in the *Review of Economic Studies*. However the original dataset has been extended to an impressive 9,017 penalty-kicks over the period September 1995 to June 2012. The main finding, which might surprise some, is that penalty-takers and goalkeepers, on average, adopt mixed strategies, strategies that are consistent with rational



behaviour.



The theme of penalty-kicks continues in the next four chapters. An interesting comparison with the first chapter is presented in chapter 2 where the tests which were considered on the football field are now applied to a laboratory setting. This is important work as a common criticism that is often directed towards laboratory style experiments is the extent to which the results are comparable to those found in real-life (what is referred to in the literature as external validity). Using the same professional subjects, and an experiment that involves playing cards rather than kicking a football, it is found that decision-making is consistent with the findings presented in chapter 1. The remaining three chapters of this part of the book consider the extent to which behaviour of penalty-takers and goalkeepers might differ in less “mature markets”, how behaviour maps out in the brain, and psychological pressure and sequencing associated with penalty-kick contests.

The five chapters which make up the second half of the book address questions associated with incentives, fear, emotion and social pressure. As with the first part of the book, some of these chapters are based on previously published material. In contrast to the first part of the book there is no central theme, although it is the case that the role of incentives features quite prominently in a number of chapters. For example, chapter 8 provides an empirical test of the relationship between incentives and aggressive play using the rule change that increased the number of points for a win from two points to three points that became almost universally adopted by 1995. Drawing upon data from the Spanish League competition (La Liga) it is found that the change in the reward structure generated a significant increase in both the number of fouls and the number of yellow cards.

The impact associated with modifying the points system also features in chapter 10, utilising a unique experiment in Argentina for the 1988-89 season that introduced penalty shoot-outs in games that were tied after 90 minutes. The main conclusion developed in this chapter is that those exposed to penalty-kick contests more often were better able to control their emotion. From the point of view of incentives however there is little discussion here about the extent to which the introduction of penalty-kick contests in deciding tied games encouraged more attacking, defensive or aggressive play.

As well as Palacios-Huerta’s own contributions the book also contains two detailed contributions from well-established scholars: one draws upon financial economics through the testing of the efficient market hypothesis and based on a recently published article. The other study is older, but addresses the equally important issue of labour market discrimination.

Overall the author is extremely well positioned to write about these issues as he has (and continues to be) one of the leading exponents in the field. I personally like the mix between analytical rigour and stories and whilst some

sections are less accessible to the general reader there are many things in here that would interest journalists and policy-makers alike. All readers of this book should be left in no doubt the message the book is essentially conveying: using soccer as a vehicle to test economic theories should be taken seriously.

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