



**Centre for
Economic
Performance**

Discussion Paper

ISSN 2042-2695

No. 1952
October 2023

Has financial fair play changed European football?

Ariela Caglio
Sebastien Laffitte
Donato Masciandaro
Gianmarco I.P. Ottaviano



THE LONDON SCHOOL
OF ECONOMICS AND
POLITICAL SCIENCE ■



**Economic
and Social
Research Council**

Abstract

In 2011 UEFA, the governing body of European football, introduced the Financial Fair Play Regulation (FFPR), consisting of a set of financial restraints to be met by clubs as a prerequisite for participation to its competitions. The aim of the FFPR was to introduce financial discipline into the clubs' decision-making processes, and ultimately protect the long-term viability of the European football industry. The reform was criticized because of possible unintended detrimental consequences. In particular, Peeters and Szymanski 2014 provided a model-based ex-ante simulation analysis showing that the reform would increase the profitability of clubs, but also tilt the competitive balance in favor of the top teams, thus reducing the interest of fans and investors as one of the main attractions in sports is precisely that the best team does not always win. Exploiting an original dataset between the seasons 2007-2008 and 2019-2020, we provide an ex-post econometric evaluation of the effects of the introduction of the FFPR revealing causal evidence that largely vindicates those ex-ante predictions.

Keywords: accounting measurement, Financial fair play (FFP), financial sustainability, team's quality, competitive balance

This paper was produced as part of the Centre's Trade Programme. The Centre for Economic Performance is financed by the Economic and Social Research Council.

We thank Alessandro Archetti and Fabio Gatti for excellent research assistance. We are indebted to participants at conferences, seminars and workshops for their observations as well as to the editor and two reviewers of this journal for their precious comments.

Ariela Caglio, Bocconi University, BaffiCarefin Centre. Sebastien Laffitte, ECARES, Université Libre de Bruxelles. Donato Masciandaro, Bocconi University, BaffiCarefin Centre and SUERF. Gianmarco Ottaviano, Bocconi University BaffiCarefin Centre, IGER, CEPR and Centre for Economic Performance at London School of Economics.

Published by
Centre for Economic Performance
London School of Economic and Political Science
Houghton Street
London WC2A 2AE

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means without the prior permission in writing of the publisher nor be issued to the public or circulated in any form other than that in which it is published.

Requests for permission to reproduce any article or part of the Working Paper should be sent to the editor at the above address.

© A. Caglio, S. Laffitte, D. Masciandaro and G. Ottaviano, submitted 2023.

1. Introduction

In 2009, the Union of European Football Associations (UEFA), the European football's governing body, launched a set of rules known as the Financial Fair Play Regulation (FFPR), which was intended to introduce financial discipline and accountability into the decision-making processes of European football clubs, stamp out 'financial doping', and ultimately protect the long-term viability of the European football industry. This major regulatory intervention was finally approved in 2010 and the first assessment of football clubs was carried out in 2011.

At the time when the FFPR was first discussed, football was a largely unprofitable business and the level of debt was unsustainable: half of clubs were losing money and combined yearly net losses of all European top-divisions went from €0.6 billion in 2007 to more than €1.5 billion in 2010.⁶ Limiting clubs' ability to 'gamble' on sporting success by buying big names was considered critical to ensuring stability of the whole system: the FFPR introduction aimed at encouraging responsible spending by football managers and at increasing clubs' credibility and transparency for the long-term benefit of football (UEFA, 2012, Article 2, Para 2). For this purpose, a key performance measure of clubs' results was established, the so-called Break-Even Requirement (BER): over a three-year rolling period (beginning with the financial year 2011/12) and subject to a defined level of acceptable deviation, the performance of clubs would be measured in terms of break-even between "relevant" expenses and "relevant" income (UEFA, 2012, Article 61).⁷

The BER is the cornerstone of the FFPR architecture and essentially requires clubs to act as self-sustaining businesses. As Michel Platini – who was the UEFA's President when the BER was

⁶ UEFA issues a yearly Benchmarking report about the financial situation of nearly 700 first division clubs in 55 member associations.

⁷ See section 2.1 on the notion of "relevant" income and expenses. For example, finance costs incurred in constructing a stadium are not included in the calculation of the BER as relevant expenses. In effect, this introduces a distinction between good debt and bad debt, where debt taken to purchase new players or meet players' salary obligations is considered bad.

introduced – put it, ‘living within your means’ is the basis of accounting but it has not been the basis of football for years.⁸

With the BER, UEFA has put forward a public interest argument. The new measure required by UEFA is ‘political’ as the underlying accounting numbers and calculations have been selected with a particular outcome in mind: clubs should not overspend on big names for the long-run integrity of competitions and the good of football and society at large. From the clubs’ perspective, besides the additional resources they get through UEFA competitions, the new accounting measure provides an opportunity to legitimate themselves. Sponsors, club managers and players are concerned about the exclusion from such competitions, which has not only adverse economic effects but also reputational ones exacerbated by fans’ pressures and the media.

The BER brings also more financial transparency in a rather opaque setting: “the tyranny of the transparency of the league tables”, as Cooper and Johnston 2012 (p. 624) put it, can have severe, adverse financial consequences, if not adequately counterbalanced with some forms of financial transparency. Using the words of Baxter et al. 2019, the BER becomes a value meter that helps to remake interests in the football industry. Its calculative approach throws light on a broader conceptualization of clubs’ behavior and performance, aiming at balancing sport performance with financial performance, also in the dominant narratives about football and clubs’ success or failure in the media.

Despite its stated aims, since its introduction the FFPR has raised several qualms about its likely effects and possible unintended consequences. An earlier discussion and an empirical assessment can be found in Peeters and Szymanski 2014, who summarize the critiques to the FFPR starting from a complaint filed by the Belgian competition lawyer Jean-Louis Dupont with the European Commission. The BER may (unlawfully) restrict investments, fossilize the existing market structure

⁸ See: <https://uk.reuters.com/article/uk-soccer-uefa-finances/platinis-financial-reforms-approved-by-uefa-idUKTRE58E2PP20090915>.

(as top clubs are likely to maintain their leadership and even increase it), reduce the number and amounts of transfers, decrease the number of players under contracts per club, and the revenues of players' agents.⁹ To empirically assess these arguments, Peeters and Szymanski 2014 perform an *ex-ante* impact evaluation through the simulation of a quantitative model of a football league calibrated on data from four of the 'big five' European football leagues that dominate the professional football industry in Europe on the playing field and in economic terms: England's Premier League, France's League 1, Italy's Serie A, and Spain's La Liga (with Germany's Bundesliga being left out). With some variation across leagues, their dataset covers the decade *before* the introduction of the FFPR. The model's simulations predict that the BER would increase the profitability of clubs largely by reducing wage spending, but also cement the competitive advantages of incumbent top teams by ruling out any challenge from clubs bankrolled by wealthy investors. In both respects, the FFPR would likely fall foul of EU competition law.

The aim of the present paper is to revisit these predictions with the benefit of hindsight through an *ex-post* econometric analysis leveraging additional data collected for the decade *after* the introduction of the FFPR. After several years since its launch, despite a heated public debate, hard evidence about the actual consequences of the FFPR for the viability of the European football industry is still quite scant. What we provide is the first detailed *causal* assessment of the joint effects of the FFPR on the income statements and balance sheets of European football clubs on the one side, and the competitive balance of European leagues on the other. Other studies exist that have documented the financial issues within the European football industry (e.g., Buraimo et al. 2006; Lago et al. 2006; Franck 2010), but no previous contribution has analyzed the causal impact of the FFPR on clubs' financial performance. Studies also exist that have documented the decline of competitive balance for some leagues after the introduction of the FFPR (e.g. Plumley et al. 2019, Ramchandani et al. 2023), but no previous contribution has demonstrated the causal link between the FFPR and competitive balance.

⁹ See Sass (2016) for a theoretical argument on how the BER would fossilize existing advantage.

To this end, we exploit an original dataset on 186 clubs playing in all the top five European leagues between the seasons 2007-2008 to 2019-2020, corresponding to the accounts of clubs from 2008 to 2020 that competed in the top league of each country at least once in the observed period. Financial data are extracted from Orbis (Bureau van Dijk) about clubs' balance sheets and income statements.¹⁰ The sporting performance of clubs is captured by their ELO ranking. This measure, mainly used for chess rankings or by the FIFA Women's World Ranking, captures clubs' relative strength based on results against opponents accounting for their respective strength, which makes it different from standard point-based rankings.¹¹

To study the reaction of European clubs to the introduction of the FFPR along different margins, we follow a *generalized difference-in-differences* strategy. Leveraging the fact that punishments for violating the FFPR are mostly immaterial for clubs that do not (aspire to) participate to UEFA competitions, we compare 'targeted' clubs that tend to participate to these competitions with 'control' clubs that tend not to participate, and thus have little incentive to abide with the FFPR as long as doing so involves additional costs. As the logic of sanctions for infringing the FFPR *de facto* implies that clubs aspiring to UEFA competitions should care much more than other clubs about complying with the FFPR, we take the probability of participating in such competitions as a proxy for the intensity of 'treatment'.

On the financial side, we find that the introduction of the FFPR has been associated with an improvement in financial outcomes consistent with the efficacy of the BER (especially for clubs with foreign investors), but this positive development in the clubs' income statements has yet to be translated into better overall debt sustainability. In other words, only the financial outcomes targeted by the reform have strongly reacted to the reform.

¹⁰ Orbis (Bureau van Dijk) is a database of comparable financial and business information on Europe's largest 500,000 public and private companies by total assets.

¹¹ For instance, Plumley et al. (2019) measure competitive balance in relation to individual leagues as the level of dominance by a select number of clubs in terms of title wins and top four finishes (those roughly granting qualification to the Champions League, UEFA's most prestigious competition).

On the sporting side, we observe a positive impact of the reform on the ELO ranking of treated clubs. The effect is larger and significantly different from zero six years after the reform, mimicking the behavior of clubs' financial variables. Comparing a control group club marginally in the top 20% of the ELO ranking with a treatment group club marginally in the bottom 20% of its group, the latter had a win chance of 53.9% in 2011 and higher chance of 61.6% six years after the reform. In other words, this result suggests that the introduction of the FFPR has decreased the competitive balance between treatment and control clubs. Our *ex-post* findings vindicate the *ex-ante* predictions by Peeters and Szymanski 2014 with a caveat: the break-even rule has increased the profitability of clubs largely by rising revenues relative to wage spending, rather than by reducing the latter as predicted by their model.¹²

Our analysis is related to other studies of the FFPR concerned with its unintended consequences beyond Peeters and Szymanski 2014 and Plumley et al. 2019. With the exception of Franck 2014, almost all existing studies cast doubts on the effectiveness of the FFPR. In particular, existing contributions generally emphasize both the importance of competitive balance and the fact that football clubs are not profit-maximizing businesses (e.g., Arnold and Benveniste 1987). The FFPR is frowned upon, as it is seen as being inspired by the view of clubs as 'standard' profit-maximizing organizations. Following this line of reasoning, three main objections have been advanced. A first objection is that UEFA, by implementing the FFPR, forgoes potential benefits stemming from benefactors (also known as 'sugar daddies') injecting unlimited quantities of external capitals into the football industry. Given some current arrangements on the allocation of league money (from prizes to television rights), absent external injections, the introduction of the BER would lead to a worsening of the competitive balance and, consequently, to a decrease of the leagues' appeal. A second objection is that the new rules would neither promote competitive balance nor improve the

¹² In this respect, however, it should be noted that Peeters and Szymanski 2014 simulated the 2011 season as if the FFPR had been present in the previous three years, taking that year's total revenues in European football as given. Accordingly, as total revenues increased substantially in subsequent years, their prediction should not be stretched beyond the very start of our sample period.

clubs' financial performance (Dimitropoulos 2011). Clubs would have strong incentives to bypass the regulations, for example, using 'creative' accounting especially in the form of accruals. A final objection (Storm and Nielsen 2012) is related to the social significance and community embeddedness of football clubs and the consequent limitations of a reasoning based solely on economic and financial criteria. These studies are typically based on theoretical arguments without any empirical investigation of causal effects.

The rest of the paper is organized as follows. Section 2 provides a summary description of the FFPR. Section 3 presents the publicly available data we use. Section 4 details the research strategy. Section 5 reports our findings as well as some robustness checks. Section 6 concludes.

2. Financial Fair Play Regulation

The FFPR prescribes that, in order to be admitted to the UEFA club tournaments (Champions League and Europa League), clubs must fulfill five broad categories of requirements related to sporting, infrastructures, personnel, legal and financial issues.¹³ The FFPR pursues different goals. General goals target the standards of all aspects of football, including the care of young players, the promotion of practice of good management, the improvement of sporting infrastructures, the protection of the integrity of UEFA tournaments. Specific financial goals target the financial sustainability of clubs including the increase in transparency and credibility, the development of benchmarking for clubs, the protections of creditors, the introduction of financial discipline, the need for operating on revenues, the emphasis on responsible spending to support long-term financial sustainability. In particular, with the introduction of the FFPR, football clubs are required to present annual audited financial statements (i.e., an income statement, a balance sheet, and a cash flow statement) including

¹³ The aims of these requirements are to: a) further promote and continuously improve the standards of all aspects of football in Europe and give continued priority to the training and care of young players in every club; b) ensure that clubs have an adequate level of management and organization; c) adapt clubs' sporting infrastructures in order to provide players, spectators and media representatives with suitable, well-equipped and safe facilities; d) protect the integrity and smooth running of the UEFA club tournaments; e) foster the development of benchmarking for clubs in financial, sporting, legal, personnel, administrative and infrastructure-related criteria throughout Europe.

explanatory notes on significant accounting policies. After verification of these documents and of the BER, if clubs are not compliant, the UEFA's Club Financial Control Body (CFCB) decides which disciplinary measures and sanctions to adopt among: warning, reprimand, fine, deduction of points, withholding of revenues from a UEFA competition, prohibition on registering new players in UEFA competitions, restriction on the number of players that a club may register for participation in UEFA competitions, disqualification from competitions in progress and/or exclusion from future competitions, withdrawal of a title or award.

The CFCB can also take a 'rehabilitative' approach by defining settlement agreements with non-compliant clubs, which are meant to offer them a roadmap to meet the BER in the near future. The first sanctions for clubs not fulfilling the BER were set following the first BER assessment in May 2014 and the conditions of non-compliance became effective for the 2014/15 campaign. From June 2015, the scope of the FFPR has been potentially expanded to include clubs not yet qualified for UEFA competitions but that anticipate participating in the future. The power of the FFPR is that the disclosures of BER and subsequent sanctions can give rise also to public shaming and fans' disappointment, and thus incentivize football clubs to change their practices.

According to Articles 58-63 of the FFPR (UEFA 2018), clubs comply with the BER, if "relevant expenses" do not exceed "relevant income" by more than an "acceptable deviation" in a string of reporting periods called "monitoring period". Specifically, Article 58 (1) clarifies the notion of relevant income as follows: "Relevant income is defined as revenue from gate receipts, broadcasting rights, sponsorship and advertising, commercial activities and other operating income, plus either profit on disposal of player registrations or income from disposal of player registrations, excess proceeds on disposal of tangible fixed assets and finance income. It does not include any non-monetary items or certain income from non-football operations." Article 58 (2) clarifies the notion of relevant expenses as follows: "Relevant expenses is defined as cost of sales, employee benefits expenses and other operating expenses, plus either amortization or costs of acquiring player

registrations, finance costs and dividends. It does not include depreciation/impairment of tangible fixed assets, amortization/impairment of intangible fixed assets (other than player registrations), expenditure on youth development activities, expenditure on community development activities, any other non-monetary items, finance costs directly attributable to the construction of tangible fixed assets, tax expenses or certain expenses from non-football operations.” The notion of “acceptable deviation” is defined in Article 61 as of €5M. The “monitoring period” assessed for the license season 2013/14 covered the reporting period ending 2013 and the reporting period ending 2012. From then onwards, the three previous reporting periods are assessed for every new license season. For example, in the 2014/15 license season, the assessment is performed based on the three reporting periods ending 2014, 2013 and 2012.

The FFPR originated from UEFA’s willingness to protect the overall long-term viability of the European football industry by reshaping the incentives of football club decision-makers. There is explicit acknowledgement of the interdependence of clubs that participate in particular leagues and competitions, and of the consequences of this interdependence for the continuity of these competitions. Managers of top league clubs have a strong motivation to overspend to buy big names in the search of sporting performance.¹⁴ This is because a positive association between wage expenditure and league position has been proven: other things being equal, spending more on wages turns into on-pitch success (Hall et al. 2002). However, not all clubs gambling short-term in the hope of long-term achievements can be successful, which leads to dangerous financial instability and even bankruptcy in some cases.¹⁵ Therefore, the need to balance financial sustainability with sporting

¹⁴ Various factors exacerbate the problem of overspending in the football industry: a stronger correlation between talent investment and winning probability; simultaneous (as opposed to consecutive) investments; an additional exogenous prize (e.g., UEFA Champions League qualification); a system of promotion and relegation; increasing revenue differentials within a league (i.e., less revenue sharing); increasing revenue differentials between hierarchical leagues (Franck, 2014).

¹⁵ See, for example, the *House of Commons Culture, Media and Sport Committee Football Governance Seventh Report of Session 2010–12 HC 792-I*, published on 29 July 2011 by authority of the House of Commons London, The Stationery Office Limited (<https://publications.parliament.uk/pa/cm201012/cmselect/cmcmds/792/792i.pdf>): *The fact that the wealthiest owners in the Premier League, the proprietors of Chelsea and Manchester City, have almost unlimited resources to spend on their sides tends to inflate the overall market for players and further ratchet up the cost of staying in the Premier League. In 2009/10 Chelsea and Manchester City recorded the two highest operating losses in Premier League history, of £38 million and £55 million respectively. At the extreme it can lead to the sort of debt-fueled*

success represents a major and peculiar challenge of the football industry. In accounting language, the FFPR aims at ensuring that football is a going concern.

3. **Data and estimation strategy**

We have collected information on 186 clubs playing in the top five European leagues. In particular, we consider all the teams taking part in the English Premier League, the Spanish Liga, the French Ligue One, the Italian Serie A and the German Bundesliga, between the seasons 2007-2008 to 2019-2020, corresponding to the account of clubs from 2008 to 2020. This sample choice allows us to cover the five main European leagues while keeping a good data coverage.¹⁶ Specifically, we retain in the sample all the clubs that were included in the top league of each country at least once in the period we cover. Clubs exposed to sanctions for infringements to the FFPR are kept in the sample.

Financial Data

Financial data are extracted from Orbis (Bureau van Dijk) and refer to the balance sheets, statements of income, and global ratios of the football clubs.¹⁷ As described below, despite some missing values on the financial side, the dataset coverage is generally good and consistent.

We capture the financial performance of the European football clubs using a proxy of the BER, i.e., the difference between Turnover and Cost of employees. The use of this proxy is motivated by the fact that direct information on UEFA's 'relevant' income and expenses is unavailable in Orbis. Yet, the cost of employees is arguably a key component of the latter. In this respect, although our measure does not perfectly overlap with the difference between income and expenses as defined in Articles 58

expenditure that Leeds United Football Club embarked upon in the early 1990s – “living the dream”, as the then Chief Executive described it.

¹⁶ Peeters and Szymanski 2014 consider four of these leagues, excluding the German Bundesliga.

¹⁷ Orbis (Bureau van Dijk) is a database of comparable financial and business information on Europe's largest 500,000 public and private companies by total assets. In our analysis, we use the following variables extracted from the Orbis database: Costs of employees; Turnover; Loans (Short term financial debts + part of Long term financial debts payable within the year); Long Term Debt (Long term financial debts, e.g. those to credit institutions in the form of loans and credits, bonds).

(1) and 58 (2) of the FFPR, it is broadly consistent with such difference and with the BER logic urging clubs to live within their means.¹⁸

Sporting Performance

The sporting performance of clubs is captured by their ELO ranking. The data is extracted from the *clubelo* website (<http://clubelo.com/About>). The ELO ranking is a method that determines a ranking based on results against opponents and their strengths. It thus reports a club's relative strength, which can be updated after each of its games. Contrary to a standard point-based system, gains and losses of ranking are a function of the strength of opponents. This system of ranking is used, for instance, by the International Chess Federation to rank chess players. It is also used by the FIFA Women's World Ranking.

ELO rankings have attractive properties. First, they allow comparison between clubs in different leagues and across time, while this is less convenient (or not possible) with standard rankings. This is a key property that will allow us to include all clubs in the same estimation and compare 'treated' clubs with 'untreated' clubs in different leagues. Second, differences in ELO points reflect differences in win probabilities. Two clubs with the same ELO ranking have an equal probability of winning the game. The probability of winning a game for a difference in ranking of d points is $1/(10^{(-d/400)}+1)$, with a draw counting as a half-win. A difference in ELO of 50 points thus reflects a probability of winning of 57% for the club with the larger ranking. As of October 6th 2022, Manchester City had the highest ELO rank in Europe (2035), followed by Real Madrid (1996) and Liverpool (1979).

¹⁸ A limitation of this data is that transfers might be accounted differently by clubs. We compare our data with those in Hoey et al. (2021) who provide, for recent years, a measure of turnover in the top 5 leagues that accounts for transfers. The correlation between their post-transfer turnover and our measure of turnover is 0.95. In addition, the deviation of turnover including transfers compared to the turnover excluding transfers is lower than 25% in 81% of the cases. These simple descriptive facts are reassuring about the quality of our turnover measure.

Difference-in-differences Design

To study the reaction of European clubs to the introduction of the FFPR along different margins, we follow a *generalized difference-in-differences* strategy. The idea is to mimic an experimental research design with our observational data through the analysis of the differential effect of the introduction of the FFPR ('treatment') on clubs exposed to these rules ('treatment group') relative to clubs not exposed to them ('control group'). In order to identify the causal effect of the FFPR on the outcomes of interest, the main assumption is that, in absence of treatment, the clubs in the treated group would have followed the same path as those in the control group conditional on the fixed effects (parallel trends assumption). The validity of this assumption in our setup will be later discussed by looking at eventual pre-trends in the data.

At face value, a major obstacle to the successful implementation of the difference-in-differences approach in our context is that in principle the FFPR applies to all clubs, which implies that all clubs are 'treated' and there is thus no control group. The fine grain of the rules tells, however, a different story. As we discussed, eight different punishments exist for clubs that do not comply with the rule: warning, fine, points deduction, withholding of revenue from a UEFA competition, prohibition to register new players for UEFA competitions, restrictions on how many players a club can register for UEFA competitions, disqualification from a UEFA competition in progress and exclusion from future competitions. Hence, all punishments are immaterial for clubs that do not (aspire to) participate to UEFA competitions so that these clubs have no incentive to abide with the FFPR as long as doing so involves additional costs.

These remarks imply that clubs are treated with a different intensity according to their probability to participate in UEFA championships. Ideally, one would observe this probability so that it can be used as a continuous treatment variable (Callaway et al., 2021). However, this intensity of treatment is not observed. Therefore, we propose a proxy for it by assessing the probability of participating in UEFA championships based on the actual number of participations in the 5 seasons before the FFPR is introduced. This is based on the idea that the logic of sanctions for infringing the

FFPR *de facto* implies that clubs aspiring to UEFA competitions should care much more than other clubs about complying with the FFPR. This way, we can assess the effects of the FFPR by comparing the performance of clubs with UEFA competitions aspirations with that of the other clubs. We call the former ‘targeted’ (by the FFPR) and the latter ‘non-targeted’.¹⁹ Operationally, we define as ‘targeted’ the clubs that participated at least 3 times (out of 5) to UEFA competitions between the seasons 2005-2006 and 2011-2012, which we take as a proxy for aspiration/likelihood to participate in a European competition.

A clear limitation of this approach is that some clubs in the control group might also react to the introduction of the FFPR. This points towards a ‘fuzzy’ differences-in-differences design, which precisely applies when some units of the control group are affected by the treatment (de Chaisemartin and D’Haultfeuille, 2018). However, this approach requires us to observe which clubs in the control group are affected by the FFPR, which we are unable to. Accordingly, the difference-in-differences estimate that we will obtain is likely to be a lower bound of the true effect. This would be the case if some clubs in the control group reacted to the reform by increasing their revenue-expense gap. In this case, we would attribute some effects of the reform to the trend followed by the control group. To assess the potential magnitude of this bias, we will examine the trend followed by our variable of interest in non-targeted clubs. The identification assumption is that in the absence of the introduction of the FFPR, the trends followed by the treated group and the control group would have been the same. Because football clubs participating to the same leagues are likely to be hit by similar shocks, we believe that this identification assumption is reasonable.²⁰

To demonstrate that the treated and the control groups do not differ systematically before the introduction of the FFPR, we provide dynamic difference-in-differences and test for the absence of

¹⁹ We use ‘targeted’ instead of ‘treated’ to stress the fact that, as discussed above, all clubs are potentially treated but some clubs should react more to the introduction of the FFPR rules.

²⁰ This design is similar to the design used to estimate the price effect of mergers in the industrial organization literature. In this literature (see, for instance, Ashenfelter and Hosken 2010 and Ashenfelter et al. 2013), the control group corresponds to markets or products (football clubs in our case) that are not affected (or less affected) by the merger (the reform in our context) but are affected by the same supply and demand shocks.

pre-trends through Wald tests. We also repeat our estimations with an alternative definition of ‘targeted’ clubs that does not rely on the relevance of punishments. Under this alternative definition ‘targeted clubs’ are those in the top 20% in terms of debt the year before the implementation of the reform, the reason being that the FFPR is intended to prevent debt bubbles to arise. Thus, for clubs with a sound financial position to start with, the introduction of the FFPR should be immaterial.

As, according to the BER, clubs must balance the income from and the expenses for the operations of their professional teams involved in the UEFA competitions (with some tolerance only for temporary deviations of limited size), the implementation of the FFPR should be expected to affect the gap between revenues and costs differentially for targeted and non-targeted clubs. In **Figure 1**, we plot the average difference between turnover and employee costs by treatment status. The figure displays interesting patterns that we will further explore in the empirical analysis below. First, the two groups seem to follow a similar path before the reform. Anticipating on the next section where we test it formally, Figure 1 suggests that the common trend assumption is likely to hold. If any, we can notice a slightly negative trend for targeted clubs before treatment. Second, at the moment of the reform, we observe a clear break in the trend followed by targeted clubs. The average difference between turnover and wage costs immediately increases by a large amount, suggesting that these clubs did comply with the reform. Third, non-targeted clubs do not seem to be affected by the reform. The trends they were following pre-reform is stable and slightly increasing. This last point confirms our argument that, though the FFPR apply to all clubs, only those aiming to participate in UEFA competitions are really affected by the reform. It then supports our empirical design that assumes the treatment effects to be negligible in the control group: the potential bias introduced by having treated units in the control group is small.

There are several potential confounders that might affect our measurement of the effect of the FFPR. First, league-specific policies adopted at the same time of the FFPR might affect

our results. In particular, some financial regulations targeting all Premier League clubs (including those from the control group) have been introduced for the season 2013-2014 following the spirit of the break-even rule of the FFPR (see, e.g., Gibson, 2013). To make sure that this confounding policy does not drive our results, we will show that they are robust to the exclusion of Premier League clubs.

Second, the change in the amount of revenues from broadcasting rights and in their distribution across clubs can confound the effect of the FFPR. Taking the distribution as given, any change in broadcasting revenues is an outcome at the level of the league that affects the revenues for all clubs in a similar way. This confounder can then be totally absorbed by *country x year* fixed effects. For our effects to be confounded, there must be a significant change in the distribution in top 5 leagues that happens at the same time as the FFPR. In particular our coefficient would be overestimated if the distribution becomes more favorable to treated clubs (the most successful ones in our setting). However, the few significant changes in the distribution schemes that were implemented during this period tended to favor lower-ranked clubs (Football Benchmark, 2017). For instance, La Liga reform in 2015 made the distribution of broadcasting revenues more equitable (see, e.g., Associated Press, 2015). Therefore, the effect that we estimate can be seen as a lower bound in this respect, all other things being equal.

Finally, the change in the prize-money distribution by UEFA might also affect our results because it disproportionately affects clubs in our treatment group. To control for this confounder, we collected data on prize-money distribution from UEFA annual reports. Results controlling for UEFA prize-money are available in our online appendix.

Table 1 provides additional information about clubs in the targeted group and in the control group. The table confirms that targeted clubs have on average larger wage expenses, larger turnover, more debt and better sporting performance than clubs in the control group by significant amounts. These differences, however, do not undermine our empirical strategy, as the *difference-in-differences* approach requires the *trends* rather than the levels of outcome variables to be the same for clubs in

the control and the targeted groups. The financial coverage of our database is generally good, and of similar magnitude between both groups.

Table A in appendix provides descriptive statistics for the same variables for each country and for the year before the introduction of the FFPR (2011). All figures are expressed in millions of euros. With the only exception of the German Bundesliga, the dataset covers a large share of clubs in the main league. The table highlights differences in the financial characteristics of clubs across leagues. English clubs display a high value of debt compared with the other leagues, especially the French league where clubs are, on average, the least indebted among the top five leagues. English clubs are also the ones with the highest costs of employees, followed by those in Germany (but this could be determined by a selection effect due to the limited coverage of our database for this country), Italy, Spain and France. The large standard deviations signal substantial within-league inequality in the distribution of debt, turnover or costs of employees.²¹

Based on our definitions of ‘targeted clubs’, we implement our empirical strategy by estimating the following dynamic difference-in-differences specification:

$$Y_{it} = \sum_{m=2008}^{2020} \beta_t T_{i,t-m} + \gamma_i + \gamma_{ct} + \epsilon_{it} \quad (\text{DID})$$

where Y_{it} is the outcome variable for club i at year t , $T_{i,t-m}$ is an indicator variable equal to 1 if club i is targeted in period $t-m$, γ_i are club fixed effects controlling for any time-invariant confounder at the club level, γ_{ct} are country-year fixed effects controlling for any country-specific trend, and ϵ_{it} is the error term. The club fixed effects and country-year fixed effects account for any time-invariant

²¹ For instance, Real Madrid and FC Barcelona represent more than 80% of the operating profits in Spain in 2014-2015 according to Deloitte 2019.

club characteristics and any country-specific trends respectively. Estimating (DID) will deliver the difference-in-differences estimator under the assumption of parallel trends.²²

In the rest of the paper, we will consider different outcome variables Y_{it} . First, we will evaluate the effect of the introduction of the FFPR on the gap between Turnover and the Costs of employees. To disentangle the channels of the effect, we will also look at each of these two items separately. As an alternative measure, we will consider the effect of the FFPR on debt levels. Finally, to assess the effect of the FFPR on sporting results, we will also use ELO points as a dependent variable.

As the FFPR were announced in September 2009 (football season 2009-2010; fiscal year 2010) and started to be implemented in the football season 2011-2012, clubs targeted by the reform become treated from season 2011-2012 onwards.

4. Effects of the FFPR

This section reports graphically the results from the estimation of (DID). We implement some recommendations for difference-in-differences analysis from Freyaldenhoven et al. (2021). In particular, we display both standard confidence bands and uniform sup-t confidence bands allowing us to test for the consistency of the whole path, while pointwise confidence intervals test the statistical significance of a single estimate. We test for the absence of pre-trends through a Wald test displayed in the figure. The effect of treatment is normalized to -1 in the period right before the implementation of the policy (2011) and we display the average level of the outcome variable in 2011 to allow a better interpretation of the magnitude of treatment effects. The event window begins 4 years before the event (corresponding to year 2008, labeled 4+). The long-term effects of the reform are estimated under the 7+ label. It represents the estimates for years 2019 and 2020. These two years have been pooled to smooth the effect of Covid-19 on clubs' financial variables.

²² This corresponds to a two-way fixed effects (TWFE) estimation. As there is no variation in treatment timing, biases introduced by heterogeneous treatment effects are not a source of concern for our empirical strategy (Chaisemartin and D'Haultfeuille, 2020).

4.1 Break Even Requirement (BER)

Figure 2 reports the results looking at the impact of the FFPR on the balance of revenues and expenses. The top left panel uses participation in UEFA leagues prior to the implementation of the reform to compose the treatment group. The top right panel controls for the logarithm of a club's total assets and its ELO ranking. Figures at the bottom replicate these results with a different treatment group composed of clubs in the top 20% of indebtedness in 2011.

The figure reveals a clear result, robust across specifications: the clubs targeted by the FFPR strongly complied with the policy by increasing their net result by large amounts. While the difference between revenues and the costs of employees before the reform is 54 million euros for targeted clubs, it increases on average by approximately 100 million euros 6 years after the implementation of the reform. This increase takes a few years to materialize reflecting the time of adaptation of each club to the new requirements.

Importantly, no pre-trends are detectable as the Wald test cannot reject that the coefficients pre-reform are jointly equal to 0. This supports our identification hypothesis by showing no detectable difference in the trends followed by the targeted and control groups before the reform (conditional on club and country-year fixed effects). Our results can therefore be interpreted causally.

Controlling for clubs' size does not affect this conclusion even though it slightly shifts the estimated coefficients downwards. Changing the control group in the bottom panels does not affect the main results either, reflecting that the more indebted clubs (in levels) are also those participating to UEFA leagues. In Appendix Figures A and B, we propose two additional robustness tests. First, we have collected information on the prize-money distributed by UEFA for participation in European competitions (the Champions' League and the UEFA Cup). The change in prize-money received by clubs due for instance to new negotiations of TV rights by UEFA might be a confounder.

In particular, the prize-money distribution by UEFA increased over the years and this additional distribution of revenues might confound the effect of the FFPR reform, precisely because clubs in our treatment group are also clubs that participate in UEFA tournaments. Figure A shows that after controlling for the prize-money received, the estimated impact of the FFPR appears lower than in the baseline exercise but it is still positive, large and significant, suggesting that the change in financial behavior is not uniquely driven by the change in UEFA prize-money distribution.

In Figure B, we run the same specification as in the upper-left panel of Figure 2 excluding Premier League Clubs from the sample. These clubs have been subject to financial rules introduced in the premier league for the season 2013-2014 (Gibson, 2013). These new rules, which affect both targeted clubs and clubs in the control group, might pollute our measurement of the effect of the FFPR. However, the results remain similar when English clubs are taken out of the sample.

To better understand our findings on the widening gap between Turnover and the Cost of employees for targeted clubs, we explore the channels of their reaction to the FFPR. To do so, we examine separately the effect of the reform on costs and revenues. **Figure 3** reports the estimated differential changes of Turnover and Costs of employees when the two variables enter separately as outcomes on the left-hand side of regression (DID). Interestingly, both variables are positively affected by the FFPR. We can note a small positive pre-trend in the figure on wage costs (left panel) suggesting that clubs' expenses have kept increasing after the reform. The reform did not negatively affect clubs' expenses as some of the studies referenced in the Introduction had feared. The figure on revenues displays no detectable pre-trend and shows a large, causal, impact of the reform on clubs' revenues. The increase in revenues is larger than the increase in expenses, resulting in the positive net effect found in Figure 2.

4.2 Financial sustainability

Our difference-in-differences analysis has so far shown that the introduction of the FFPR is associated with a widening gap between Turnover and the Cost of employees for targeted clubs relative to the other clubs, determined by stronger growth of Turnover than of the Costs of employees. **Figure 4** checks whether this virtuous outcome from the BER viewpoint also maps into an improved outlook in terms of indebtedness. It shows that the effects of the reform on debt took time to materialize and eventually had a positive effect on the level of debt, which seems counterintuitive. However, when debt is compared to total assets, we find no detectable effect of the reform on the debt ratio of targeted clubs.

To sum up, we can conclude that the introduction of the FFPR has been associated with an improvement in clubs' financial outcomes consistent with the efficacy of the BER, but this positive development in the clubs' income statements has yet to be translated also into better overall debt sustainability. These findings highlight that only the financial outcomes directly targeted by the reform strongly reacted to the reform.

4.3 The role of corporate governance

As an additional channel, we are interested in the role of corporate governance for our results. In particular, one may expect the ownership of clubs to matter, as long as this affects club governance. For example, in the terminology of Peeters and Szymanski 2014, some owners could be more 'profit' oriented while others more 'win' oriented. In this respect, we explore foreign ownership as a marker of the ownership's orientation.

In **Figure 5** we separate clubs with domestic investors and clubs with foreign investors both in the treatment and in the control groups. We therefore compare clubs with similar ownership in both figures. As foreign ownership might be itself affected by the reform, we use information on foreign ownership in 2011, the year before the reform. This methodology does not track clubs

that change category, but avoids introducing endogeneity. We observe that the clubs that are the most affected quantitatively by the new rules are those with foreign investors, with an increase in net results of approximately 120 million euros six years after the reform (baseline level of 54 million euros) while clubs with domestic owners increase their net results by approximately 80 million euros (baseline level of 61 million euros) after six years. We can note strong pre-trends for clubs with foreign investors, revealing that these clubs might have anticipated the reform, or at least changed their financial management before the reform compared to foreign-owned non-targeted clubs.

4.4 Effects on sporting quality and competition

As discussed in the Introduction, due also to the explicit reference to ‘fairness’ in its name, the FFPR has been scrutinized for its potential effect on the clubs’ sporting results and ultimately on the leagues’ competitive balance. We provide here a first causal exploration of the impact of the FFPR on clubs’ quality and competition between them. To assess this impact, we focus on the ELO ranking of clubs. As discussed before, the ELO ranking allows for a comparison of sporting results between clubs and over time.

The corresponding findings are shown in **Figure 6**. The left panel of the figure does not include controls while the right panel of the figure controls for the cost of employees, which is a crucial determinant of the sporting performance (Hall et al. 2002). First, it is important to note the absence of pre-trends. Conditional on clubs’ time-invariant characteristics, the ELO ranking does not follow a specific trend before the reform. In contrast, following the reform, we observe a positive impact of the FFPR on the ELO ranking of treated clubs.

The effect is larger and significantly different from zero six years after the reform, mimicking the behavior of clubs’ financial variables. Six years after the reform, targeted clubs gained on average 55 ELO points compared with non-targeted clubs. A difference of 55

ELO points can be interpreted as a win probability of 58% for the club with the larger ELO ranking. As a concrete example, consider in 2011 a non-targeted club marginally in the top 20% of the ELO ranking of its group (ELO of 1669) and a targeted club marginally in the bottom 20% of its group (ELO of 1696). The targeted club had a win chance of 53.9%. After the reform its chance of winning has increased to 61.6%. This shows that the introduction of the FFPR has decreased the competitive balance between targeted and non-targeted clubs.

In the right panel, we control for the costs of employees, as we expect them to affect the sporting results. We have seen before that the costs of employees follows a positive trend after 2011, implying that the difference in employee costs between targeted and non-targeted clubs has grown since the reform. Hence, if a positive correlation exists between wage costs and performance, the results found for the ELO ranking are not surprising. Therefore, we measure here sporting efficiency: for one unit of employee expenses, how many ELO points the team is able to produce. Once we control for wage expenses, we find noisier results. Importantly, the positive effect of the reform on the ELO ranking disappears. This suggests that the elasticity of sporting performance to wage expenses, or equivalently the sporting efficiency, has not changed with the reform and that the result on the ELO ranking is mainly driven by the increasing clubs' wage expenses.

6. Conclusion

Exploiting an original dataset between the seasons 2007-2008 to 2019-2020, we have provided the first *ex-post* causal assessment of the effects of the Financial Fair Play Regulation introduced by the Union of European Football Associations on the European football industry.

In line with the *ex-ante* predictions of Peeters and Szymanski 2014, we have found that the reform has increased the profitability of clubs, but have also tilted the competitive balance in favor of the top teams.

As suggested by Plumley et al. 2019, the FFPR has indeed had ‘unintended consequences’ that may defeat its main purpose by reducing the interest of fans and investors in European football, at least if one thinks that one of the main attractions in sports is precisely that the best team does not always win, and that national leagues should maintain their appeal.

In particular, four results stand out. First, after the reform the gap between revenues and costs of targeted clubs with respect to other clubs has widened. Second, both revenue and costs have increased more in targeted than in other clubs, but the differential growth in revenues has outpaced the differential growth in costs. Third, however, only the financial outcomes targeted by the reform have reacted to the reform as the positive development in the clubs’ income statements has yet to be translated into improved overall debt sustainability. Fourth, Moreover, competitive balance has decreased because targeted clubs spend more on players rather than because they have become more efficient in translating player quality into competitiveness.

Three main policy implications ensue. The first goes back to the old adage that, when a measure becomes a policy target, it ceases to be a measure. In the present case, the adage can be translated as follows. When a measure of financial health such as the BER becomes a target, it ceases to be a measure of financial health. The reason is that it also becomes a focal point for clubs’ elusion strategies, for instance through the manipulation of the value and nature of transactions. For example, in recent years Juventus and Manchester City have been the most successful clubs in the Italian Serie A and the English Premier League respectively. They have both been accused of breaching financial rules through creative accounting by failing to provide accurate financial information and comply with UEFA’s FFPR, and also failing to follow their own leagues’ rules on profit and sustainability.

The second and related implication is that, if financial sustainability is the policy objective, then financial sustainability measures should have been explicitly indicated as targets of the FFPR in addition to the BER. This would have helped not only because it provides clubs with a clearer

compass, but also because it is easier to dodge one target than several concurrent targets. Recently UEFA has indeed moved in that direction by rebuilding the FFPR on three key pillars: solvency, stability, and cost control. For solvency, it has introduced the ‘no overdue payables rule’ to ensure better protection of creditors (including employees, social/tax authorities, UEFA, national federations, other football clubs). For stability, while relaxing the acceptable deviation from BER, it has substantially strengthened the requirements to ensure the fair value of transactions, to improve the clubs’ balance sheet, and to reduce debts. For cost control, it has introduced a squad cost rule to improve cost control in relation to player wages and transfer costs. The regulation limits spending on wages, transfers, and agent fees as a percentage of club revenue. The new regulations have come into force in June 2022 with gradual implementation over three years.

The last implication is that all this may make targeted clubs more efficient in generating better sporting and financial outcomes with given resources. However, the question whether it will also avoid further deterioration of the competitive balance is still open. We have shown that, despite the FFPR formally applying to all clubs, only clubs with international ambitions react to them because punishment is immaterial without participation to international contests. Then, the promotion of international championships beyond the Champions League (such as the Europa League and the Conference League) may turn out to be an effective way to enlarge the pool of clubs willing to comply with the FFPR. For the better or for the worse, it may also promote some sort of ‘segregated’ competitive balance, whereby clubs with different financial reach compete on a level playing field in different championships with different potential audiences in terms of global versus local appeal. This may somehow be the idea behind the Super League, and may eventually be the price to pay for the overall financial sustainability of the football industry, unless the principles of the FFPR start trickling down more convincingly from UEFA to the national football associations when regulating their own professional leagues.

A final but important caveat is that our results rely on accounting items that do not exactly match those on which UEFA assess the clubs' compliance with the FFPR. It would be crucial for future research to be able to exploit the information that the clubs transmit to UEFA. Right now, the problem is that such information is strictly confidential.

References

ASHENFELTER, O.C., and D. S. HOSKEN. 'The Effect of Mergers on Consumer Prices: Evidence from Five Mergers on the Enforcement Margin.' *The Journal of Law & Economics* (2010), Vol. 53, No. 3, August 2010, pp. 417-466.

ASHENFELTER, O.C., HOSKEN D. S. and M.C. WEINBERG. 'The Price Effects of a Large Merger of Manufacturers: A Case Study of Maytag-Whirlpool' *American Economic Journal: Economic Policy* (2013), 5(1): 239–261.

ASSOCIATED PRESS. 2015 'Barcelona and Real Madrid dealt a blow in new Spanish TV rights deal', *The Guardian*, 30 April. Available at: <https://www.theguardian.com/football/2015/apr/30/barcelona-real-madrid-la-liga-new-tv-rights-deal-spain>ARNOLD, A. J., and I. BENVENISTE. 'Wealth and Poverty in the English Football League.' *Accounting and Business Research* 17 (1987): 195–203.

BAXTER, J., M. CARLSSON-WALL, W. FONG CHUA, and K. KRAUS. 'Accounting and passionate interests: The case of a Swedish football club.' *Accounting, Organizations and Society* 74 (2019): 21-40.

BURAIMO, B., R. SIMMONS, and S. SZYMANSKI. 'English Football.' *Journal of Sports Economics* 7 (2006): 29–46.

CALLAWAY, B., GOODMAN-BACON, A. and SANT'ANNA, P.H.C. 'Difference-in-Differences with a Continuous Treatment'. arXiv. 2021

DE CHAISEMARTIN, C., and X. D'HAULTFOEUILLE. 'Fuzzy Differences-in-Differences', *The Review of Economic Studies*, 85(2), 2018, pp. 999–1028.

DE CHAISEMARTIN, C., and X. D'HAULTFOEUILLE. 'Two-way fixed effects estimators with heterogeneous treatment effects.' *American Economic Review* 110.9 (2020): 2964-96.

COOPER, C., and JOHNSTON, J. Vulgate accountability: Insights from the field of football. *Accounting, Auditing & Accountability Journal*, 25(4), 2012, 602-634.

DELOITTE UK. 'Annual Review of Football Finance 2019' Available at: <https://www2.deloitte.com/content/dam/Deloitte/uk/Documents/sports-business-group/deloitte-uk-annual-review-of-football-finance-2019.pdf>.

DIMITROPOULOS, P. 'Corporate governance and earnings management in the European football industry.' *European Sport Management Quarterly*, 11-5 (2011): 495 – 523.

FOOTBALL BENCHMARK, 2017. 'Broadcasting revenue distribution: Fine-tuning the balance'. Available at: https://www.footballbenchmark.com/library/broadcasting_revenue_distributionFRANCK, E. 'Financial Fair Play in European Club Football – What Is It All About?' Working Paper. University of Zurich, April 30, 2014.

FRANCK, E. 'Private Firm, Public Corporation or Member's Association – Governance Structures in European Football.' *International Journal of Sport Finance* 5 (2010): 108–27.

FREYALDENHOVEN, S., C. HANSEN, J.P. PEREZ, and J.M. SHAPIRO. 'Visualization, identification, and estimation in the linear panel event-study design.' No. w29170. National Bureau of Economic Research, 2021.

GIBSON, O. (2013) 'Premier League clubs face points penalty under new spending rules', *The Guardian*, 7 February. Available at: <https://www.theguardian.com/football/2013/feb/07/premier-league-spending-rules>

HALL, S., SZYMANSKI, S., and ZIMBALIST, A. S. (2002). Testing causality between team performance and payroll: The cases of major league baseball and English soccer. *Journal of Sports Economics*, 3(2), 149–168.

HOEY, S., PEETERS, T., PRINCIPE, F. (2021). The transfer system in European football: A pro-competitive no-poaching agreement? *International Journal of Industrial Organization*, 75, 102695

LAGO, U., R. SIMMONS, and S. SZYMANSKI. 'Special Issue: The Financial Crisis in European Football.' *Journal of Sports Economics* 7 (2006): 3-113.

PEETERS, T., and S. SZYMANSKI. 'Financial Fair Play in European Football.' *Economic Policy* 29 (2014): 343–90.

PLUMLEY, D., G. M. RAMCHANDANI, and R. WILSON. 'The Unintended Consequence of Financial Fair Play: An Examination of Competitive Balance across Five European Football Leagues.' *Sport, Business and Management: An International Journal* 9 (2019): 118–33.

RAMCHANDANI, G., D. PLUMLEY, S. BOYES and R. WILSON. 'A longitudinal and comparative analysis of competitive balance in five European football leagues'. *Team Performance Management: An International Journal*, 24 (2023): 265-282.

SASS, M. Sass. 'Glory hunters, sugar daddies, and long-term competitive balance under UEFA Financial Fair Play.' *Journal of Sports Economics* 17, no. 2 (2016): 148-158.

STORM, R. K., and K. NIELSEN. 'Soft Budget Constraints in Professional Football.' *European Sport Management Quarterly* 12 (2012): 183–201.

UEFA (2012). *UEFA Club Licensing and Financial Fair Play Regulations*, Edition 2012.

UEFA.com. 'Club Licensing | Inside UEFA.' UEFA.com, July 24, 2018. <https://www.uefa.com/insideuefa/protecting-the-game/club-licensing/>.

Figure and Tables

Table 1 - Descriptive statistics

	Control Group		Targeted Group	
	Before FFPR (2008-2012)	After FFPR (2012-2020)	Before FFPR (2008- 2012)	After FFPR (2012-2020)
Costs of employees	23.3	33.5	95.4	157.1
	(16.88)	(37.02)	(55.15)	(102.0)
Turnover	34.8	51.8	154.4	274.8
	(27.13)	(51.62)	(85.63)	(194.5)
Turnover- Costs of emp. gap	11.6	18.4	59.0	117.7
	(14.70)	(33.55)	(45.47)	(103.6)
ELO points	1591.0	1571.5	1800.1	1800.3
	(88.91)	(104.5)	(93.19)	(117.2)
Total Debt	21.8	21.6	124.6	172.5

	(35.38)	(36.94)	(169.0)	(232.4)
Coverage	79%	73%	81%	81%

Note: This table displays the mean of each variable and its standard deviation, below into parenthesis. The coverage variable describes the coverage of our main sample in terms of the main leagues clubs.

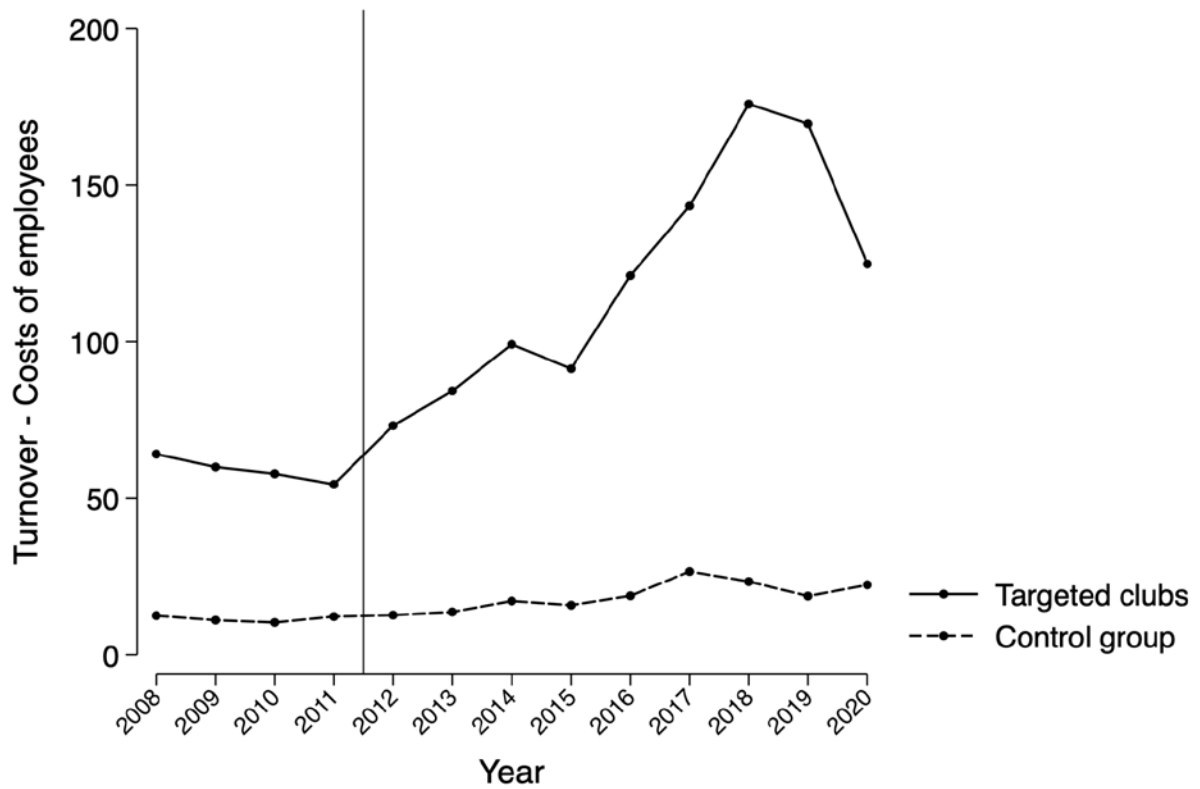


Figure 1 - Comparison of targeted clubs with the control group

Note: This figure plots the average level of the difference between Turnover and the Costs of employees for the group of targeted clubs and the control group.

Cost - Expenses

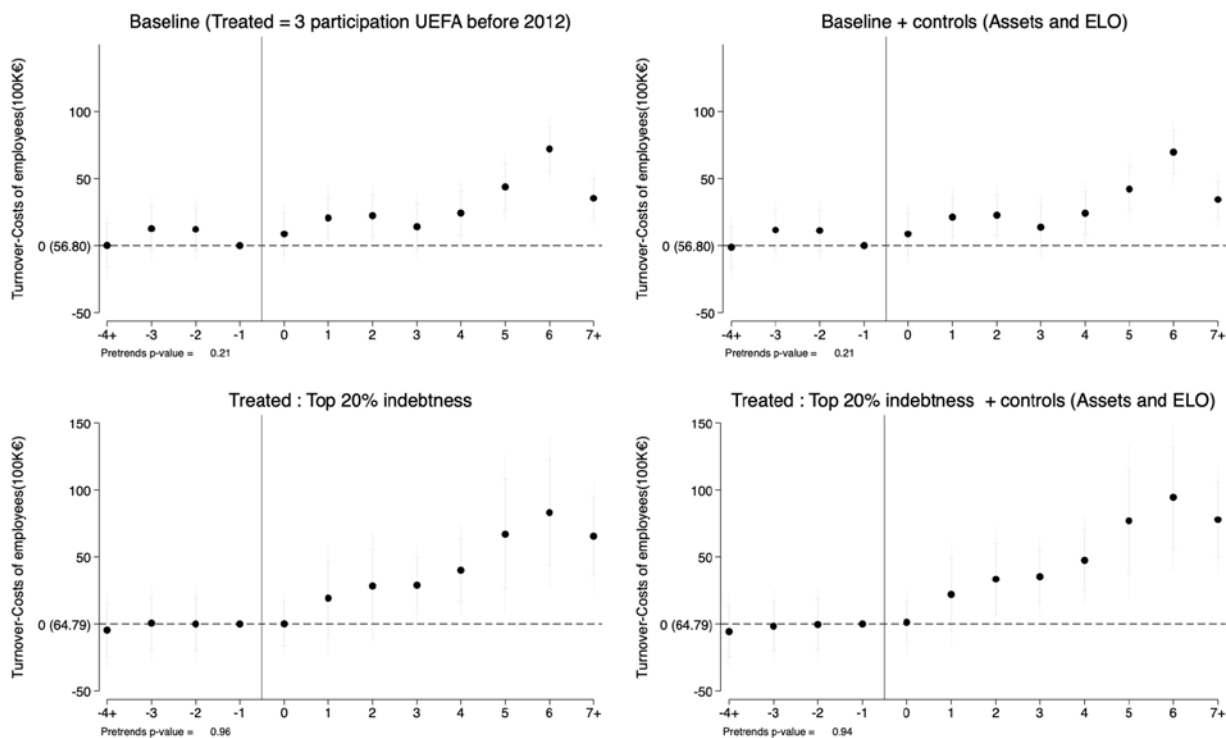


Figure 2 - Effect of the FFPR on the difference between costs and revenues

Note: This figure plots the estimated difference-in-differences coefficients for two different definitions of the treatment group (UEFA games participation in the upper panels and level of indebtedness in the lower panels) and different specifications (without controls in the left panels and controlling for total assets in the right panels).

Channels

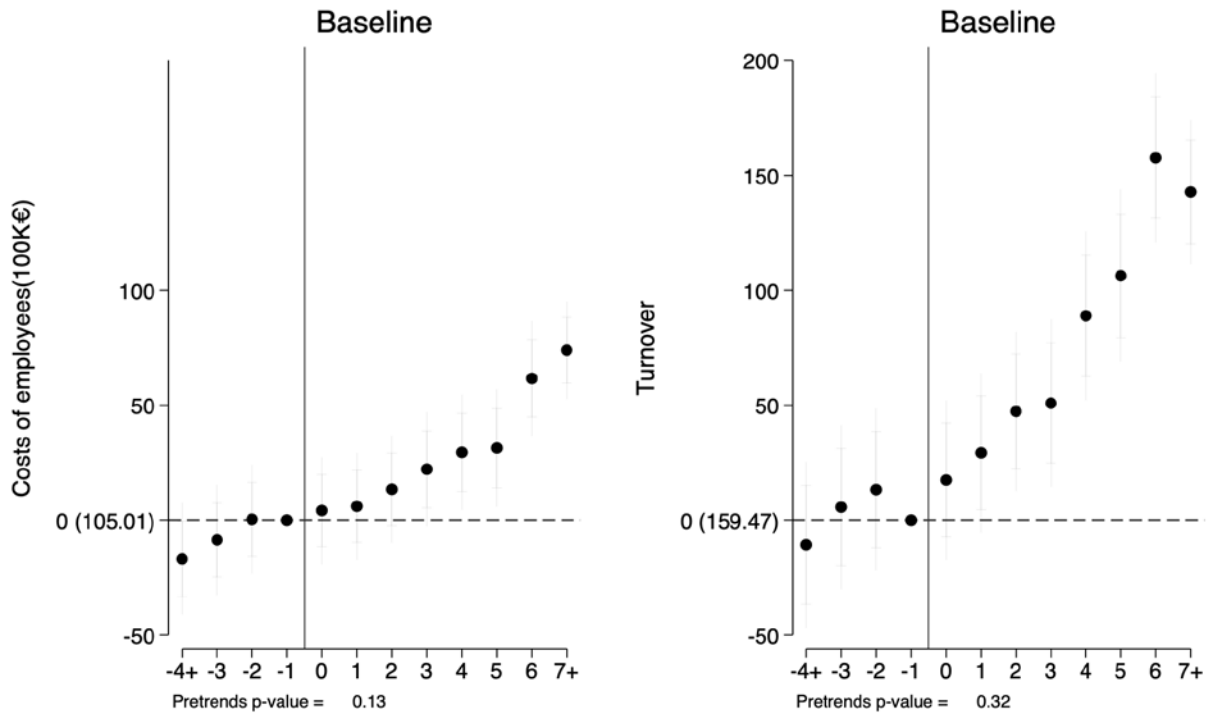


Figure 3 - Effect of the FFPR on costs and revenues

Note: This figure plots the estimated difference-in-differences coefficients when the dependent variable is the costs of employees (left panel) and the turnover (right panel).

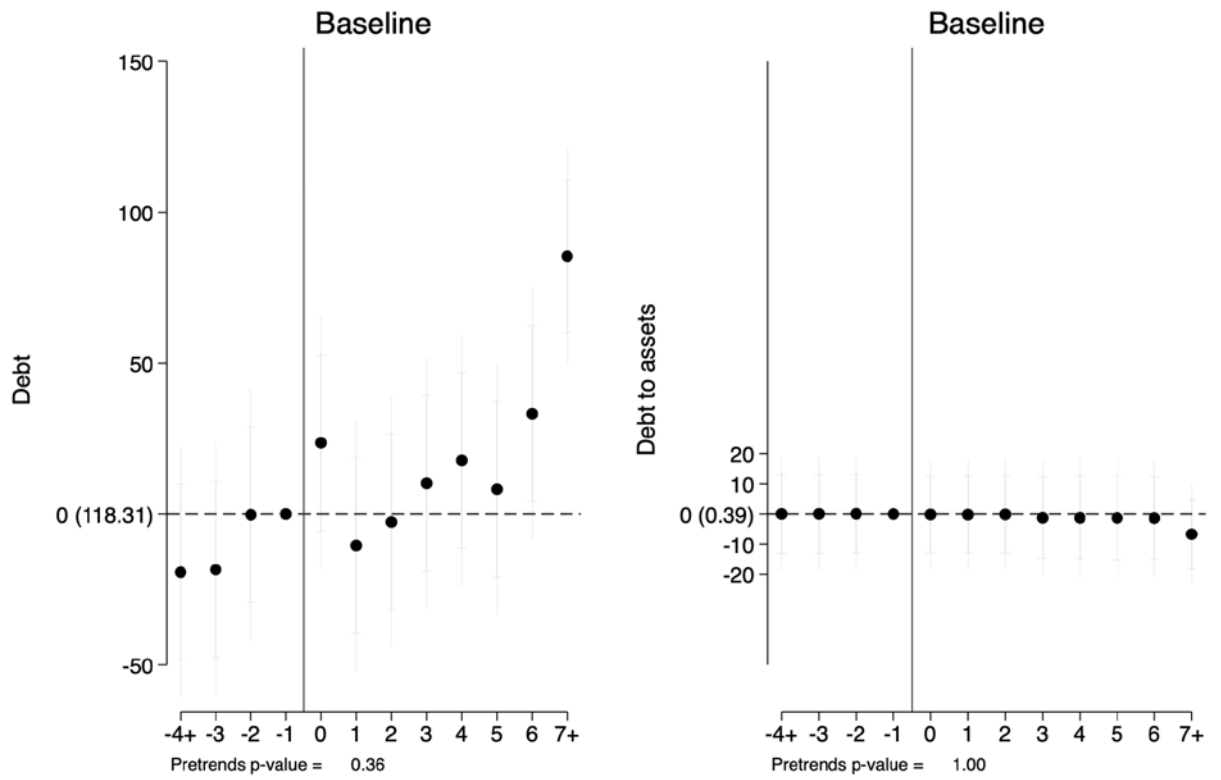


Figure 4 - Effect of theFFPR on debt

Note: This figure plots the estimated difference-in-differences coefficients when the dependent variable is the level of debt (left panel) and the ratio of debt to assets (right panel).

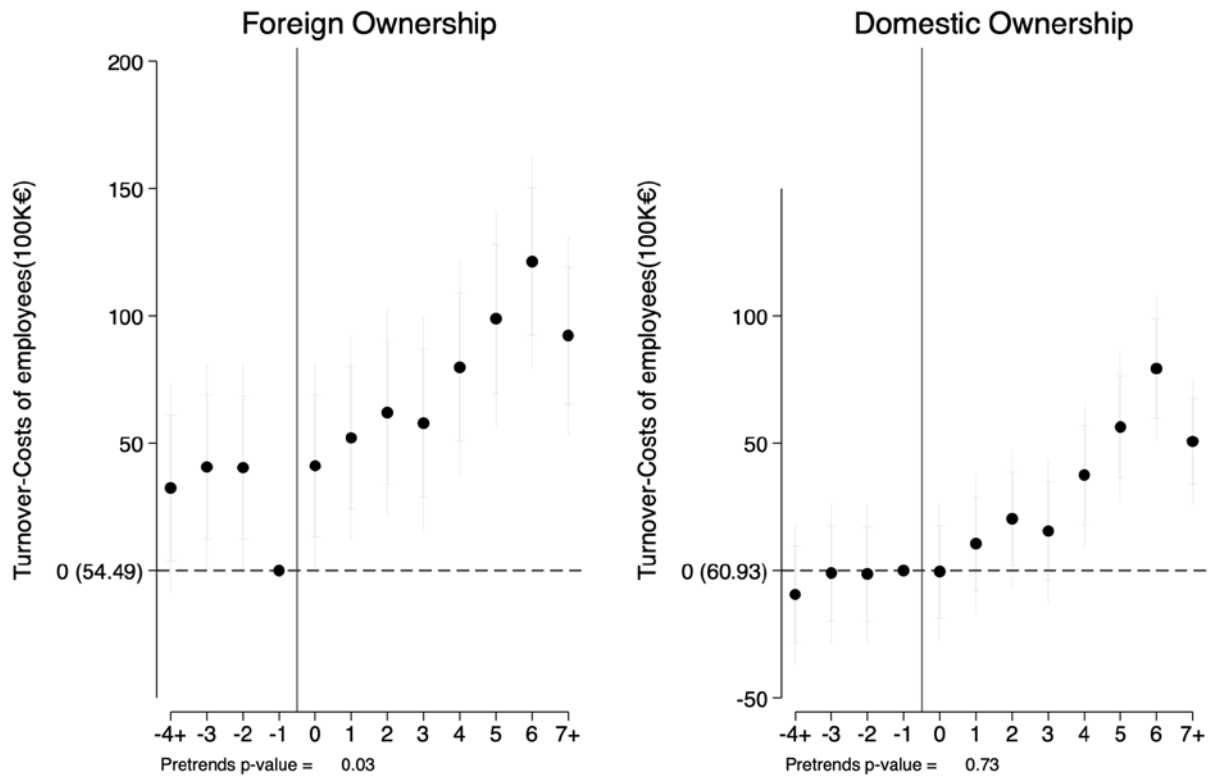


Figure 5 - Effect of the FFPR on the difference between costs and revenues: heterogeneity analysis

Note: This figure plots the estimated difference-in-differences coefficients when the dependent variable is the difference between turnover and costs of employees. The left panel concentrates on clubs with foreign ownership before the reform. The right panel concentrates on clubs with domestic ownership before the reform.

Sporting results

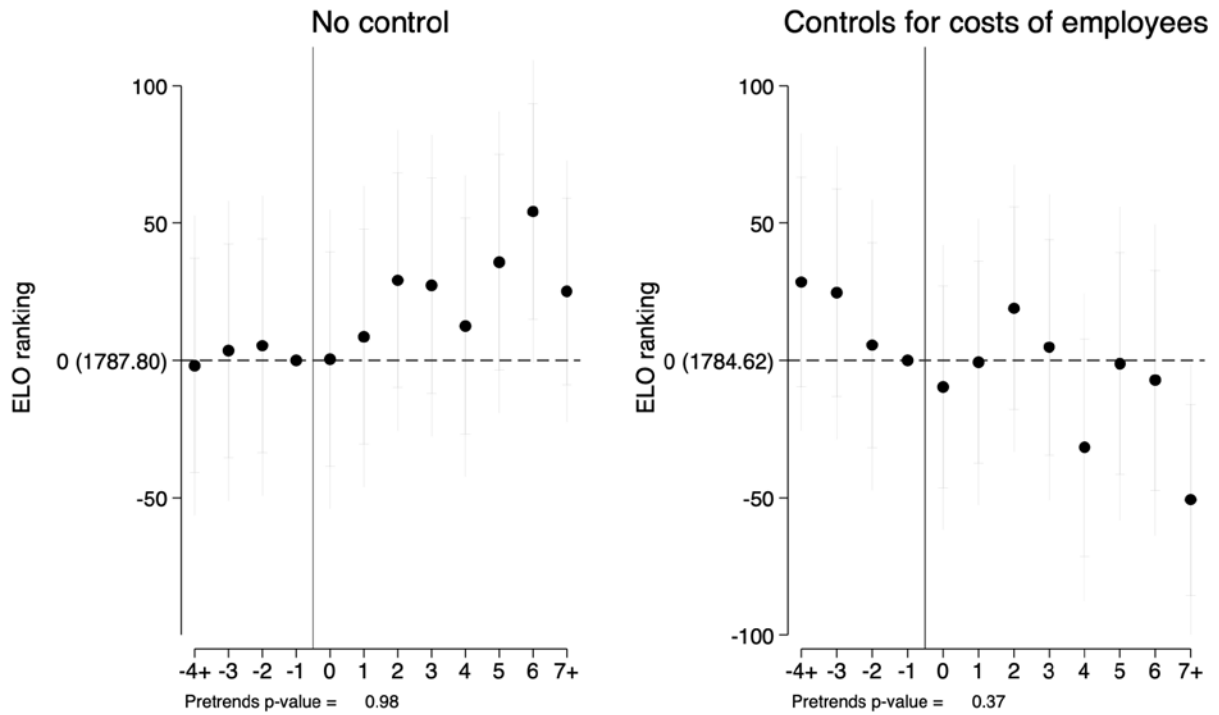


Figure 6 - Effect of the FFPR on sporting performance

Note: This figure plots the estimated difference-in-differences coefficients when the dependent variable is the number of ELO points. The left panel does not include controls. The right panel controls for the costs of employees. It is therefore a measure a sporting efficiency.

TABLE A. Descriptive statistics by country for year 2011

	Mean	Standard Deviation
England (36 observations)		
Costs of employees	5.79	5.09
Turnover	7.70	6.74
Turnover-Costs of emp. gap	1.91	2.53
Total debt	10.11	17.26
Coverage Main League	100%	
France (27 observations)		
Costs of employees	2.80	2.39
Turnover	3.91	3.58
Turnover-Costs of emp. gap	1.11	1.34
Total debt	0.31	0.58
Coverage Main League	90%	
Germany (15 observations)		
Costs of employees	3.96	3.69
Turnover	8.48	7.62
Turnover-Costs of emp. gap	4.52	4.02
Total debt	2.48	3.53
Coverage Main League	50%	
Italy (32 observations)		
Costs of employees	3.76	4.92
Turnover	6.23	6.72
Turnover-Costs of emp. gap	2.47	2.43
Total debt	2.59	5.57
Coverage Main League	90%	
Spain (26 observations)		
Costs of employees	3.01	4.69
Turnover	4.47	8.84
Turnover-Costs of emp. gap	1.46	4.27
Total debt	4.53	6.27
Coverage Main League	75%	

Note: Figures are expressed in millions of euros.

TABLE B. Effect of the FFPR on the difference between costs and revenues

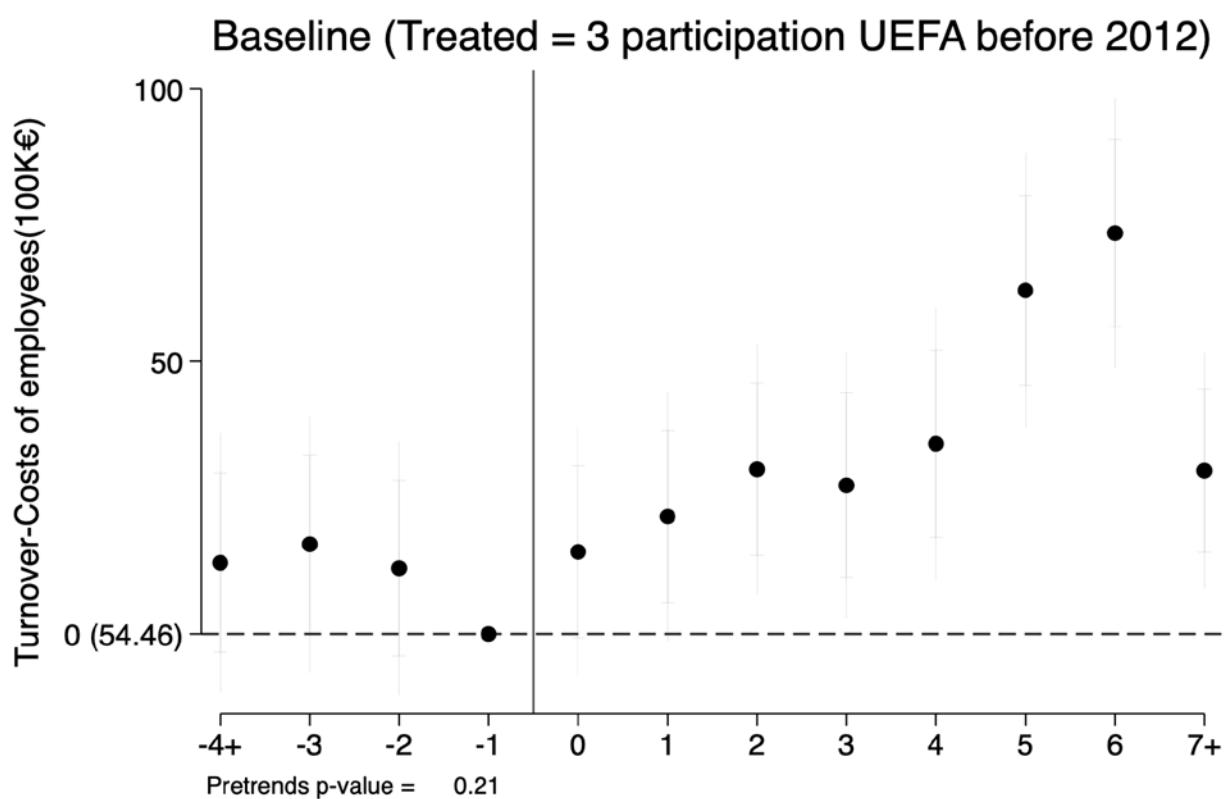
TABLE C. Effect of the FFPR on costs and revenues

TABLE D. Effect of the FFPR on debt

TABLE E. Effect of the FFPR on the difference between costs and revenues: heterogeneity analysis

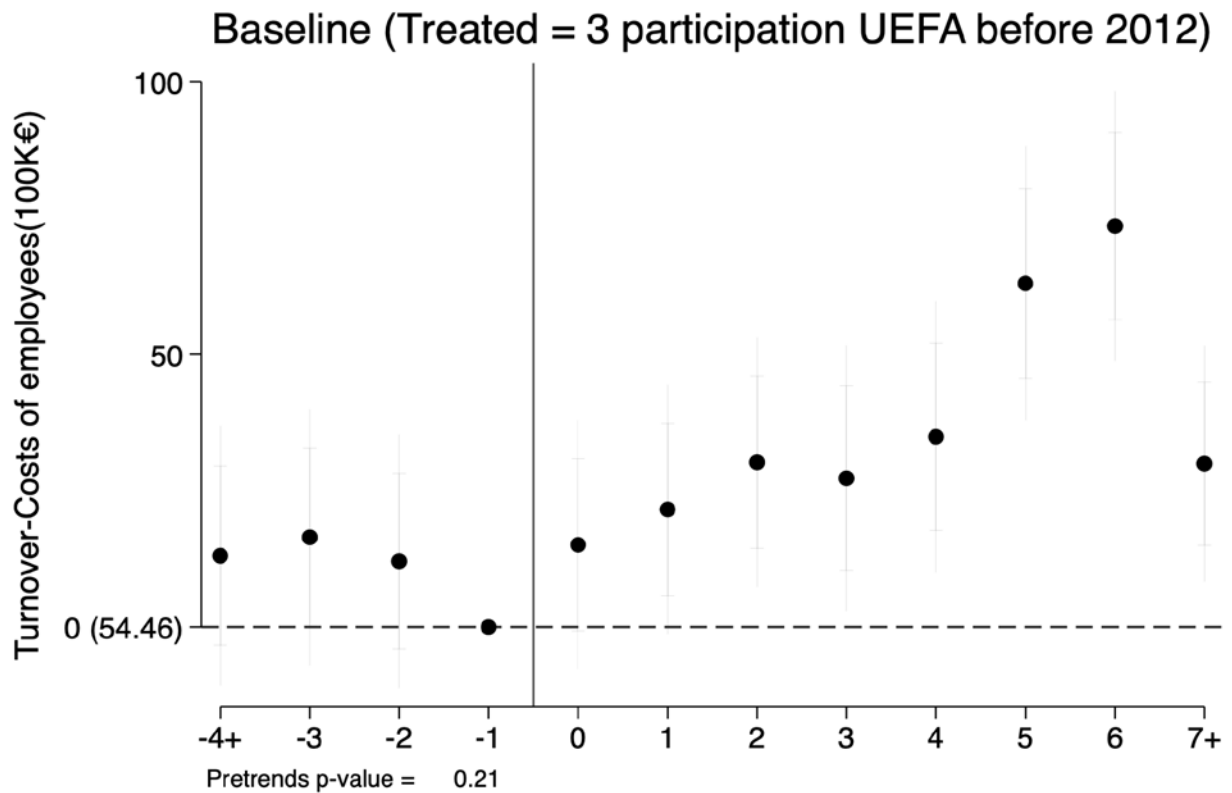
TABLE F. Effect of the FFPR on sporting performance

FIGURE A. Effect of the FFPR on the difference between costs and revenues: controlling for UEFA prize-money



Note: This figure plots the estimated difference-in-differences coefficients with the treatment group defined using UEFA games participation. The estimation controls for the logarithm of total assets and the amount of prize-money received from UEFA tournaments.

FIGURE B. Effect of the FFPR on the difference between costs and revenues: excluding Premier League clubs



Note: This figure plots the estimated difference-in-differences coefficients with the treatment group defined using UEFA games participation. The estimation sample excludes Premier League clubs.

CENTRE FOR ECONOMIC PERFORMANCE
Recent Discussion Papers

1951	Eugenie Dugoua Todd D. Gerarden	Induced innovation, inventors and the energy transition
1950	Christian Krekel Johannes Rode Alexander Roth	Do wind turbines have adverse health impacts?
1949	Réka Juhász Claudia Steinwender	Industrial policy and the great divergence
1948	Virginia Minni	Making the invisible hand visible: Managers and the allocation of workers to jobs
1947	Eugenie Dugoua	Induced innovation and international environmental agreements: Evidence from the ozone regime
1946	Marco Bertoni Gabriel Heller-Sahlgren Olmo Silva	Free to improve? The impact of free school attendance in England
1945	Matthias Mertens Bernardo Mottironi	Do larger firms exert more market power? Markups and markdowns along the size of distribution
1944	Ria Ivandić Anne Sophie Lassen	Gender gaps from labor market shocks
1943	Ihsaan Bassier Alan Manning Barbara Petrongolo	Vacancy duration and wages
1942	Cheng Keat Tang Stephen Gibbons	Are friends electric? Valuing the social costs of power lines using house prices

1941	Luis Bauluz Pawel Bukowski Mark Fransham Annie Seong Lee Margarita López Forero Filip Novokmet Sébastien Breau Neil Lee Clément Malgouyres Moritz Schularick Gregory Verdugo	Spatial wage inequality in North America and Western Europe: Changes between and within local labour markets 1975-2019
1940	Felipe Carozzi Edward Pinchbeck Luca Repetto	Scars of war: The legacy of WW1 deaths on civic capital and combat motivation
1939	Christos Genakos Costas Roumanias Tommaso Valletti	Is having an expert “friend” enough? An analysis of consumer switching behavior in mobile telephony
1938	Andrew E. Clark Maria Cotofan	Are the upwardly mobile more left-wing?
1937	Priya Manwaring Tanner Regan	Public disclosure and tax compliance: Evidence from Uganda
1936	Philippe Aghion Celine Antonin Luc Paluskiewicz David Stromberg Raphael Wargon Karolina Westin	Does Chinese research hinge on US co-authors? Evidence from the China initiative
1935	Nicholas Bloom Steven J. Davis Stephen Hansen Peter Lambert Raffaella Sadun Bledi Taska	Remote work across jobs, companies and space

The Centre for Economic Performance Publications Unit

Tel: +44 (0)20 7955 7673 Email info@cep.lse.ac.uk

Website: <http://cep.lse.ac.uk> Twitter: @CEP_LSE