
**WORKING PAPER
N. 189
NOVEMBER 2022**

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Has Financial Fair Play Changed European Football?¹

Ariela Caglio♥, Sébastien Laffitte♦, Donato Masciandaro* and Gianmarco Ottaviano♣

October 2022

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.

¹ We thank Alessandro Archetti and Fabio Gatti for excellent research assistance.

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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 2010.² 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, instead of directly norming the 'rat race' behaviors typical of 'positional' competition³ (Hirsch, 1977), 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).⁴

² UEFA issues a yearly Benchmarking report about the financial situation of nearly 700 first division clubs in 55 member associations.

³ Competition in professional sports leagues is different from competition in regular markets as it entails a zero-sum game for the participants. One team's victory means another's defeat and each position is assigned only once in the final ranking of a season. "Positional" competition is similar to a "rat race" that produces short-term biased incentives for the competing teams. Football clubs are likely to take a higher risk, i.e., over-spending on super-star players, since it is only the victory that matters at the end.

⁴ 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.

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 introduced – put it, ‘living within your means’ is the basis of accounting but it has not been the basis of football for years.⁵

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

⁵ See: <https://uk.reuters.com/article/uk-soccer-uefa-finances/platinis-financial-reforms-approved-by-uefa-idUKTRE58E2PP20090915>.

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 (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. To empirically assess these arguments, Peeters and Szymanski 2014 perform an *ex-ante* impact evaluation through the simulation of 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), but no previous contribution has demonstrated the causal link between the FFPR and competitive balance.

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) and refer to the balance sheets, statements of income, and global ratios of the football clubs.⁶ The sporting performance of clubs is captured by their ELO ranking extracted from the *clubelo* website created by Lars Schiefler (<http://clubelo.com/About>). A club's ELO ranking captures its relative strength based on results against opponents accounting for their respective strength, which makes it different from standard point-based rankings.⁷ ELO rankings are used by the International Chess Federation to rank chess players. It is also used by the FIFA Women's World Ranking.

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'). 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 'treated' clubs that tend to participate 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

⁶ 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.

⁷ 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).

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.

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, 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.

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 not promote competitive balance neither improve the 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.⁸ 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

⁸ 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.

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 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.⁹ 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

⁹ 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).

bankruptcy in some cases.¹⁰ Therefore, the need to balance financial sustainability with sporting 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

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. 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. 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.¹¹ 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

¹⁰ 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/cmcumeds/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 expenditure that Leeds United Football Club embarked upon in the early 1990s – “living the dream”, as the then Chief Executive described it.*

¹¹ 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.

Table 1 provides descriptive statistics for the key variables to be used in the empirical analysis for the year 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.

Table 1 here

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.¹²

The sporting performance of clubs is captured by their ELO ranking. The data is extracted from the *clubelo* website created by Lars Schiefler (<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 to compare clubs in different leagues and across time, while this is less convenient (or not possible) with standard rankings. This is a key

¹² For instance, Real Madrid and FC Barcelona represent more than 80% of the operating profits in Spain in 2014-2015 according to Deloitte 2019.

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 difference 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 an 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).

Event Study 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’). We additionally include club fixed effects and country-year fixed effects in order to account for any time-invariant club characteristics, and any country-specific trends. 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). This assumption 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-difference 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.

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’. 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’.¹³ 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 aspirations/likelihood to participate to a European competition. The identification assumption is that in 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.¹⁴ In order to demonstrate that the treated and the control groups do not differ systematically before the introduction of FFPR, we provide dynamic event-studies and test for the absence of 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.

¹³ 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.

¹⁴ Note also that 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 that are affected by the same supply and demand shocks.

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 raw average of the difference between turnover and employee costs per 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. If any, we can note a slightly negative trend for targeted clubs. 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 if FFPR applies to all clubs, only those aiming to participate in UEFA competitions are really affected by the reform.

Figure 1 here

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

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

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 an error term. 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.¹⁵

4. Effects of the FFPR

This section reports graphically the results from the estimation of (DID). We implement some recommendations for event-study analysis from Freyaldenhoven et al. (2021). In particular, we display both standard confidence bands and uniform sup-t confidence bands allowing to test for the consistence 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 0 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.

6.4 Break Even Requirement (BER)

Figure 2 reports the results looking at the impact of FFPR on the balance of revenues and expenses. The top left panel uses participation to 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.

Figure 2 here

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

¹⁵ Note that, as there is no variation in treatment timing, our empirical strategy is not concerned by biases introduced by heterogenous treatment effects (Chaisemartin and D'Haultfeuille 2020).

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 size and sporting quality 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.

To better understand these findings, we explore the channels of reaction of clubs. 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 affect negatively 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.

Figure 3 here

4.2 Financial sustainability

Our difference-in-difference 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.

Figure 4 here

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 in 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.

Figure 5 here

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 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.

Results are given 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 contract, 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. Indeed, 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 has not changed with the reform and that the result on the ELO ranking is mainly driven by the clubs' wage expenses.

Figure 6 here

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.

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Figure and Tables

TABLE 1. Descriptive statistics 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.

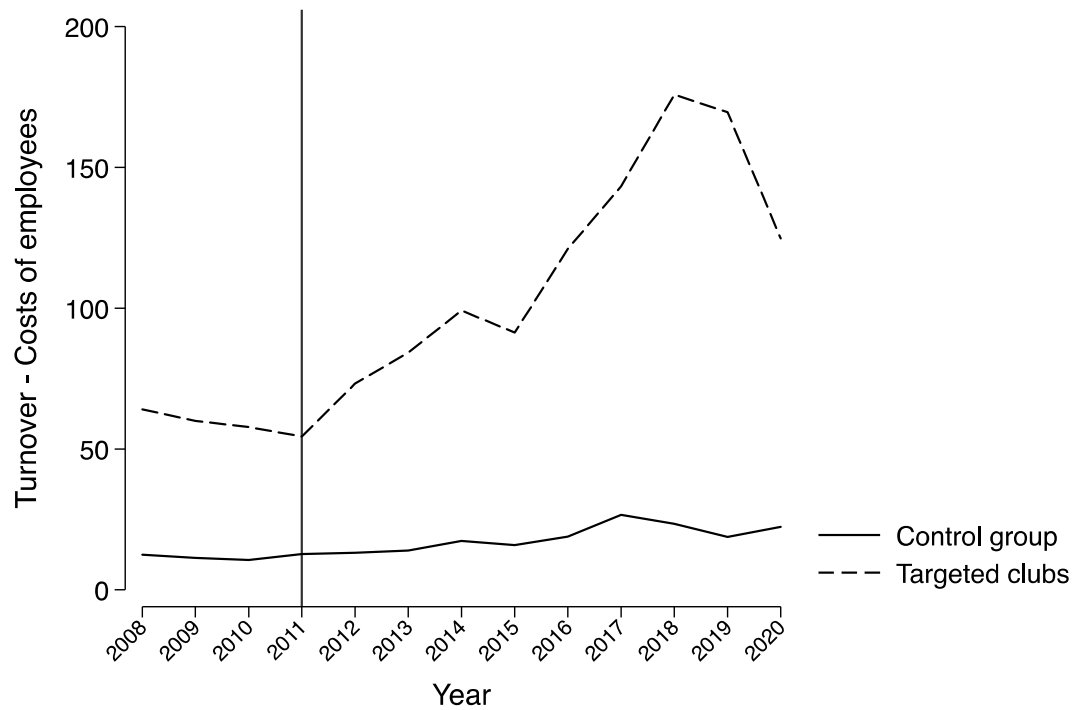


Figure 1 - Raw comparison of targeted clubs with the control group

Cost - Expenses

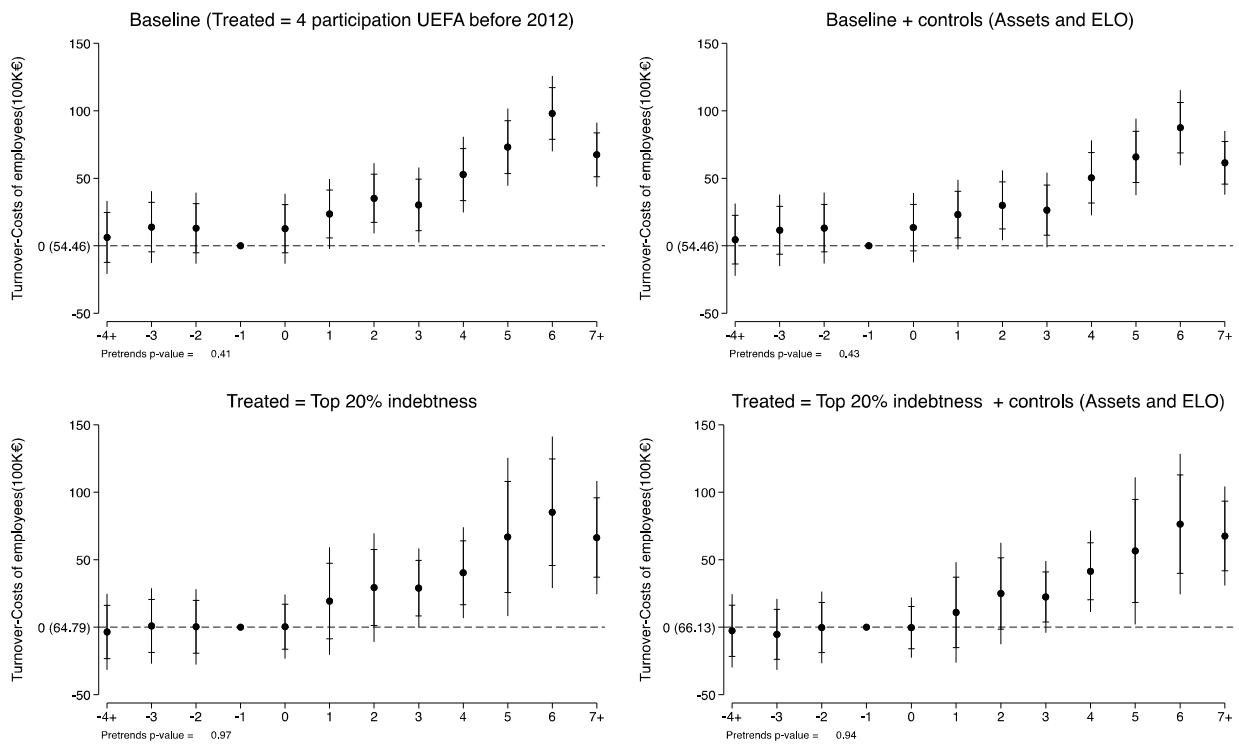


Figure 2 - Effect of FFPR on the the difference between costs and revenues

Channels

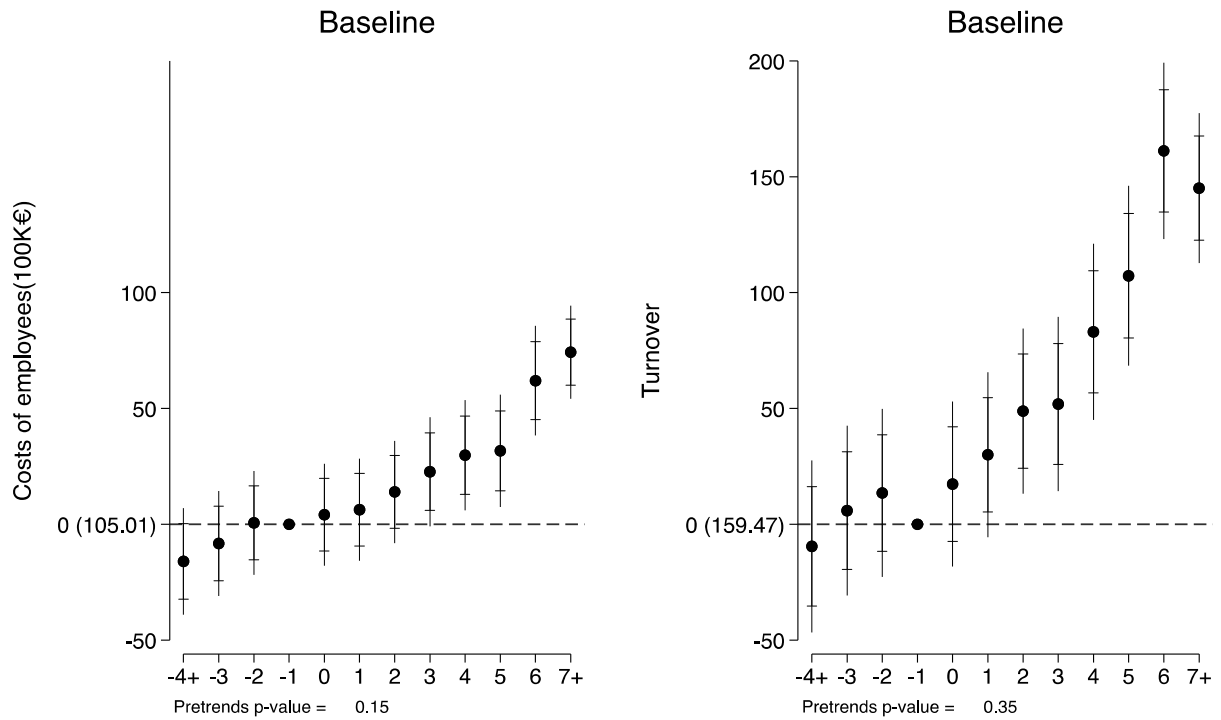


Figure 3 - Effect of the FFPR on costs and revenues

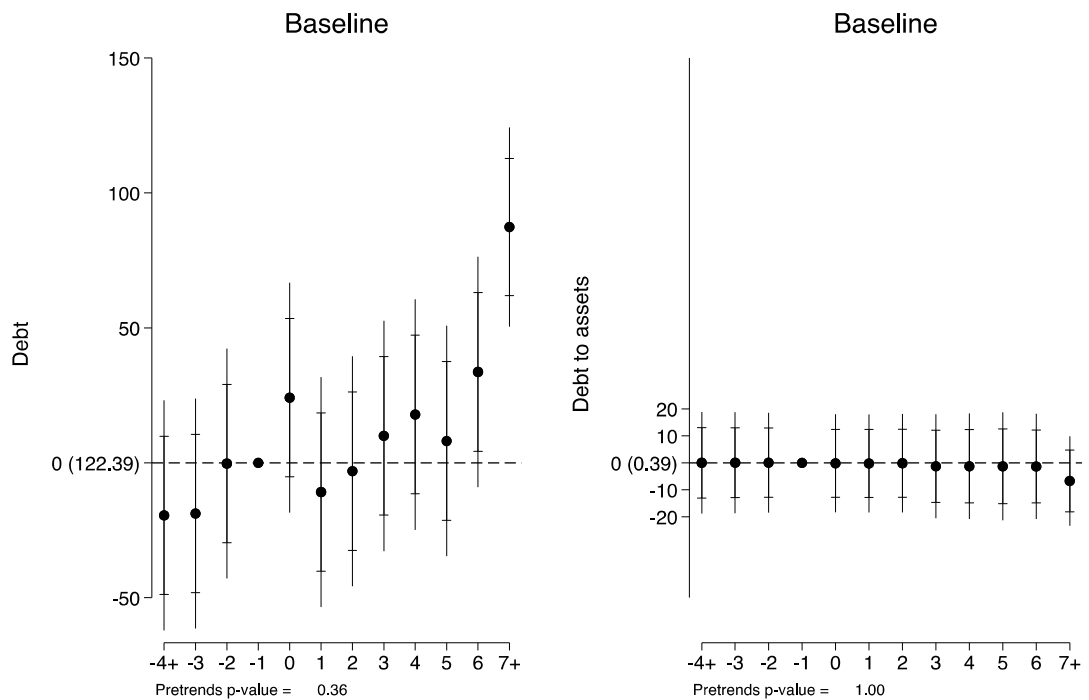


Figure 4 - Effect of the FFPR on debt

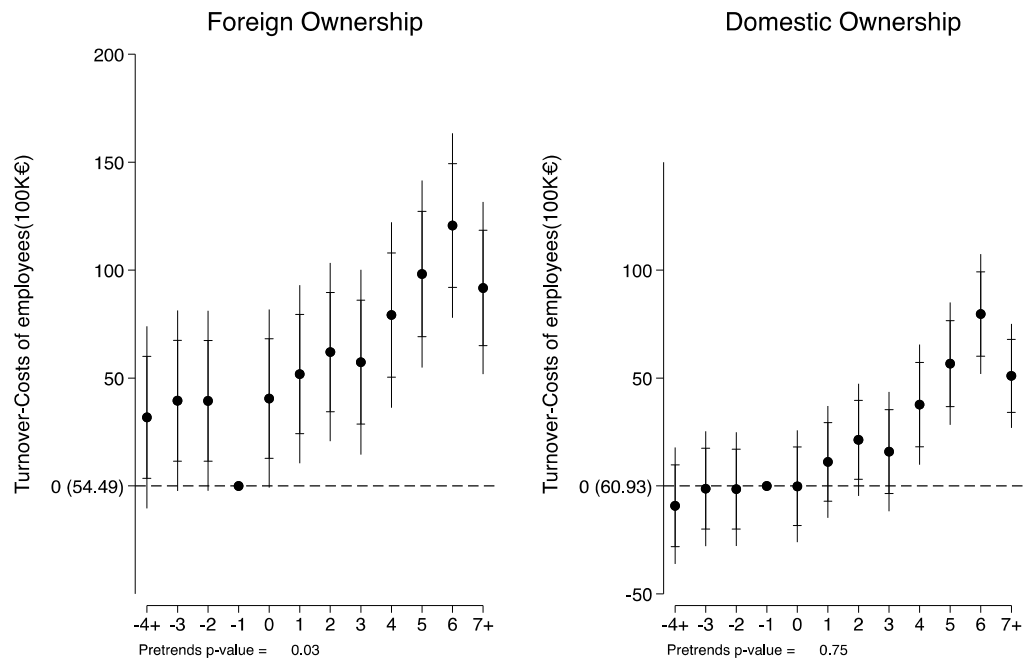


Figure 5 - Effect of FFPR on the difference between costs and revenues: heterogeneity analysis

Sporting results

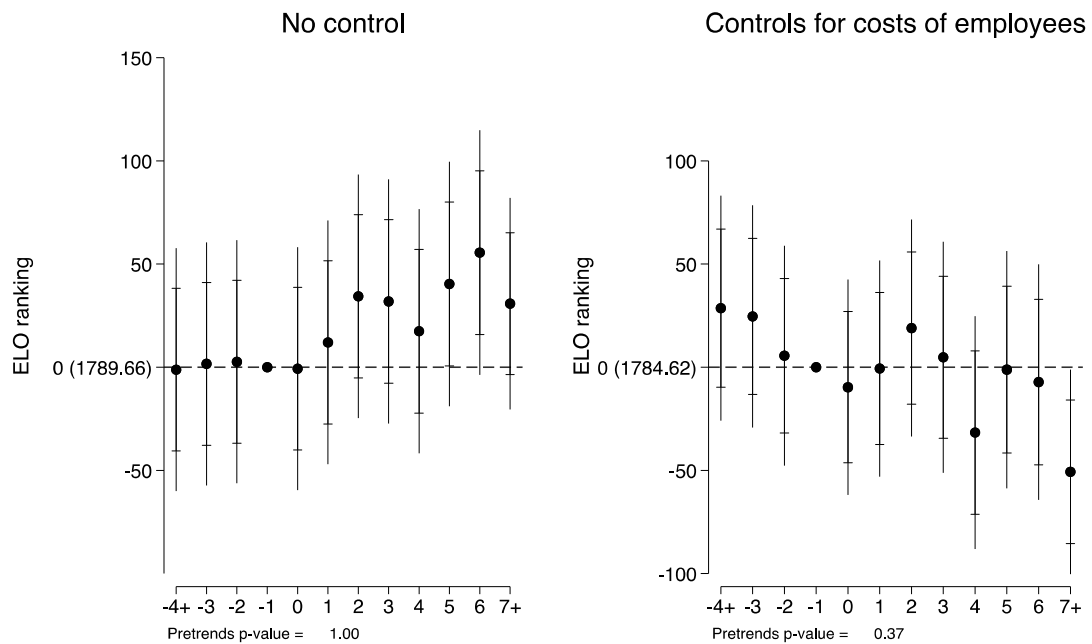


Figure 4 - Effect of the FFPR on sporting performance