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DOES FAIR PLAY MATTER? UEFA REGULATION AND FINANCIAL SUSTAINABILITY IN THE EUROPEAN FOOTBALL INDUSTRY

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DOES FAIR PLAY MATTER?
UEFA REGULATION AND FINANCIAL SUSTAINABILITY IN THE EUROPEAN FOOTBALL INDUSTRY

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Abstract

In 2009 the Union of European Football Associations (UEFA) launched its Financial Fair Play Regulations (FFPR) aimed at preventing professional football clubs from overspending in the quest of sporting success to the detriment of their long-run financial sustainability. The rationale and the effectiveness of the FFPR have both been questioned, but only on theoretical grounds. We make a first attempt at bringing empirical evidence to this debate exploiting an original dataset covering 156 clubs playing in the top five European Leagues (those of England, France, Germany, Italy and Spain) in the period 2006-2015. We address two main questions: whether before 2009 there was indeed a problem of growing financial leverage for European football clubs, and whether after 2009 the financial leverage of European clubs has started decreasing. We find that the introduction of the FFPR is associated with changes in the financial sustainability of European football clubs that are consistent with the regulations' intended effects. These changes are, however, rather weak and vary substantially across national leagues.

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1. Introduction

In 2009, the Union of European Football Associations (UEFA) launched its Financial Fair Play Regulations (FFPR), arguably the most significant regulatory development in the European football industry since the Bosman ruling in 1995. The FFPR constitute an enhancement of the Club Licensing System (CLS) introduced by the UEFA in 2004-2005. The CLS aimed at preventing professional football clubs from overspending in the quest of sporting success to the detriment of their long-run financial sustainability and of the long-run viability of European football as a healthy joint product of the national leagues.

Financial fair play was finally approved in 2010 and the first assessment was carried on in 2011. 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.[1] All in all, the FFPR pursue two intertwined types of 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 protections of creditors, the introduction of financial discipline, the need for operating on revenues, the emphasis on long-term financial capability. In this respect the FFPR are about urging football clubs to improve the management of their expenses, and achieve a sustainable balance between income, spending and investments.

These goals are pursued through a complex set of rules and criteria. Since 2011, clubs that have qualified for UEFA competitions have to demonstrate they do not have overdue payables towards other clubs, their players and social/tax authorities throughout the season. Starting from 2013, clubs are also assessed against break-even requirements (BER), which have become the cornerstone of FFPR. According to Articles 58-63 of the FFPR (UEFA 2012), clubs are in compliance with the BER, if "relevant expenses"[2] do not exceed "relevant income"[3] by more than the "acceptable deviation"[4] in a string of reporting periods

[1] 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.

[2] 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."

[3] 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

called “monitoring period”[5]. In essence, the idea is that clubs must balance the income from and the expenses for the operations of their professional teams involved in the UEFA tournaments, with some tolerance only for temporary deviations of limited size. In particular, direct or indirect money injections by “benefactors” (such as club owners or related parties) do not count towards “relevant income”. On the other hand, investments in infrastructures (such as stadiums and training facilities), in youth teams, and in community building do not count towards “relevant expenses”. In other words, clubs wanting to participate to the UEFA tournaments must operate as self-sustaining businesses protecting European football from bad business practices, avoiding dangerous injections of sometimes opaque and often volatile “benefactor money” as well as equally opaque and volatile instances of financial speculation such as “third party ownership” (TPO) and “third party investment” (TPI).

If clubs are not compliant with the FFPR, the UEFA's Club Financial Control Body (CFCB) will decide 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 reach the BER in the near future. The first sanctions for clubs not fulfilling the break-even requirement were set following the first BER assessment in May 2014 and the conditions of non-compliance became effective for the 2014/15 campaign. Interestingly, 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.

From the viewpoint of economics, the need for regulation in the European football industry rests on some notion of “market failure”. One possible source of market failure is that individual clubs do not fully appreciate the football entertainment they offer as a “joint product” of their leagues (i.e., it takes two teams to have a match and several teams to have a tournament). Hence, when it comes to balancing income and expenses, their “private” cost-benefit analysis is not aligned with their leagues’ “social” cost-benefit analysis. In this respect, clubs may underestimate the “systemic risk” that their lax financial governance engenders for the sustainability of European football as a “coopetitive” industry.

Another possibility is that football clubs may be used as means to achieve non-football objectives. Therefore, a club’s private cost-benefit analysis is affected by considerations that have nothing to do with

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.”

[4] The notion of “acceptable deviation“ is defined as of €5M, in Article 61.

[5] The “monitoring period” assessed for the license season 2013/14 covers the reporting period ending 2013 and the reporting period ending 2012. From then onwards the three previous reporting periods will be assessed for every new license season. For example, in the 2014/15 license season the assessment will be performed based on the three reporting periods ending 2014, 2013 and 2012.

the football business *per se*. For example, a club owner's private cost-benefit analysis could deviate from pure football-related cost-benefit analysis due to money laundering or political aspirations with sporting success offering a way to create social goodwill.

A third possibility is that the management of football clubs (and players' agents) may have personal incentives to privilege sporting success to the detriment of long-run financial sustainability, with their personal cost-benefit analysis deviating from that of other stakeholders. Someway related to this third line of reasoning is the issue of "competitive balance" (Sass 2012). Competitive balance is often considered as a key ingredient of sport entertainment (Leeds and Von Allmen, 2015), the rationale being that a successful league must be "thrilling" and thus characterized by intense and fair competition among the participating clubs. In this respect, lax financial governance may be problematic both in the short and in the long runs. In the short run, clubs that overspend may achieve an unfair competitive advantage through what has been sometimes called "financial doping". In the long run, the fact that bad management will backfire (eventually damaging the very same competitiveness of the "doped" club) is a mixed blessing for the other clubs as long as the appeal of football entertainment relies on the uncertainty and the perceived fairness of the contest.

Against this background, four crucial questions naturally arise. They are related, on the one hand, to the potential effects of the FFPR on the clubs' financial sustainability, and, on the other hand, to the link between financial sustainability and sporting success before and after the FFPR:

1. Before the introduction of the FFPR was there a problem of growing financial leverage for European football clubs ("financial bubble assumption")?
2. After the introduction of the FFPR has financial leverage of European clubs started decreasing?
3. Before the introduction of the FFPR was there a problem of positive association between financial leverage and sporting success for European football clubs ("financial doping assumption")?
4. After the introduction of the FFPR has the association between financial leverage and sporting success for European football clubs turned negative?

The aim of the present paper is to empirically address a subset of these questions exploiting an original dataset covering 156 clubs playing in the top five European Leagues (those of England, France, Germany, Italy and Spain) in the period 2006-2015. In particular, we focus our econometric analysis on the first two questions, only touching on the interplay between sporting success and financial sustainability through some descriptive statistics before and after the FFPR. As we will discuss, existing analyses in economics generally cast doubts on the effectiveness of the FFPR in achieving their declared objective of promoting financial sustainability and sound management practices. They also tend to be worried about the consequences of the FFPR for competitive balance. These analyses are, however, mainly based on

theoretical arguments with limited empirical backing. In this paper we try to start filling this gap focusing on the *intended effects* of the FFPR on financial sustainability and related management practices rather than on their *unintended consequences* on competitive balance.

Our contribution is designed to stimulate a broader discussion also about several managerial issues. While the debate about the goals of football clubs is not new (e.g., Arnold and Benveniste, 1987), the recent dominant narratives in the popular press about elite level clubs' financial performance and regular commentary on their financial failures have revamped its prominence. Football clubs are considered peculiar businesses: they exist in a distinctive emotional and social space, because of uncommonly strong relationships – based on identity, belonging, and a high engagement and activism (Michie and Oughton, 2005) – with stakeholders such as supporters and the community. These relationships can affect clubs' economic activities and their managers' decision making (Morrow, 2003) and, ultimately, their financial performance. Major clubs are indisputably complex businesses concerned with financial matters, but also heavily judged by what happens on the field. The strength of relationships between clubs, supporters and geographical communities (i.e., their "social value") can be understood as being as important as clubs' cash flows and debt levels (i.e., their "economic value"). From a managerial point of view, it thus becomes important to acknowledge this dual performance perspective and its consequent inherent tensions, and to explore how the FFPR potentially affect the delicate balance between clubs' financial goals and their sporting or social/emotional performance. In addition, the FFPR illuminates football as an appropriate setting to raise the debate on a possible context-specific approach to corporate reporting and disclosure in general: on the one hand, because the social and political interests surrounding football are only partly related to football's financial performance; on the other hand, because football clubs have often highly concentrated ownership structures and banks have become reluctant lenders to the sector (Morrow, 2013). This leads to questioning the role of traditional financial statements, which, by the way, represent also the starting point for applying the FFPR.

The rest of the paper is organized as follows. After a brief review of the state of the art of the economics of the FFPR in Section 2, Section 3 and 4 present our measures of financial performance (which we call "Financial Sustainability Indexes", or simply FSIs) and the data description. Section 5 discusses the descriptive statistics. Section 6 details our econometric analysis and some robustness checks. Section 7 concludes.

2. The Economics of the FFPR: The State of the Art

Most of the works that investigates the economics of the FFPR consist of theoretical studies. Generally the authors deal with dynamic models of the football industry with the aim of finding out

whether and how the long run performance of the industry is affected by the introduction of the FFPR. Common features of most of these studies are the centrality attributed to "competitive balance" and the idea that the fact that (almost by definition) football clubs are not "profit-maximizing businesses" makes football different from other industries. In this respect, the FFPR are generally frowned upon as they are seen as being inspired by the opposite view of clubs as standard "profit-maximizing businesses". This implies that, given that "competitive balance" is an irrelevant concept for standard industries, a likely outcome of the FFPR is considered to be a deterioration of that balance.

Three main objections have been moved regarding both the economic and the non-economic consequences of such regulations. A first objection to the introduction of the FFPR can be found in Madden (2012). The argument is very simple: by preventing benefactors (also known as "sugar daddies") from injecting unlimited quantity of external capital into the football industry, the FFPR could be self-defeating. Given some current arrangements on the allocation of league money (from prizes to television rights), absent external injections, sporting success can snowball leading to a deterioration of "competitive balance". The gains and losses from the imposition of the BER could be very unevenly split and generate new potential inefficiencies. There could be a clear shift of rents from players to owners. Fans (as final consumers of the football product) could be crowded out by regulation effects and their surpluses could shrink.[6] Owners could benefit but only in very specific cases. All in all, Madden (2012) argues that the introduction of the BER would lead to a reduction in the overall quality of leagues and, consequently, a decrease of their appeal.

The second objection concerns specifically the intensity of competition. Preuss et al. (2013), applying a game theoretical framework, claim that the FFPR introduction is likely to produce unintended or even adverse effects. At the end of the day, the FFPR would not improve the clubs' financial performance neither promote "competitive balance" causing further distortions of the level playing field. Clubs have strong incentives to bypass the regulations, for example using "creative" accounting. This imposes additional costs both on clubs and the UEFA, which must spend additional resources to detect deviant behavior. Since such additional costs are probably more easily sustained by rich than small clubs, there could be negative consequences for the "competitive balance" of the league. In their simulations, Peeters and Szymanski (2013) find empirical support for the existence of those distortions, showing that the introduction of FFPR is likely to be associated with the impossibility for small teams to challenge the dominance of top clubs. They suggest that the introduction of a North-American-style salary cap could

[6] In a similar vein, Storm and Nielsen (2012) underline the social significance and community embeddedness of football clubs and the limitations of a reasoning based solely on economic and financial criteria. The authors explain that the experiences of clubs in financial distress demonstrate that these organizations are not considered by society as mere businesses, i.e., they are not simply evaluated based on traditional measures of return, or allowed to prosper or fail just on the basis of conventional measures of business success. These organizations are too big to fail not in financial terms, but in social terms.

more effectively address and improve both financial performance and competitive balance. From a different angle but along a similar line of reasoning in terms of distortions and deviant behavior, Schubert (2014) interprets the relationship between the UEFA and the affiliated clubs as a principal-agent relationship. There is an obvious conflict of interests between the UEFA and the clubs caused by the objectives of the FFPR. In fact, while the long-term stability advocated in the FFPR should also be in the interest of football clubs, their primary interest is to secure immediate sporting success at any cost, including heavy losses and increased indebtedness. Information asymmetries and loopholes (for example, "fair value" is a rather blurry concept) could leave room for opportunistic behavior by clubs, thus ultimately impairing the effectiveness of the UEFA regulatory intervention for both financial sustainability and competitive balance.

The third objection is a consequence of the first two: European leagues run the risk of the so-called "ossification" once the FFPR are in force. As competitive balance has already followed a secular downward trend within each national league, the effect of the introduction of the FFPR would be to freeze the current imbalanced set-up. Two works have put particular emphasis on the ossification effect: Sass (2012) and Vöpel (2013).[7] Sass (2012) studies a dynamic model of professional teams competing with each other, showing that the long-run outcome entails a situation in which big clubs dominate small clubs and competitive balance is maximally uneven. Also Vöpel (2013) studies a dynamic model of competition among clubs and comes out with similar conclusions. Even though some benefit in terms of financial stability might arise, the introduction of the FFPR would determine a considerable deterioration in competitive balance among European football clubs. In other words, even when the FFPR can improve financial performance, this comes to the detriment of "competitive balance".

To summarize, the three objections are that:

1) Through the introduction of the FFPR, the UEFA forgoes potential benefits stemming from unlimited injections of external capital into football payroll, which could determine Pareto inefficiencies (Madden, 2014);
2) The FFPR are similar to US salary caps but probably worse articulated. Not only they lead they to potentially deviant behaviors, but they also limit competition in the player market and put downward pressure on salaries without achieving benefits from increased competitiveness (Peeters and Szymanski, 2013);
3) The FFPR tend to freeze and ossify the existing hierarchy of European football, creating important barriers to entry (Sass, 2012, and Vöpel, 2013).

On the other side of the debate, Franck (2014) argues that all three objections are unfounded. On the first, Franck (2014) notes that the translation of capped payrolls into less money for football is far from automatic as benefactors can still continue to fund football activities liberally by using different means. In

[7] See also Budzinski (2014) and Petit (2014) for further insights.

this case, ex-post injections of capital would need to be substituted by ex-ante sponsorship agreements (obviously at their fair value, which is not subject to the BER jurisdiction).

Franck (2014) provides counterarguments also against the second objection. First of all, the FFPR refer to quite reasonable rules: compared with US salary caps, the FFPR represent a very "tolerant" kind of competition restriction. He agrees with Peeters and Szymanski (2013) that the introduction of the BER binds some football clubs and puts downward pressure on salaries. However, he also considers these effects only temporary: if the FFPR work in restoring incentives for good management and strengthening budget constraints, then new revenues will be produced and higher wages than in the current system will be generated. Moreover, Franck (2014) claims that US-style salary caps constitute the wrong benchmark for the FFPR. The question of whether the UEFA should introduce salary caps rather than the FFPR is pointless. European football is based on a different mechanism of suspense with respect to America's favorite sports. Competitive regulation via absolute salary caps is simply not possible. The European football system is not suitable for salary cap rules for at least two reasons: (i) the system of promotions, relegations, qualifications to the UEFA tournaments does not allow for the imposition of inflexible rules; (ii) the "multi-level filtering" between different divisions and countries, which characterizes European football, needs a certain level of competitive imbalance to perform well. Therefore, even conceding that in abstract salary caps are more efficient than the FFPR in terms of improving competition, there is no way to export them to Europe, unless a complete overhaul of European football is undertaken. In addition, the creation of a single league in a common market setting, as well as the formation of heterogeneous leagues with comparable revenues, do not seem to be on the top the policymakers' agenda today.

Finally, the counterarguments offered by Franck (2014) to the third objection are essentially two. Firstly, there is no real mechanism that systematically allocates payroll injections in a way that small clubs turn out to be more competitive. Normally, what happens is that the richest benefactors are attracted from higher probabilities to win. Since bigger clubs, with their extraordinary history of success, are those whose probabilities of winning are higher, a vicious circle is in place. Benefactors are more inclined to invest in top clubs, as monies look for monies and, finally, "money comes to money". Against this background, the FFPR reduce the gap between small and big clubs by forcing all clubs to play within their market potentialities while preventing the top clubs from benefiting from conspicuous injections of external capitals from the richest owners that they naturally attract. Far from being a negative chimera, the FFPR are positive devices to break the "money comes to money" equilibrium and to re-establish fair levels of competition. Secondly, once incentives for good management are taken into consideration, there is even less room for external money injections as the proper tool for shaking football hierarchies. The FFPR are likely to revitalize the importance of management quality and European football can only benefit from this occurrence, providing an effective source of mobility in the hierarchy of football, while at the same time enabling the pursuit of financial stability.

Therefore, with the exception of Franck (2014), all existing analyses in economics cast doubts on the effectiveness of the FFPR in achieving their declared objective of promoting financial sustainability and sound management practices. They are also worried about their consequences for competitive balance. All these analyses are, however, based on theoretical arguments with empirical investigation virtually missing. The aim of the next sections is to start filling this gap. As discussed in the Introduction, our main focus is on the *intended effects* of the FFPR on financial sustainability and related management practices rather than on their *unintended consequences* on competitive balance.

3. The Financial Sustainability Indexes (FSIs)

How to measure the financial performance of the European football industry in a way that is consistent with the stated aims of the FFPR? Our choice is to use the Debt over Cash Flow ratio (D/CF). This indicator has several advantages. Although it does not perfectly overlap with the difference between relevant income and relevant expenses (as defined in Articles 58 (1) and 58 (2) of the FFPR), the Cash Flow is a measure that is absolutely consistent with such difference. Moreover, the D/CF is known to be an effective predictor of corporate loan covenant violations and bankruptcy: in fact, such ratio has been a long standing and common measure to assess the borrowing capacity and financial health of corporations. In addition, a widespread concern has been voiced that the FFPR do not place explicit emphasis on cash, which is generally seen as fundamental to the good functioning of football clubs. Such concern is based on the number of clubs with respect to which auditors have regularly expressed doubts about the validity of the going concern assumption (ICAS, 2014). Finally, given the paucity and heterogeneity of accounting information publicly available for European football clubs, it would have been impossible to calculate exactly the difference between relevant income and expenses for all the clubs included in our analyses.

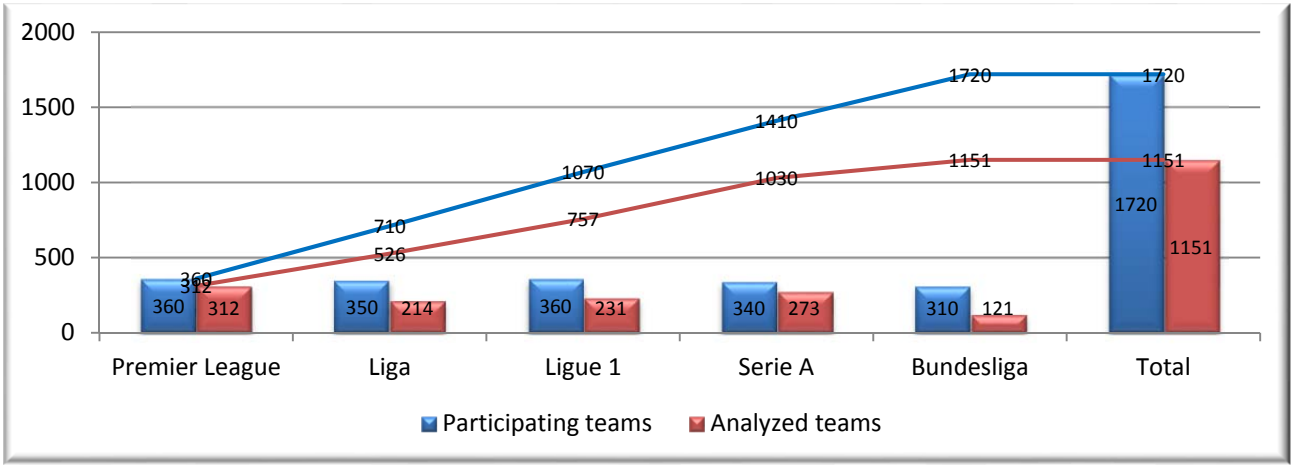
In general, the D/CF expresses the total amount of debts owed by a firm in relation to the yearly cash flow it generates. The higher the ratio, the higher the financial leverage. The rationale is straightforward: the D/CF represents the amount of time needed to repay outstanding debts through cash flows, assuming that the overall amount of cash flow is used for this purpose. In calculating the D/CF, we consider two different types of debt. The first is Total Debts (TD), which sums up the long-term and the short-term debts (in general, loans). The second type is Short-term Debts (SD) only. It is worth noting that both measures differ from another commonly used index: Total Liabilities (TL). Our choice allows us to disentangle the impact of debts on the club financial soundness, which is in line with the FFPR principles. Regarding the Cash Flow, we adopt its more general definition: the net amount of cash and cash-equivalents moving into and out of a business. Therefore, we build up two different "Financial Sustainability Indexes" (FSIs): the total Debts to Cash Flow ratio (DCF) and the Short-term Debts to Cash

Flow ratio (SDCF), with higher values of the indexes signaling more problematic sustainability. It is worth noting that both indexes can generate negative ratios. Negative ratios are generally considered as "not meaningful"; however, they hint at situations in which the cash flow is heavily insufficient for corporate balancing purposes. To see whether some meaningful information can be extracted from these negative ratios, in our analyses we have treated them in two different ways. First, we have excluded all negative values from the data. Second, we have performed separate analyses for positive and negative cash flows. For parsimony, in the descriptive analysis, we report only the results obtained using the first approach, while for the econometric analysis we report also those based on the second approach.[8]

4. Data

Our database consists of two sets of data. Financial data are extracted from Amadeus (Bureau van Dijk) and refer to the balance sheets, statements of income and global ratios of the football clubs.[9] The second set of data refers to sporting statistics (points, rank, number of goals, etc.). All in all, we collect information for 156 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, in the years from 2006 to 2015. Despite some missing values (especially on the financial side), the database coverage is generally good and consistent.

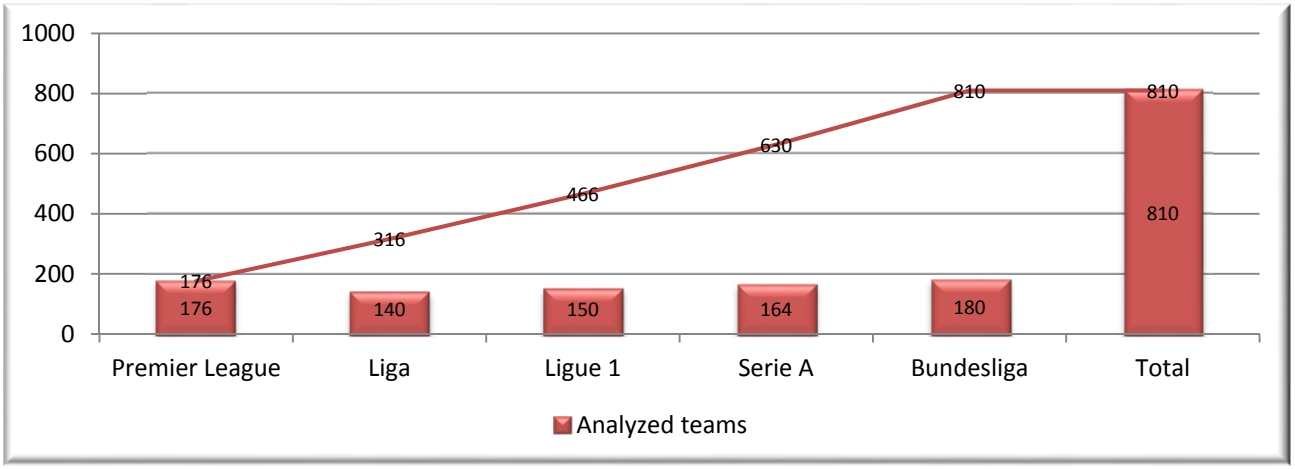
Figure 1. Number of clubs included in the sample. Accounting data.



[8] We have also investigated how our findings change when negative values are replaced with a very large D/CF (= 100) and when negative cash flows are set to a very small D/CF (=1). The corresponding tables and figures are not reported but are available upon request.

[9] Amadeus (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 Amadeus database: Loans (Short term financial debts, e.g. those to credit institutions + part of Long term financial debts payable within the year, bonds, etc.); Long Term Debt (Long term financial debts, e.g. those to credit institutions in the form of loans and credits, bonds); Cash Flow (Profit for period + Depreciation).

Figure 2. Number of clubs included in the sample. Data on sport statistics.



Figures 1 and 2 provide a graphical representation of the above reasoning.

Figure 1 reports the number of clubs for which we own financial data. As we can see, with the only exception of the German Bundesliga, more than 60% of the clubs participating in each league in the considered period are under examination.

Figure 2 refers to sportive data. A total of 810 observations have been collected in order to make our sample consistent with the empirical analysis.

5. Financial Sustainability and the FFPR: Descriptive Analysis

We start our investigation by looking at the financial and sporting performance of European football clubs before and after the introduction of the FFPR through the lenses of our Financial Sustainability Indexes (FSIs).[10]

Tables 1 and 2 summarize some aggregate information pooling the five national leagues. The first table refers to the clubs' balance sheets and considers equity, debts as well as overall liabilities. The second, reports summary statistics from their income statements, highlighting EBIT, EBITDA, net incomes and cash flows. Taking hints from these tables, we identify some underlying trends that we use as a benchmark for our analyses. First, the dramatic fall of shareholders funds following 2009 and their sudden rise after 2012. Second, the ups and downs of long-term liabilities. Third, the decrease in short-term debts after 2013. Fourth, and mostly important, the huge rise of cash flows following the official introduction of the FFPR in 2012.

[10] We have also analysed debts and cash flow separately. The corresponding tables and figures are not reported but are available upon request.

Table 1. All clubs. Liabilities and Equity in the period 2006-2014 (Millions of euro)[11]

Clubs	106 on 156	116 on 156		114 on 156		119 on 156		124 on 156	
	2006	**2007**	**Var %**	**2008**	**Var %**	**2009**	**Var %**	**2010**	**Var %**
Shareholders Funds	183.0	169.0	-7.7	258.0	52.6	128.0	-50.4	-295.0	-330.5
Non-current liabilities	4300.0	4630.0	7.7	4810.0	3.9	4600.0	-4.4	4280.0	-7.0
Long-term debt	3050.0	3280.0	7.5	3510.0	7.0	3030.0	-13.7	2900.0	-4.3
Other Non-current liabilities	1100.0	1150.0	4.5	1140.0	-0.9	1480.0	29.8	1320.0	-10.8
Current liabilities	4900.0	5830.0	19.0	6070.0	4.1	6500.0	7.1	7690.0	18.3
Short-term debt	1240.0	1490.0	20.2	1390.0	-6.7	1930.0	38.8	2910.0	50.8
Other Current liabilities	2660.0	3090.0	16.2	3310.0	7.1	3430.0	3.6	3630.0	5.8
Total debt	4070.0	4540.0	11.5	4660.0	2.6	4960.0	6.4	5810.0	17.1
Clubs		124 on 156		130 on 156		126 on 156		120 on 156	
		2011	**Var %**	**2012**	**Var %**	**2013**	**Var %**	**2014**	**Var %**
Shareholders Funds		-533.0	-80.6	-385.0	27.7	364.0	194.5	1270.0	248.9
Non-current liabilities		4240.0	-0.9	5450.0	28.5	5200.0	-4.6	4740.0	-8.8
Long-term debt		2850.0	-1.7	3830.0	34.4	3590.0	-6.3	3240.0	-9.7
Other Non-current liabilities		1390.0	5.3	1610.0	15.8	1610.0	0.0	1500.0	-6.8
Current liabilities		8290.0	7.8	9080.0	9.5	8570.0	-5.6	8850.0	3.3
Short-term debt		3170.0	8.9	3220.0	1.6	2640.0	-18.0	2570.0	-2.7
Other Current liabilities		4160.0	14.6	4680.0	12.5	4680.0	0.0	4970.0	6.2
Total debt		6030.0	3.6	7050.0	17.1	6230.0	-11.6	5810.0	-6.7

[11] We derive these data from Amadeus without any further adjustment. The different items are defined in the following way. Net Equity: Total equity (Capital + Other shareholders funds). Non-current liabilities: Long term liabilities of the company (Long term financial debts + other long term liabilities and provisions). Long-term debt: Long term financial debts (e.g. to credit institutions (loans and credits), bonds). Other non-current liabilities: Other long term liabilities (trade debts, group companies , pension loans, etc.) + provisions + deferred taxes. Current liabilities: Current liabilities of the company (Loans + Creditors + Other current liabilities). Short-term debt: Short term financial debts (e.g. to credit institutions + part of Long term financial debts payable within the year, bonds, etc.). Other current liabilities: Other current liabilities such as pension, personnel costs, taxes, intragroup debts, accounts received in advance, etc. We calculate Total debt as the sum of long-term debt and short-term debt.

Table 2. All clubs. Operating results in the period 2006-2014 (Millions of euro)[12]

Clubs	111 on 156	119 on 156		117 on 156		120 on 156		125 on 156	
	2006	**2007**	**Var %**	**2008**	**Var %**	**2009**	**Var %**	**2010**	**Var %**
EBITDA	259	445	71.8	531	19.3	489	-7.9	418	-14.5
EBIT	-829	-860	-3.7	-875	-1.7	-906	-3.5	-1190	-31.3
Net Income	-259	-541	-108.9	-386	28.7	-456	-18.1	-860	-88.6
Cashflow	830	764	-8.0	1020	33.5	939	-7.9	746	-20.6
Clubs		126 on 156		132 on 156		127 on 156		121 on 156	
		2011	**Var %**	**2012**	**Var %**	**2013**	**Var %**	**2014**	**Var %**
EBITDA		216	-48.3	650	200.9	1100	69.2	1500	36.4
EBIT		-1370	-15.1	-1170	14.6	-841	28.1	-464	44.8
Net Income		-1050	-22.1	-664	36.8	-670	-0.9	-124	81.5
Cashflow		533	-28.6	1160	117.6	1270	9.5	1840	44.9

Turning to the different leagues, we now zoom on our FSIs, i.e. total debts over cash flow (DCF) and short-term debts over cash flow (SDCF). For parsimony and ease of interpretation, for both indexes we report findings based only on positive values of the FSIs.[13]

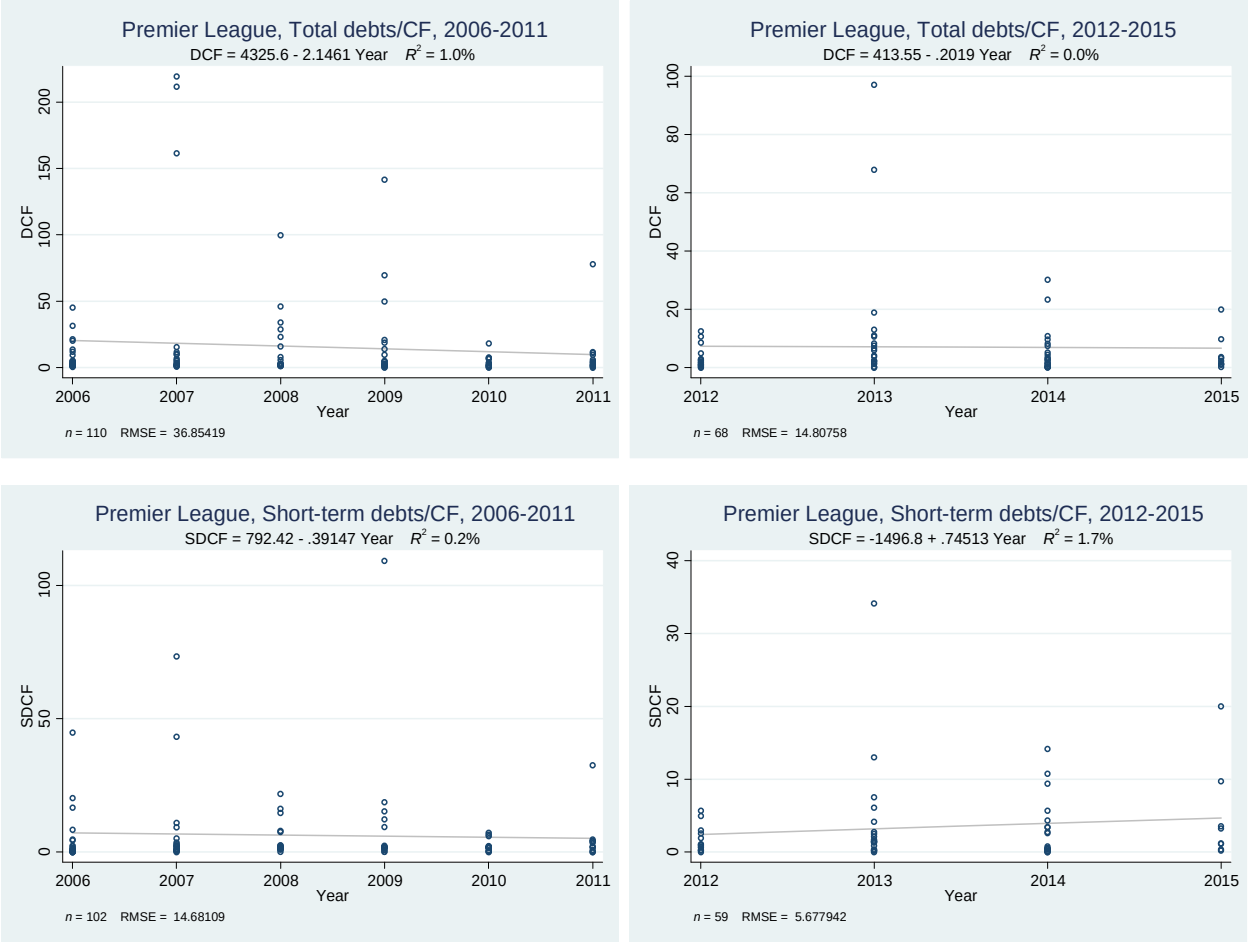
- **English Premier League.**

The evolution of the financial performance of Premier League clubs is depicted in Figure 3. Two patterns seem to emerge. First of all, the trend before the FFPR introduction is downward sloping for both FSIs, indicating that from 2006 to 2011 English clubs have improved their financial performance. Secondly, the trend is, however, only slightly negative (and even positive for SDCF) after 2011. In other words, the introduction of the FFPR seems to have been at best irrelevant.

[12] Also these data are derived from Amadeus without any further adjustment. The different items are defined in the following way. EBITDA: Operating profit + Depreciation. EBIT: all operating revenues - all operating expenses (Gross profit-Other operating expenses). Net income: Net income for the Year before deduction of Minority interests if any (Profit after taxation + Extraordinary and other profit). Cash Flow: Profit for period + Depreciation.

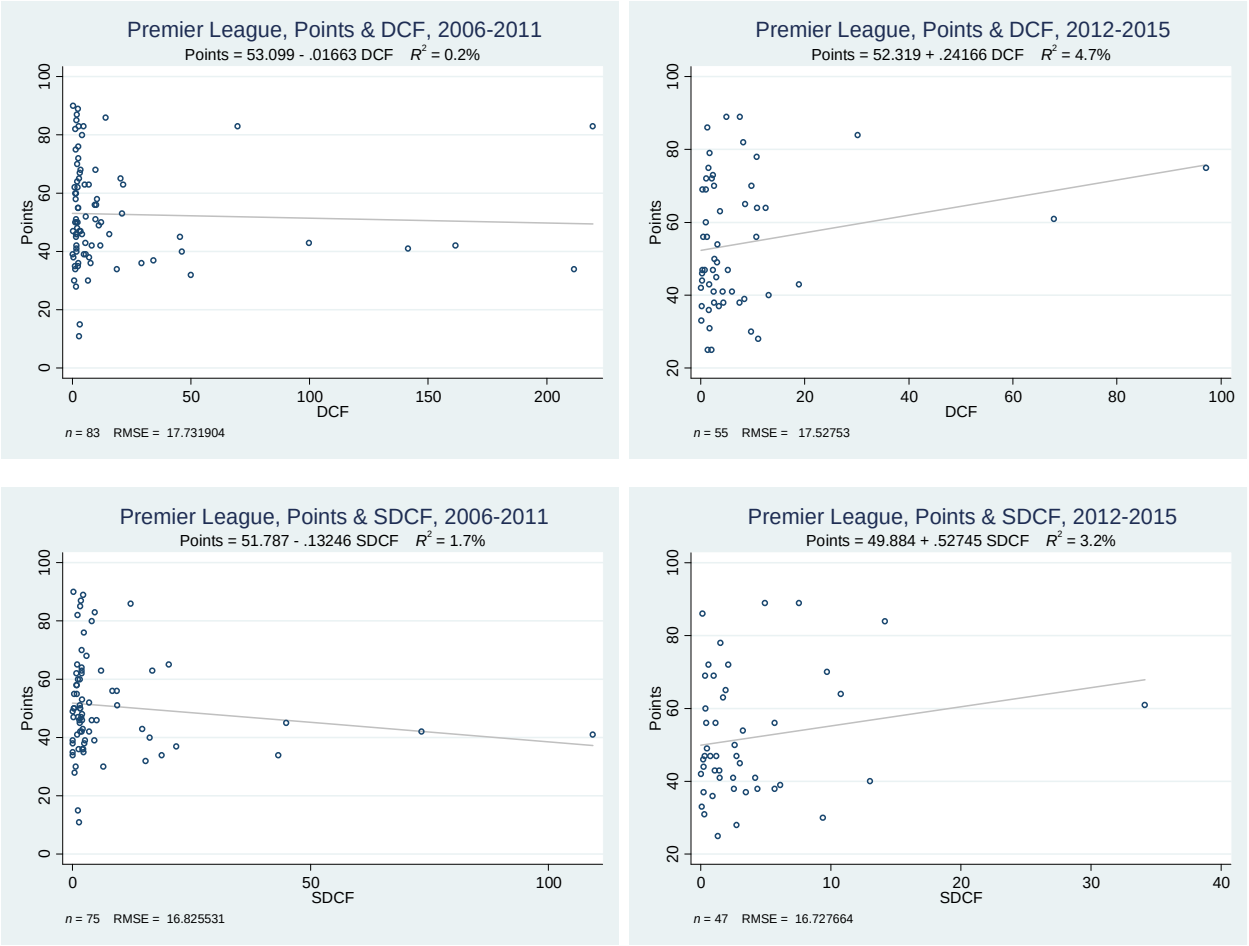
[13] The findings for negative cash flows are available are available upon request. We have also benchmarked our findings using a recent study by PricewaterhouseCoopers (2016). The corresponding tables and figures are reported in the Appendix. See: http://www.pwc.com/it/it/publications/reportcalcio-2016.html.

Figure 3. FSIs: English Premier League



Regarding the association between financial leverage and sporting performances, Figure 4 shows that, both before and after the FFPR introduction, higher values of the FSIs are associated with more league points. While one would be tempted to interpret this association as evidence of "financial doping" distorting the level playing field, its emergence both with and without FFPR in force seem to suggest that also for sporting results the introduction of the FFPR may have been irrelevant.

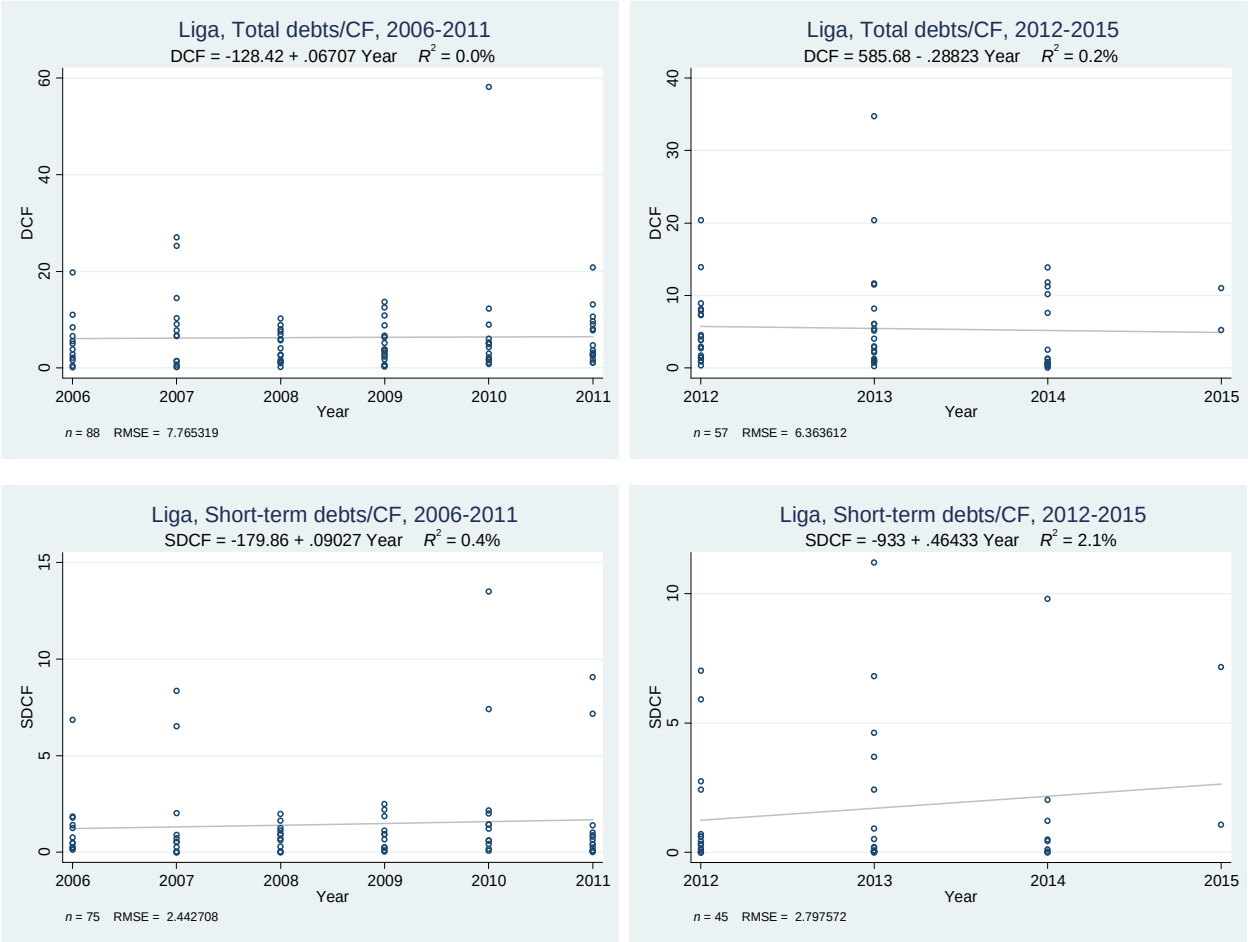
Figure 4. FSIs and Performances. English Premier League



- **Spanish Liga.**

For the Spanish Liga, in Figure 5 the two FSIs show opposite results with respect to the relevance of the FFPR introduction. Before the launch of the FFPR, the DCF trend is negative, and after the establishment of the new UEFA rules, the trend is even more downward sloping. This bodes well for the financial bubble assumption and the effectiveness of the FFPR. However, the same is not true when it comes to the SDCF where the positive trend becomes steeper after the FFPR introduction, thus signaling a deterioration of short-term financial performance.

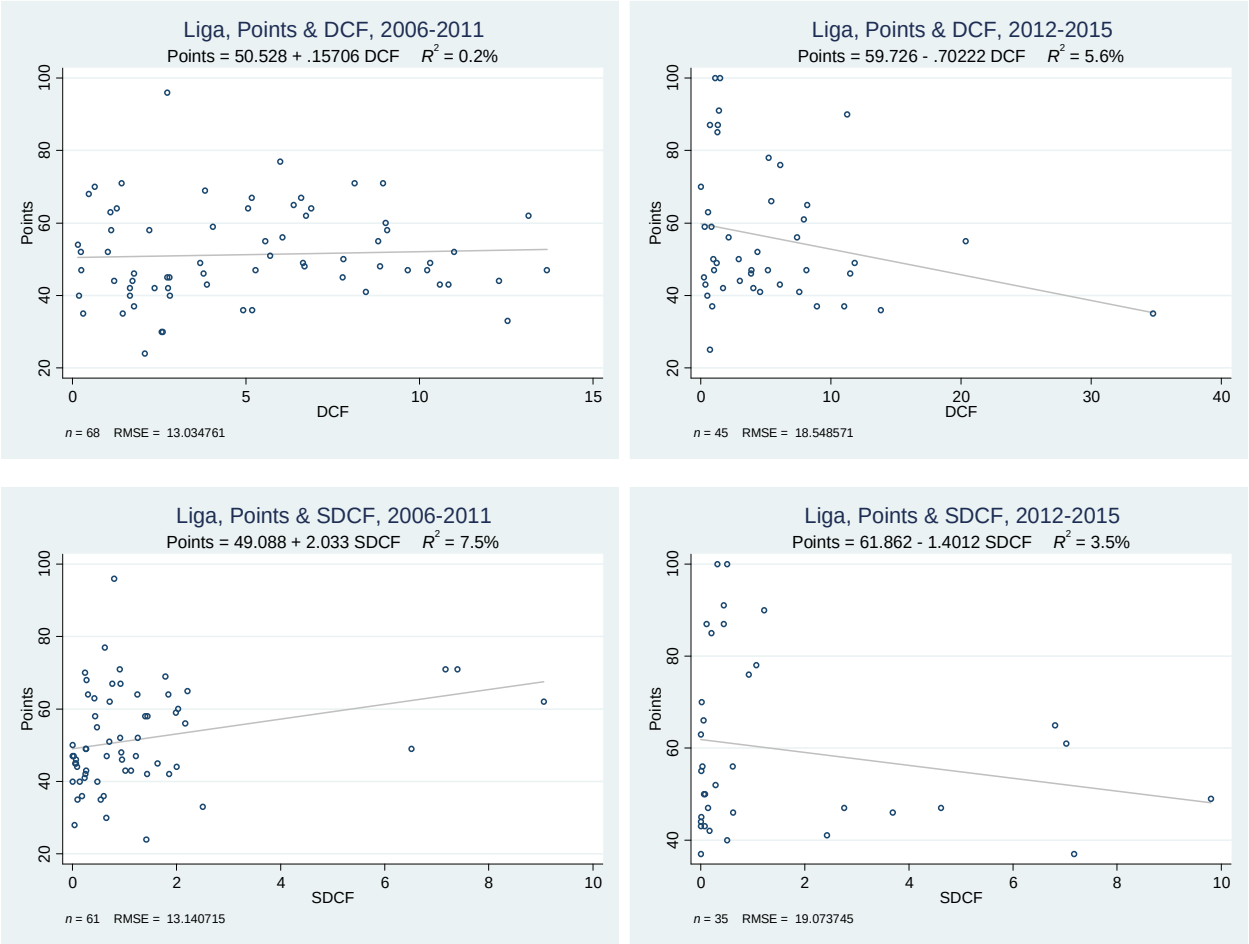
Figure 5. FSIs: Spanish Liga



Turning to sporting performance, its association with financial leverage seems to be consistent with the financial doping assumption and the effectiveness of the FFPR. In particular, Figure 6 shows that before 2012 higher values of the FSIs are associated with more points, while the opposite happens after the 2012.

Overall, in Spain the introduction of FFPR coincides with improved financial performance (at least in terms of long-term leverage) and less financial doping.

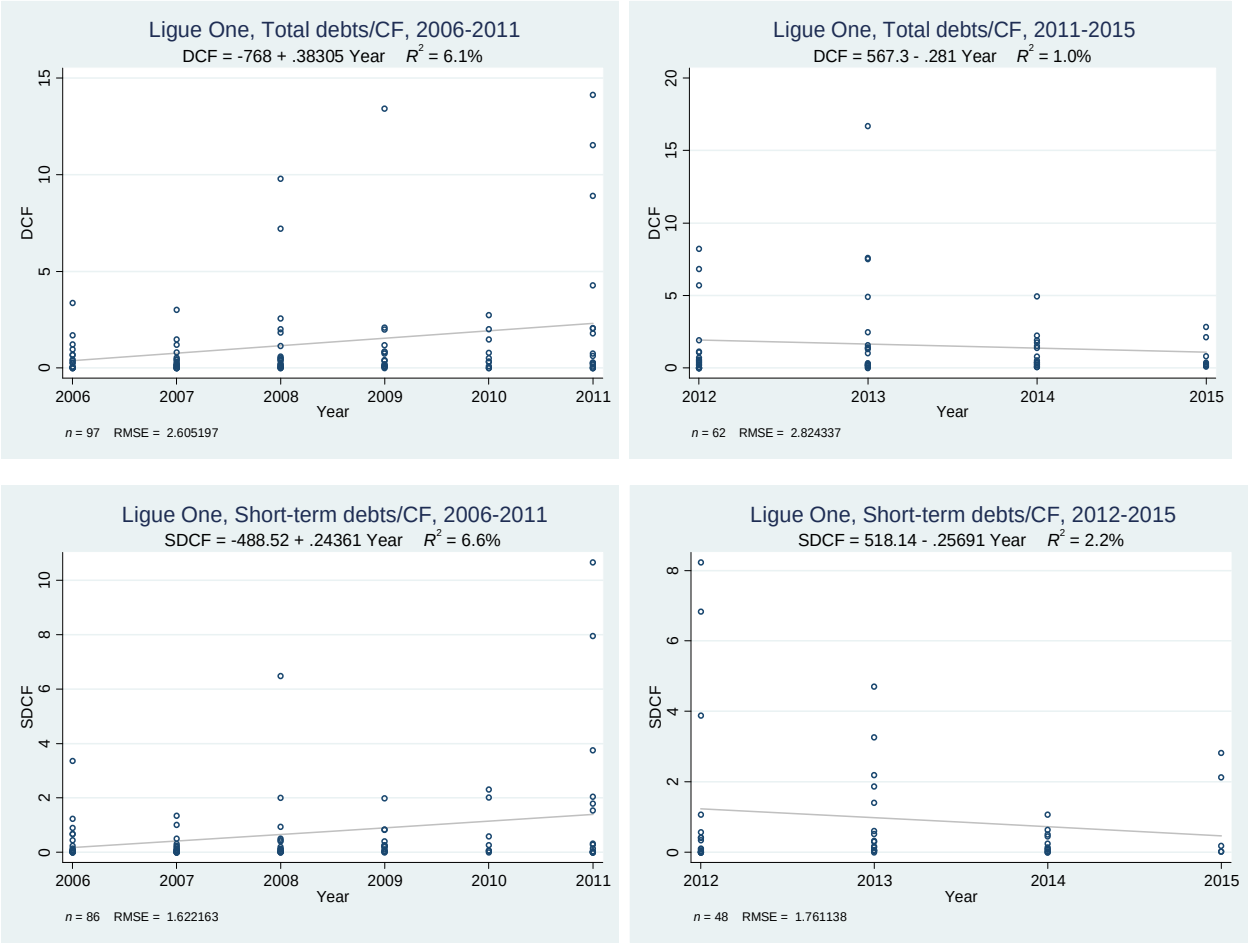
Figure 6. FSIs and Performances Spanish Liga



- **French LigueOne.**

Figure 7 shows that the FFPR introduction seems to be a relevant event also for the French LigueOne. This is particularly evident when the outliers are removed. The upward trend of the FSIs before 2012 is consistent with the financial bubble assumption, while their downward trend after 2012 is consistent with the effectiveness of the FFPR.

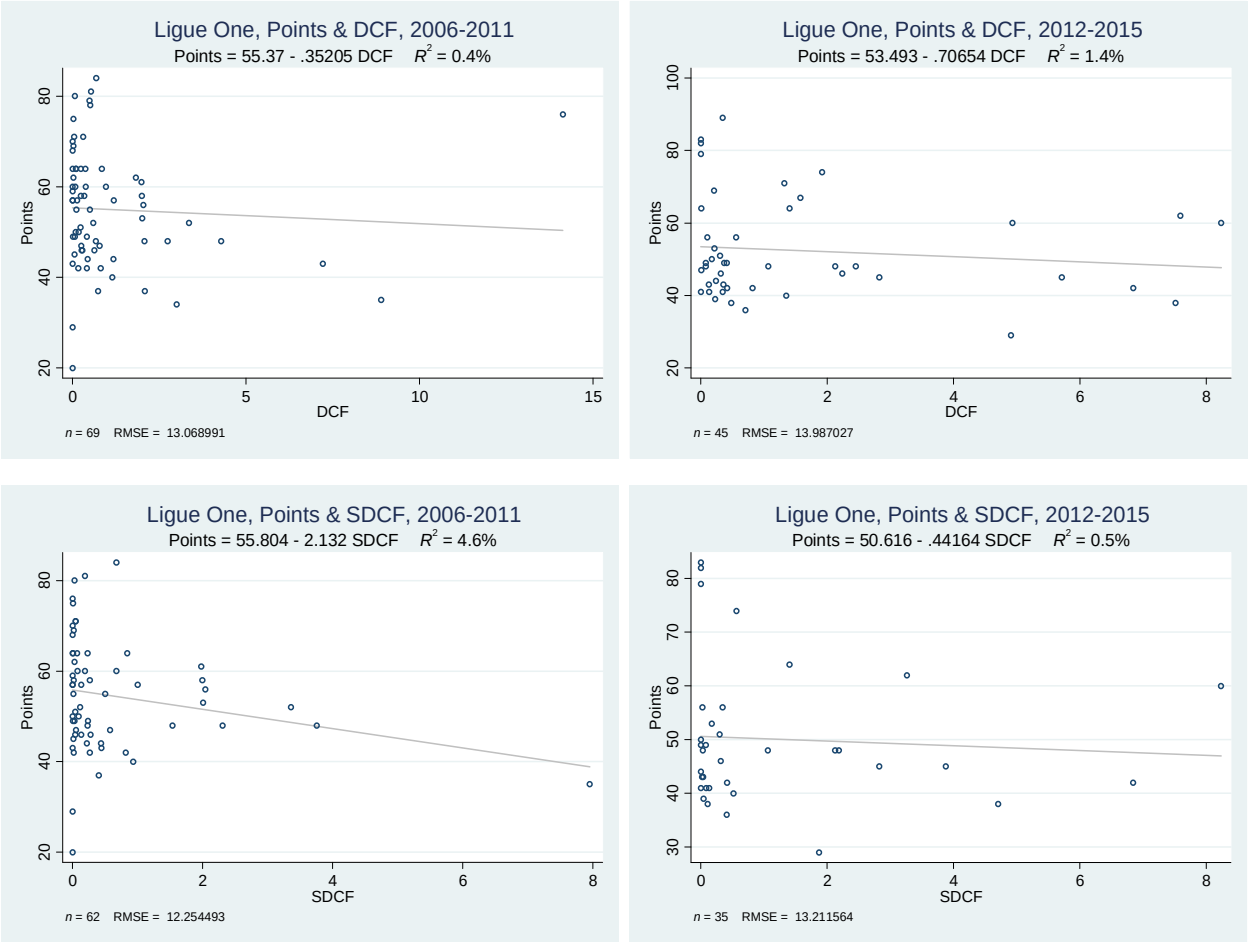
Figure 7. FSIs: French LigueOne



On the other hand, Figure 8 suggests that the FFPR introduction is less relevant when it comes to the association between sustainability and sporting performance. The association is already negative before the launch of the FFPR, and it becomes slightly weaker after the 2012.

Overall, in France the positive association between financial leverage and sporting success ("financial doping") was never an issue and the introduction of FFPR coincides with improved financial performance.

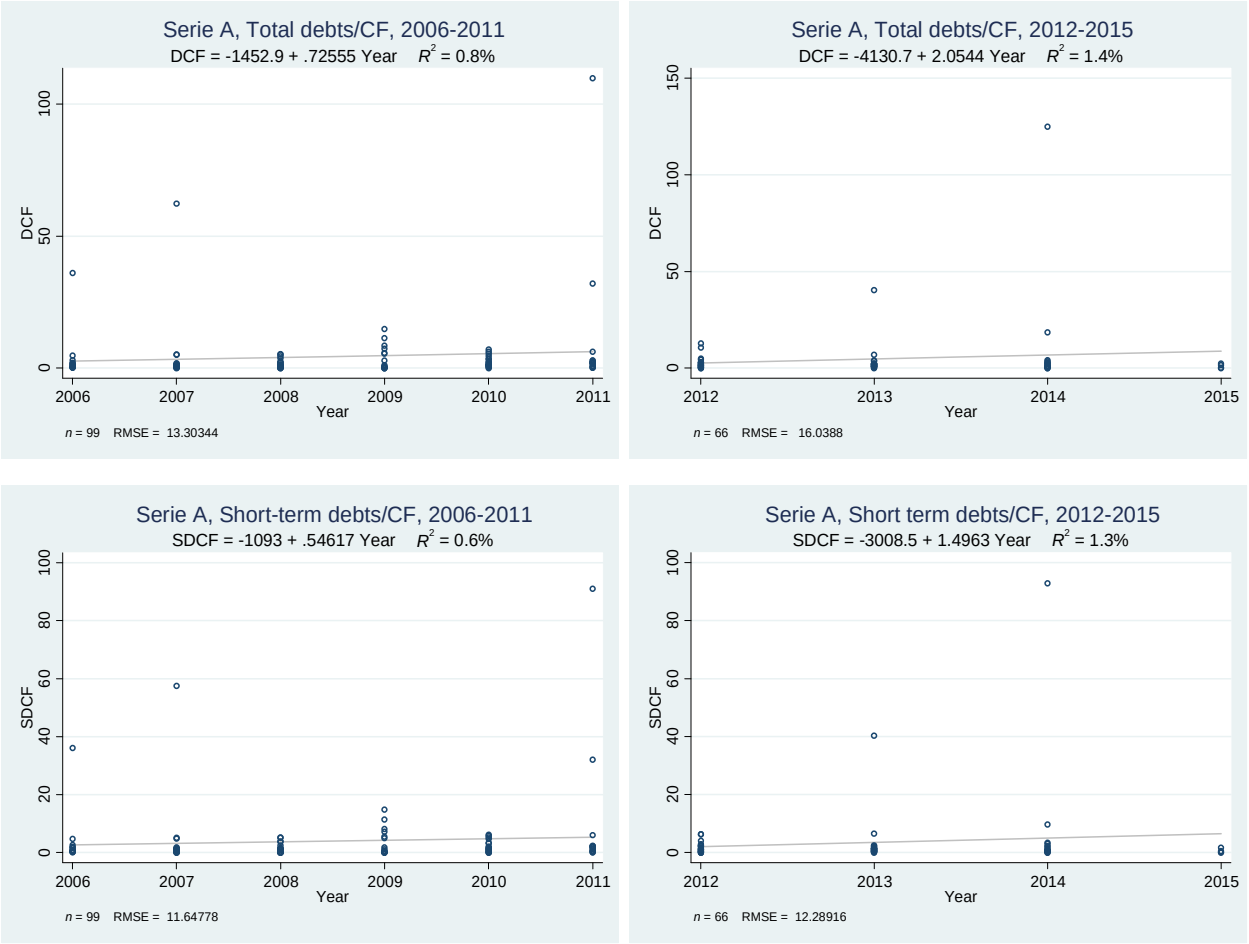
Figure 8. FSIs and Performances: French Ligueone



- **Italian Serie A.**

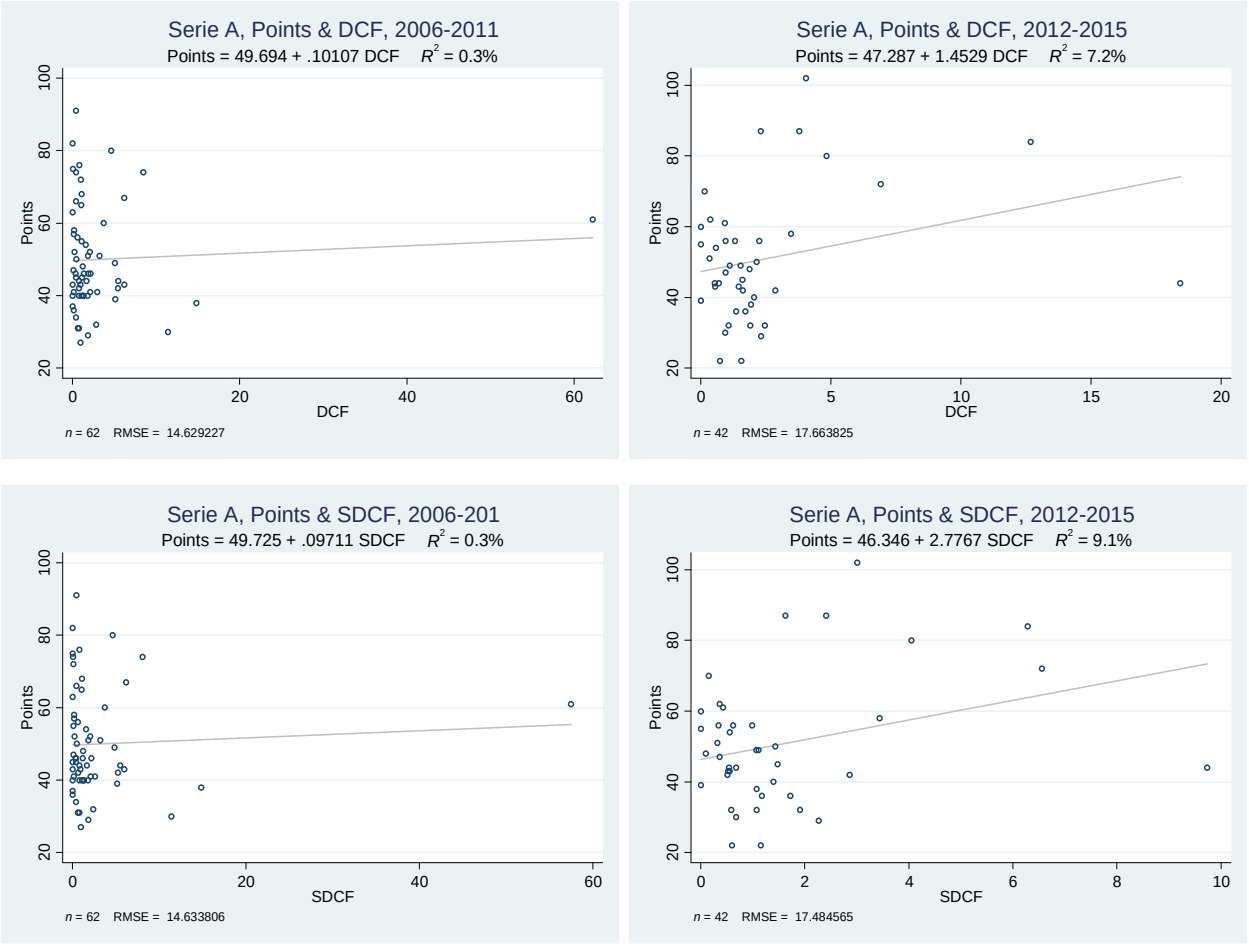
Figure 9 shows that in the case of the Italian Serie A the introduction of the FFPR seems to be clearly irrelevant. Overall financial imbalances are present both before and after the 2012.

Figure 9: FSIs: Italian Serie A



As for the relation between financial leverage and sporting performance, while in Figure 10 the two FSIs show contrasting results before 2012, afterwards a common positive association emerges between them and points earned. Accordingly, both financial imbalances and financial doping appear to keep on characterizing the Serie A.

Figure 10. FSIs and Performances: Italian Serie A



- **German Bundesliga.**

Turning to the German Bundesliga, Figure 11 shows that, while before 2012 the financial leverage of the league was increasing, afterwards it started to follow a clear downward trend. This is consistent with both the financial bubble assumption and the effectiveness of the FFPR introduction.

Figure 11. FSIs: German Bundesliga

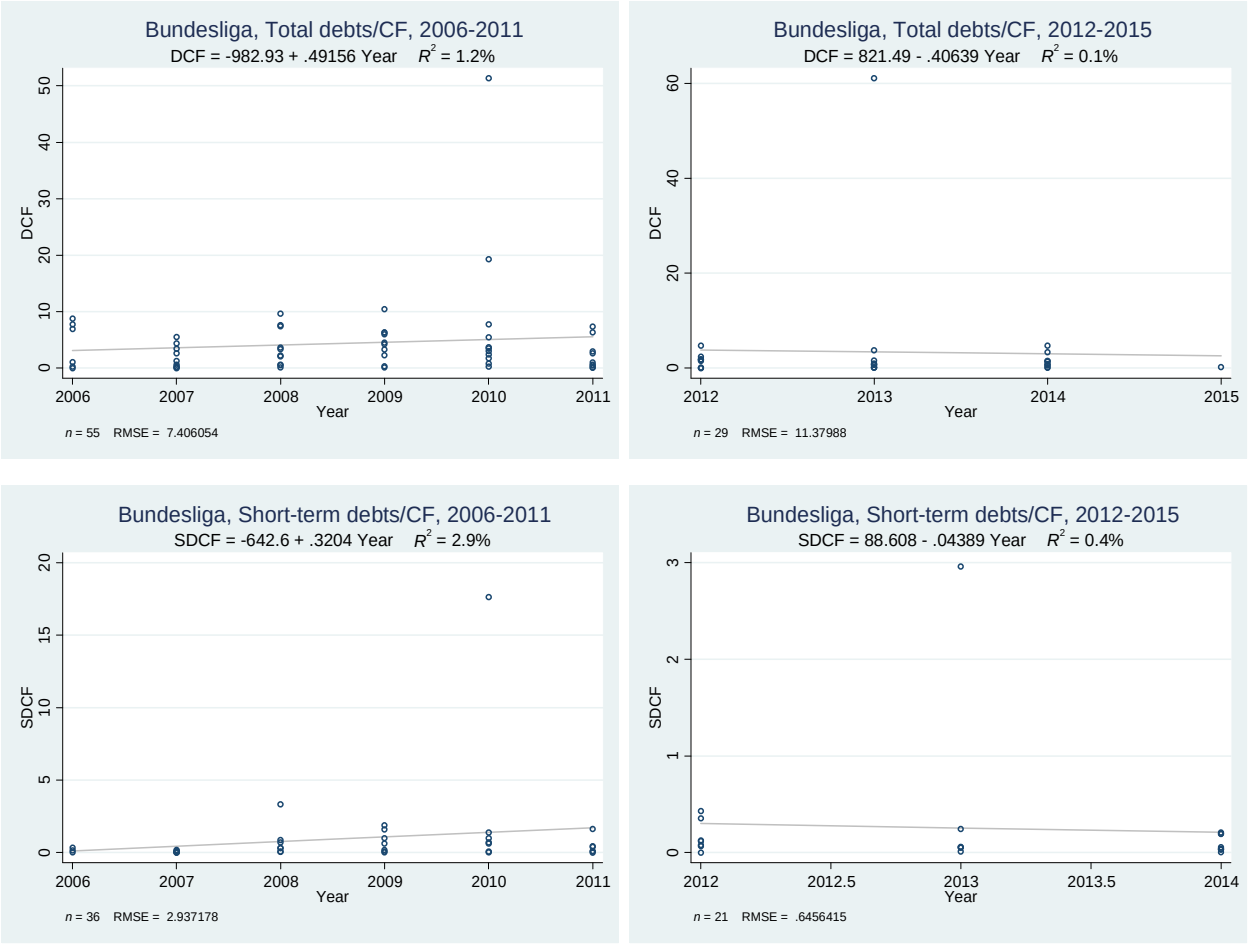
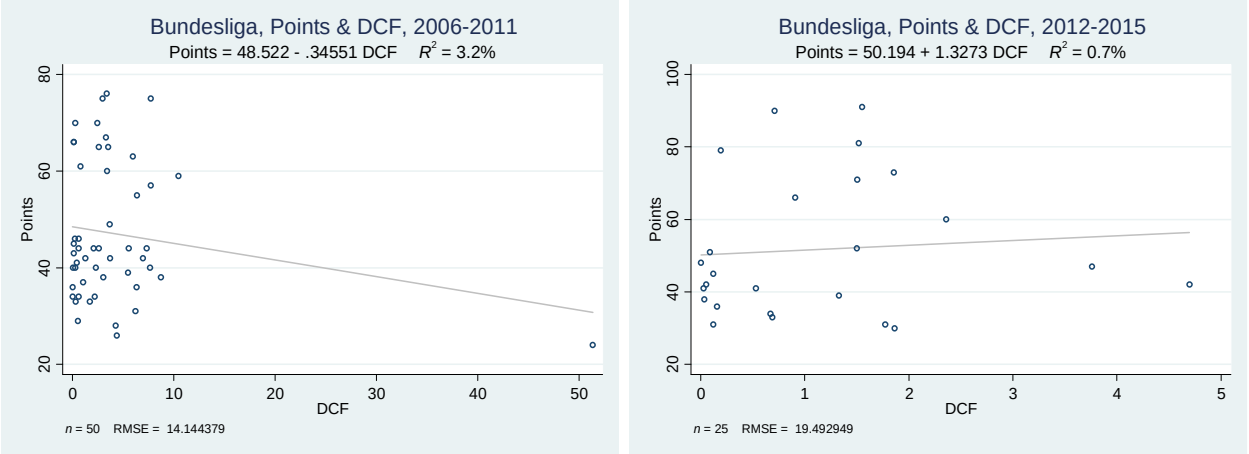
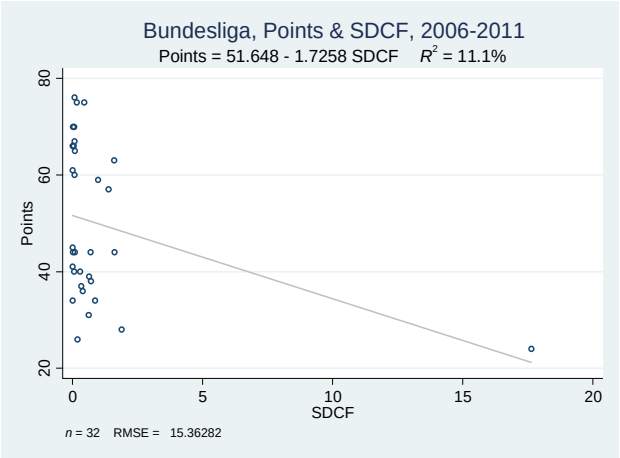
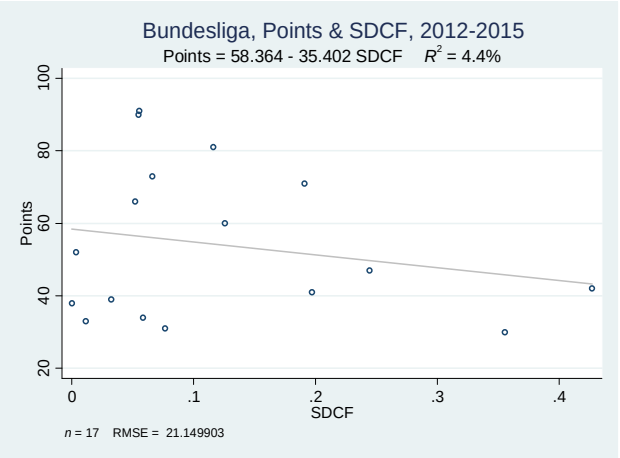


Figure 12 on the association between financial leverage and sporting performance sends, instead, mixed signals. Both before and after 2012 the association is positive for the FSI based on short-term debt, whereas it is positive for the FSI based on long-term debt. However, while the evidence on possible "financial doping" is mixed, there is no hint that the introduction of FFPR made any difference.

Figure 12. FSIs and Performances: German Bundesliga







Summarizing, the overall results are mixed (Table 3). First of all, the "financial bubble assumption" – i.e. European football was characterized by growing leverage before 2012 – is visually confirmed in three cases out of five (France, Italy and Germany), but a change in the intended direction after the FFPR introduction seems to exist just in two of these cases (France and Germany), while in another case (Spain) the change goes in the unintended direction at least for one of the two FSIs. Secondly, the "financial doping assumption" – i.e. financial leverage and sporting performances were positively associated before 2012 – is confirmed just in two cases out of five, and only in one case (Spain) the sign of the association changes in the intended direction after the FFPR launch, while in another case (Italy) the effect seems to go in the unintended direction (at least for one of our FSIs).

Table 3. Leagues, Bubble and Competitive Unbalance Assumptions, FFPR Relevance

LEAGUES	FINANCIAL BUBBLE ASSUMPTION	CHANGE AFTER FFPR	FINANCIAL DOPING ASSUMPTION	CHANGE AFTER FFPR
UK	NO	NO	YES	NO
E	NO	YES PARADOX	YES	YES
F	YES	YES	NO	NO
I	YES	NO	yes	yes paradox
G	YES	YES	yes	NO

Note: small letter refer to situation in which the outcome depends on the specific FSI used.

6. Financial Sustainability and the FFPR: Regression Analysis

After the descriptive analysis, we now use a regression approach to check whether or not *ceteris paribus* the introduction of the FFPR has reduced the financial leverage of European clubs, controlling also for several potential confounding factors such as total assets, shareholder funds, country and sporting prominence. In our main specifications we will focus on the FSI based on Total Debts and positive Cash Flow. We will then look at the case of negative Cash Flows and of the FSI based on Short-term Debts.

6.1 Main Results

Our main specifications rest on the following equation for club *i* in year *t*:

$$DCF_{i,t} = \alpha + \beta_1 FFPR_{i,t} + \beta_2 DummyEurope_{i,t} + \beta_3 FFPR^{*} DummyEurope_{i,t} + \beta_4 Rank_{i,t} + +\beta_5 Country_{i,t} + \beta_6 League_{i,t} + +\beta_7 StockExchange_{i,t} + \beta_8 zTOT.ASSETS_{i,t} + \beta_9 zSHAREHOLDERS_{i,t} + \varepsilon_{i,t}$$

The different variables are defined as follows:

$DCF_{i,t} =$ Financial sustainability index: Total debts/Cash flow

$FFPR_{i,t} =$ Dummy variable taking value 1 from 2012 to 2015, and 0 otherwise.

$DummyEurope_{i,t} =$ Dummy variable taking value 1 if during the last season the club has reached a ranking in its national league that grants participation to the UEFA tournaments.

$FFPR^{*}DummyEurope_{i,t} =$ Interaction term

$Rank_{i,t} =$Sporting performance defined in terms of the national ranking achieved by the club in the last two seasons. It is calculated as the simple summation of the last two placements, meaning that lower values of Rank correspond to better sport performances.

$Country_{i,t} =$ Dummy for the country of the club

$League_{i,t} =$Dummy for the club's participation to the top rather than some other secondary national league

$StockExchange_{i,t} =$Dummy for listed clubs

$zTOT.ASSETS_{i,t} =$Standardized value of total assets[14]

$zSHAREHOLDERS_{i,t} =$Standardized value of shareholder funds

Given the data availability, in selecting the correlates – other than our main variable of interest, i.e., *FFPR* – we tried to pick up the other potential and relevant drivers of financial leverage in the case of

[14] We use the common definition of standardization z for variable x, i.e. z=(x-mean)/standard deviation.

football clubs. The variable *Total assets* is introduced as a proxy for clubs' "market size". This is assumed to be a crucial predictor in explaining a club's success and is likely to be associated with their financial sustainability. The same applies to *Shareholder funds*. The use of the national ranking for the variable *Rank* aims to capture the likely relationship between past sporting performance and present club leverage. We include the indicator of participation to the UEFA tournaments *DummyEurope* because participants obtain more in terms of lump sum revenues and TV rights. The interaction term between *FFPR* and *DummyEurope* wishes to disentangle the effects that the FFPR may have on the clubs that are potentially more sensitive to penalties associated with their violation (specifically the ban from the UEFA tournaments). The *Country* dummies target possible fixed characteristics of the different national leagues, which are likely to be salient according to our descriptive analysis. The dummy *StockExchange* for listed clubs tries to clean the results from other potentially relevant financial influences. Finally, differentiating between top and secondary leagues can matter as long as the FFPR apply only to the case of clubs playing in UEFA tournaments, which are typically selected from the top national leagues.

Table 4 reports the findings based on our main specification – when the positive values of DCF are used as the dependent variable. Specifically, it provides estimates when OLS with robust standard errors are implemented.

We did the same analysis using different techniques: by means of clustered standard errors; with GLS random effects; introducing year fixed effects; and finally considering club fixed effects. While all of the techniques produce largely consistent results, the overlap is not perfect. In particular, the inclusion of fixed effects weakens the significance of the FFPR variable. This begs the question of which method should be preferred. We have therefore run post-estimation tests to single out the most reliable methodology. Firstly, the Hausman test discriminated in favor of the fixed effects with respect to the random effects. Secondly, the Wald test discriminated against the inclusion of the year dummies. Finally, the Breusch-Pagan Lagrange outcomes were definitively in favor of the OLS regression without random effects. Accordingly, noting that there is little evidence of significant differences across clubs, we consider the OLS methodology as the most appropriate overall and thus the results in Table 4 as the most reliable (we provide the outcomes of the alternative estimations in section 6.2 where we discuss about robustness checks.).

The coefficient associated with the FFPR turns out to be significant and negative. That means that *the introduction of the FFPR is indeed related with a decrease in terms of debt over cash flow ratios, which in turn implies an increase in the overall level of financial sustainability*. Our econometric analysis confirms the UEFA assumption that the bubble risk can be fixed using the FFPR.

Table 4. Estimates from the econometric analysis. Dependent variable: Total debts/Cash flow, only positive values

	1
	OLS
VARIABLES	DCF>0
FFPR	-3.5133**
	(1.507)
DummyEurope	-3.5861*
	(1.945)
FFPR*DummyEurope	-0.7084
	(2.953)
Rank	-0.013
	(0.073)
FRA	-1.7629*
	(0.926)
ENG	5.1560**
	(2.163)
League	-2.2895
	(2.138)
StockExchange	-3.3893**
	(1.668)
zTOT.ASSETS	4.7752***
	(1.599)
zSHAREHOLDERS	-5.7240***
	(2.076)
Constant	10.0743***
	(3.605)
Observations	651
R-squared	0.153
Number of Clubs	
Club FE	
Year FE	

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

It is interesting to note that other covariates show significant coefficients. On the one hand, total assets are positively associated with financial unsustainability, meaning that size and leverage go hand in hand. On the other hand, shareholder funds seem to be positively related to financial sustainability. The result is consistent with the standard literature on accounting and corporate governance, but here a clarification is needed. We are assuming that the capital injections and the FFPR introduction are not correlated. Without this assumption, the nexus should be even more complex, given that *a priori* the sign of the relationship between capital injections and FFPR is undetermined. In fact, the motivations of the "sugar daddies" can be the standard ones in economics: they like financial sustainability *per se*. At the same time, we cannot exclude *a priori* biases in favor of leverage excess – for example, if the "addiction effect" holds, i.e., a financial bubble can be an effective device to increase sport performances. In other words, if profit

maximization is the motivation of the club owners, it is more likely that they pursue financial sustainability; but the more the owners have non-economic reasons for owning the clubs (Leeds and Von Allmen, 2015), the less relevant the financial discipline is likely to be. The Europe dummy is significant and negative, meaning that *clubs participating to UEFA competitions are more sensitive to FFPR compliance*. Country effects are also important, with the French LigueOne showing positive coefficients, while the English Premier League experiencing the opposite. Finally, the negative sign associated to listed clubs is the expected one, given that usually being a listed firm means higher levels of financial discipline.

An additional step in our analysis is to understand what happens when the cash flow is negative, i.e., the values of our dependent variable (DFC) are negative. Table 5 reports the corresponding estimates using OLS with robust standard errors.

Table 5. Estimates from the econometric analysis. Dependent variable: Total debts/Cash flow, only negative values

	1
	OLS
VARIABLES	DCF<0
FFPR	32.0545
	(46.312)
DummyEurope	229.9557
	(201.724)
FFPR*DummyEurope	-34.0302
	(96.47)
Rank	13.5658
	(10.16)
FRA	85.7004*
	(49.863)
ENG	-26.3478
	(37.023)
League	34.1732
	(54.991)
StockExchange	52.3591
	(68.965)
zTOT.ASSETS	145.4783
	(102.683)
zSHAREHOLDERS	95.795
	(68.922)
Constant	-512.2182
	(370.691)
Observations	262
R-squared	0.1
Number of Clubs	
Club FE	
Year FE	
Robust standard errors in parentheses	

*** p<0.01, ** p<0.05, * p<0.1

Here, the coefficient of the FFPR effect is not significant. Nevertheless, it is worth noting that the sign of the relation turns out to be positive: the introduction of the FFPR has a slightly positive impact on negative DCFs, meaning that the overall level of financial sustainability has increased after 2011. However the overall identification strategy is weak and inconclusive, confirming that, as we discussed, it is not obvious how to extract meaningful information from negative observations that, at face value, are themselves "not meaningful".

6.2 Additional analyses and robustness checks

In this subsection, we present the results of a set of robustness checks. First of all, we provide estimates of our main specification using different econometric techniques (both for positive and negative cash flows). Then, we move to analyze the effects of the FFPR on the SDCF index (Short-term Debts over Cash Flow). Moreover, we define and use an alternative index of financial sustainability (which we call LCF), defined as the ratio of total liabilities (i.e. the sum of all liabilities) to cash flow.

The corresponding findings are presented in: Table 6, where columns 1 refers to clustered standard errors, columns 2 and 3 refer to GLS, both with random effects and with the inclusion of year dummies, and column 4 deals to fixed effects; Table 7, where columns 1 and 2 introduce random effects and fixed effects in the specification with negative cash flows; and Table 8 where Columns 1 and 2 correspond to the SDCF index with positive and negative cash flows respectively, while Columns 3 and 4 to the LCF index with positive and negative cash flows.

Table 6. Estimates from alternative econometric analyses. Dependent variable: Total debts/Cash flow, only positive values

	1	2	3	4
	OLS-CSE	**GLS-RE**	**GLS-YearFE**	**GLS-ClubFE**
VARIABLES	DCF>0	DCF>0	DCF>0	DCF>0
FFPR	-3.5133**	-2.4409*	-3.8841*	-0.5842
	(1.578)	(1.331)	(2.336)	(1.17)
DummyEurope	-3.5861	-3.1472	-2.9671	-3.9457
	(2.219)	(2.398)	(2.445)	(2.408)
FFPR*DummyEurope	-0.7084	-2.1257	-2.2698	-1.8331
	(-3.74)	(4.247)	(4.328)	(4.598)
Rank	-0.013	-0.0243	-0.0132	0.0251
	(0.077)	(0.088)	(0.084)	(0.1)
FRA	-1.7629*	-2.4168***	-2.3645***	
	(0.952)	(-0.86)	(0.879)	
ENG	5.1560**	7.3476**	7.1327**	
	(2.561)	(3.329)	(3.186)	
League	-2.2895	-2.1468	-1.8904	-1.6492
	(2.004)	(2.136)	(2.239)	(2.351)
StockExchange	-3.3893	-2.7925	-2.9112	
	(2.566)	(2.587)	(2.569)	
zTOT.ASSETS	4.7752***	3.6585***	3.9011***	-4.0373
	(1.144)	(0.831)	(0.88)	(4.305)
zSHAREHOLDERS	-5.7240***	-4.9535***	-5.0096***	-3.0128
	(0.825)	(0.755)	(0.654)	(7.05)
Constant	10.0743***	9.8279***	9.2446**	9.0840***
	(3.418)	(3.543)	(4.156)	(2.924)
Observations	651	651	651	651
R-squared	0.153	0.147	0.161	0.045
Number of Clubs		133	133	133
Club FE		NO	NO	YES
Year FE		NO	YES	NO

Results are similar to Table 4 but for the case of clubs fixed effects. First of all, the sign of the relation between the FFPR and DCF remains negative. It is also significant, with the exception of column 4. Moreover, all the other covariates keep their relation substantially unchanged. On the one hand, total assets are positively associated with financial non-sustainability. On the other hand, shareholder funds seem to be positively related to financial sustainability. The Europe dummy is still negative correlated with DCF but not more significant, while country dummies play an important role. Finally, the negative sign associated to listed clubs is preserved but not its level of significance.

Table 7. Estimates from alternative econometric analyses. Dependent variable: Total debts/Cash flow, only negative values

	1	2
	RE	**FE**
VARIABLES	DCF<0	DCF<0
FFPR	32.0545	61.7523
	(22.872)	(42.731)
DummyEurope	229.9557	188.5461
	(261.676)	(214.172)
FFPR*DummyEurope	-34.0302	-30.6605
	(124.365)	(105.987)
Rank	13.5658	24.5858
	(13.783)	(23.859)
FRA	85.7004	
	(60.193)	
ENG	-26.3478	
	(41.725)	
League	34.1732	209.2168
	(79.128)	(218.929)
StockExchange	52.3591	
	(81.49)	
zTOT.ASSETS	145.4783	120.4032
	(126.543)	(127.869)
zSHAREHOLDERS	95.795	73.3917
	(86.177)	(70.998)
Constant	-512.2182	-963.016
	(504.42)	(888.533)
Observations	262	262
R-squared	0.1	0.058
Number of Clubs	93	93
Club FE	NO	YES
Year FE	NO	NO

Similar considerations for table 7. Again, the coefficient of the FFPR effect is not significant. Nevertheless, it is worth noting that the sign of the relation turns out to be positive: the introduction of the FFPR has a slightly positive impact on negative DCFs, meaning that the overall level of financial sustainability has increased after 2011. Remember, however, the overall weakness of the identification strategy in the case of negative cash flows.

Table 8. Estimates from the econometric analysis. Dependent variables: Short-term debts/Cash flow and Total liabilities/Cash flow

	OLS	**OLS**	**OLS**	**OLS**
VARIABLES	SDCF>0	SDCF<0	LCF>0	LCF<0
FFPR	-1.2793	20.0789	-14.6803*	44.9045
	(0.95)	(16.24)	(7.939)	(55.653)
DummyEurope	-2.0540**	-0.0744	-16.0200**	253.7158
	(1.009)	(18.001)	(7.912)	(250.671)
FFPR*DummyEurope	0.3141	-25.4715	8.2647	5.7105
	(1.194)	(21.617)	(8.248)	(125.429)
Rank	-0.0085	0.0349	-0.3599	16.9565
	(0.034)	(1.047)	(0.312)	(12.229)
FRA	-0.9785	26.8579	-12.2055	88.3801
	(0.629)	(24.258)	(7.95)	(58.772)
ENG	2.1288*	19.1209	-6.217	-28.7199
	(1.117)	(25.642)	(6.892)	(46.138)
League	-1.8878	-5.2511	-27.4356	42.069
	(1.267)	(10.437)	(17.94)	(64.386)
StockExchange	-1.1385*	19.8268*	-7.0421*	-27.1861
	(0.656)	(10.873)	(3.599)	(120.644)
zTOT.ASSETS	1.9221***	14.816	6.2766***	180.3745
	(0.526)	(13.902)	(2.019)	(122.981)
zSHAREHOLDERS	-2.1646***	18.8171*	-7.8614***	109.6258
	(0.532)	(9.85)	(2.656)	(84.134)
Constant	5.3704***	-28.5819	62.8799**	-653.97
	(1.926)	(38.487)	(31.803)	(449.063)
Observations	562	237	715	270
R-squared	0.063	0.017	0.024	0.093

*** p<0.01, ** p<0.05, * p<0.1

While the findings are largely consistent with those presented in Tables 4-6 and 5-7, the FFPR coefficients lose their significance in all but one case (LCF when cash flows are positive).

As a second robustness check, the effects of the FFPR introduction are evaluated looking at the basic components of our FSIs: total debts and cash flows (Table 9). The outcomes highlight that the FFPR variable is significantly and negatively associated with total debts while it is positively associated with cash flows (although the coefficient is not statistically significant). Both signs are consistent with the UEFA intended effects: the introduction of the FFPR is associated with debt reduction and (insignificant) cash flow growth.

Table 9. Estimates from the econometric analysis. Dependent variables: Total debts, and Cash flows

	OLS	**OLS**
VARIABLES	zTotaldebt	zCashflow
zTotaldebt_1	0.4233***	
	(0.151)	
zCashflow_1		0.3980***
		(0.086)
FFPR	-0.0303**	0.0207
	(0.013)	(0.038)
DummyEurope	0.0206	0.1363
	(0.041)	(0.108)
FFPR*DummyEurope	-0.0299	0.5083***
	(0.067)	(0.187)
Rank	0.0051***	0.007
	(0.002)	(0.004)
FRA	0.0580***	0.0165
	(0.022)	(0.045)
ENG	0.1046***	0.1664**
	(0.028)	(0.072)
League	0.0286	0.3395***
	(0.026)	(0.067)
StockExchange	0.031	0.0268
	(0.07)	(0.156)
zTOT.ASSETS	0.5363***	0.2123***
	(0.118)	(0.071)
zSHAREHOLDERS	-0.4708***	0.1929**
	(0.101)	(0.079)
Constant	-0.1943***	-0.5406***
	(0.075)	(0.178)
Observations	947	945
R-squared	0.928	0.511

*** p<0.01, ** p<0.05, * p<0.1

Summarizing the econometric results (Table 10), we can speculate about the effects of the FFPR introduction in terms of both "consistency" (i.e. are they in line with the intended objectives of increasing financial sustainability?) and "significance" (i.e. are they statistically significant?). Our general conclusion is that *so far the FFPR have been associated with consistent but still weak effects on the financial sustainability of the European football clubs*.

Table 10. Estimates from the econometric analysis. Summary.

FINANCIAL SUSTAINABILITY VARIABLES	FFPR EFFECT CONSISTENCY	FFPR EFFECT SIGNIFICANCE
DCF, WITH CF>0	YES	YES
DCF, WITH CF<0	YES	NO
SDCF, WITH CF>0	YES	NO
SDCF, WITH CF<0	YES	NO
LCF, WITH CF>0	YES	YES
LCF, WITH CF<0	YES	NO
TOTAL DEBT	YES	YES
CF	YES	NO

7. **Conclusion**

In this paper, we have explored the potential effects of the FFPR on soccer clubs' financial sustainability, also touching on the links between financial leverage and sporting success before and after the introduction of the FFPR. So far these issues have been mainly addressed in theoretical studies, mostly concluding that the effectiveness of the UEFA regulations is at best questionable, and at worse damaging both in terms of financial sustainability and competitive balance. Our main contribution is to have provided what, to the best of our knowledge, can be considered the first attempt at studying the effects of the FFPR from an empirical point of view.

In doing so, we have used an original dataset covering 156 clubs playing in the top five European Leagues (those of England, France, Germany, Italy and Spain) in the period 2006-2015. We gave found that:

- The links between financial sustainability and sporting performances, before and after the FFPR, display different dynamics depending on the different countries analyzed: only in one case (Spain) the sign of the association between financial leverage and sporting performance changes in the intended direction (i.e., the FFPR seems to produce a positive effect), while in another case (Italy) the effect seems to go in the unintended direction;
- The introduction of the FFPR is associated with consistent but still weak changes of the financial sustainability of the European football clubs in the intended direction.

In other words, though the current FIFA President Gianni Infantino recently declared that Financial Fair Play has proved successful in achieving considerable improvement in the financial health of European football (with aggregate losses of Europe's clubs falling from 1.7bn euros in 2011 to 400m euros in 2014), our findings seem to suggest that the FFPR are still work in progress. Specifically, our weak results on cash flows (that ultimately represent the cornerstone of financial sustainability) potentially imply that greater

consideration should be given in the regulations to cash control measures. Such emphasis could also contribute to moderate the concerns regarding possible misuses or manipulation of accounting information by clubs aimed at circumventing the FFPR.

Interesting directions of future research include the use of different proxies for financial sustainability: as the FFPR also recommend a monitoring of overdue payables, it would be interesting to understand whether the introduction of such regulations has led to a decrease in their amounts and whether there is a positive association between this item and sporting performance. More generally, it would be important to develop a deeper factual analysis of the relation between different measures of financial and sporting performances.

Additional research should be concerned with financial reporting and accounting information in football, i.e. the information on which the FFPR are based. Our analysis also provides some hints on the weaknesses of traditional financial reporting for football clubs as a relevant means for measuring and communicating their activities. These organisations are characterised by highly engaged stakeholders and inherent interdependences and by activities at the intersection of the economic, the social and the political contexts. These peculiarities may impair traditional forms of disclosure based uniquely on conventional financial performance measures.

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9. Appendix: Benchmark comparison

In order to benchmark our findings, in this appendix we analyze data and statistics from the "report calcio" by PricewaterhouseCoopers (2016). The "report calcio" is the official document sponsored by the Italian FIGC and it aims to provide an overview of the Italian football industry. One of its last sections refers to international comparisons and offers useful information on the sporting and economic conditions of the major European football leagues. Below we present data on revenues, costs, net income, total assets and total liabilities with the aim of comparing those values with ours.

The main limit of this benchmarking exercise is that the “report calcio” only covers a period from 2010 to 2014 leaving uncovered the entire phase before the introduction of the FFPR. Accordingly, the following tables define the economic conditions of European football clubs in the last five years. However, they cannot neither identify a special turning point, nor precisely evaluate the impact of the FFPR on both financial stability and football performances.

- **Revenues**

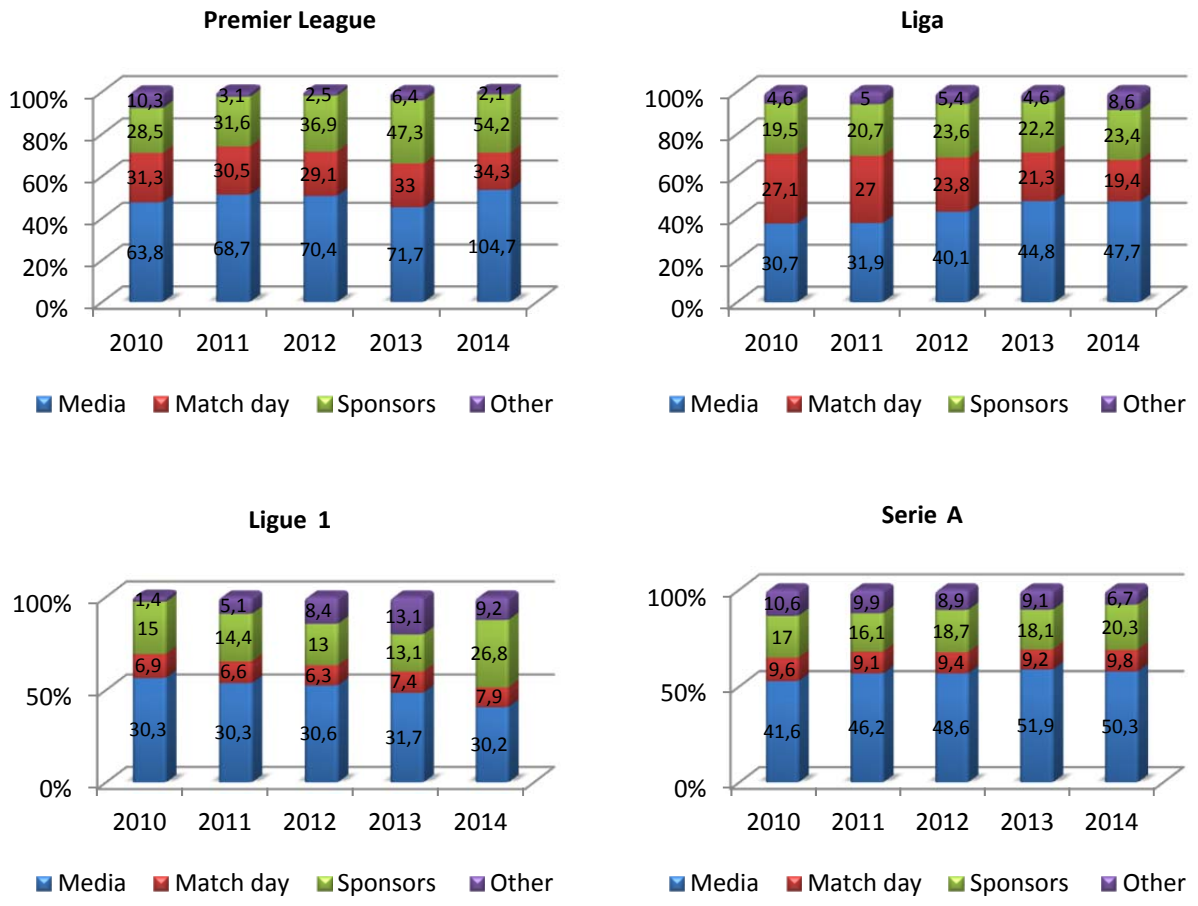
Table A1 and Figures A1-A2 show that revenues have generally increased during the last five years. In this respect, the English Premier League represents a very exceptional case. Media and sponsors are the two major sources of revenues.

Table A.1. Average revenues all leagues, FIGC report

Average Revenues (Millions of euro)							
		2009	**2010**	**2011**	**2012**	**2013**	**2014**
Premier League	Media		63.8	68.7	70.4	71.7	104.7
	Match day		31.3	30.5	29.1	33	34.3
	Sponsors		28.5	31.6	36.9	47.3	54.2
	Other		10.3	3.1	2.5	6.4	2.1
	Total	122	133.9	133.9	138.9	158.4	195.3
Liga	Media		30.7	31.9	40.1	44.8	47.7
	Match day		27.1	27	23.8	21.3	19.4
	Sponsors		19.5	20.7	23.6	22.2	23.4
	Other		4.6	5	5.4	4.6	8.6
	Total	75	81.9	84.6	92.9	92.9	99.1
Ligue 1	Media		30.3	30.3	30.6	31.7	30.2
	Match day		6.9	6.6	6.3	7.4	7.9
	Sponsors		15	14.4	13	13.1	26.8
	Other		1.4	5.1	8.4	13.1	9.2
	Total	52	53.6	56.4	58.3	65.3	74.1

Serie A	Media		41.6	46.2	48.6	51.9	50.3
	Match day		9.6	9.1	9.4	9.2	9.8
	Sponsors		17	16.1	18.7	18.1	20.3
	Other		10.6	9.9	8.9	9.1	6.7
	Total	77	78.8	81.3	85.6	88.3	87.1
Bundesliga	Media		28.0	29.3	31.5	36.1	41.0
	Match day		21.0	21.3	25.4	26.5	26.3
	Sponsors		34.8	39.6	45.5	47.8	52.4
	Other		7.5	10.4	5.6	5.2	6.6
	Total	86	91.3	100.6	108.1	115.6	126.3

Figure A1. Average revenues all leagues, FIGC report



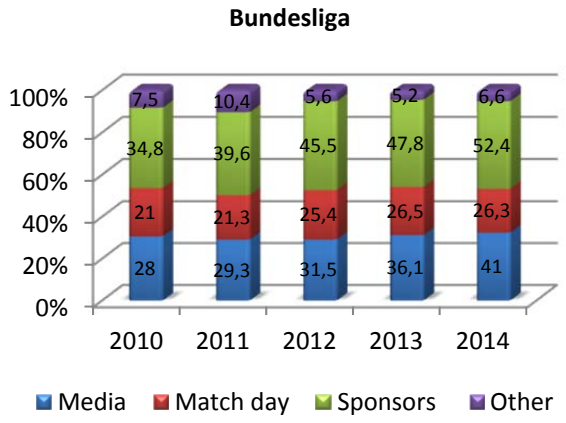
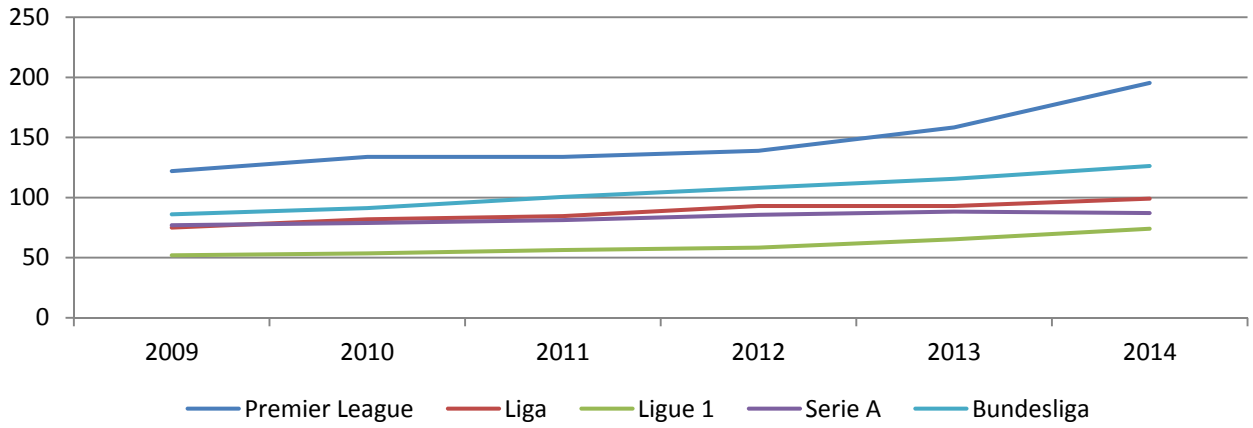


Figure A2. Time series average revenues all leagues, FIGC report (Millions of euro)



- **Costs**

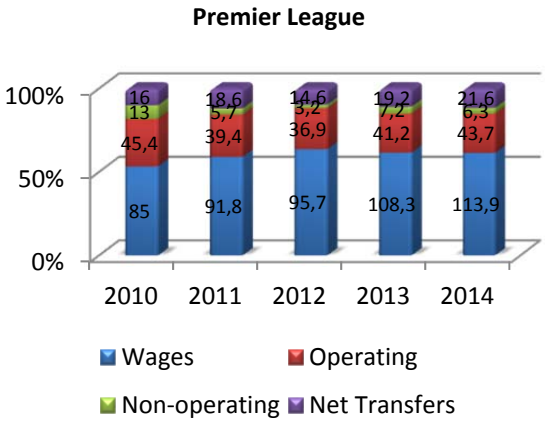
Turning to costs, Table A2 and Figures A3-A4 show that they have been increasing too. This finding partially conflicts the FFPR main assumptions and it appears even more counterintuitive when dealing with each single item. Contrary to common beliefs, wages are still rising and there is no sign of the so called "rent shifting" from players and their agents to the other stakeholders. It is worth noting that there are differences across leagues. Nonetheless, the average trend seems to be upward, especially in terms of salaries and operating costs.

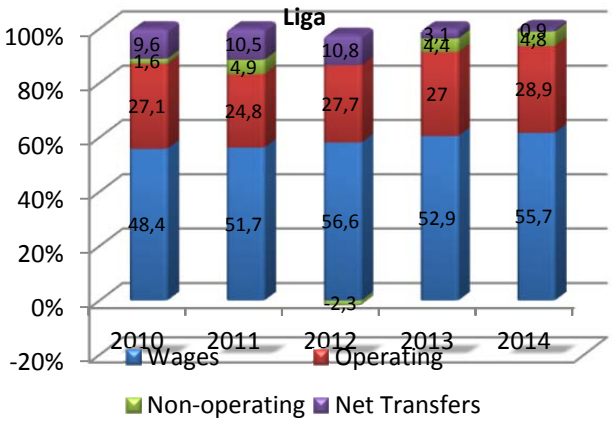
Table A2. Average costs all leagues, FIGC report

Average Costs (Millions of euro)						
		2010	**2011**	**2012**	**2013**	**2014**
Premier League	Wages	85.0	91.8	95.7	108.3	113.9
	Operating	45.4	39.4	36.9	41.2	43.7
	Non-operating	13	5.7	3.2	7.2	6.3
	Net Transfers	16	18.6	14.6	19.2	21.6
	Total	159.4	155.5	150.4	175.9	185.5

Liga	Wages	48.4	51.7	56.6	52.9	55.7
	Operating	27.1	24.8	27.7	27	28.9
	Non-operating	1.6	4.9	-2.3	4.4	4.8
	Net Transfers	9.6	10.5	10.8	3.1	0.9
	Total	86.7	91.9	92.8	87.4	90.3
Ligue 1	Wages	39.5	39.4	42.9	44	47.9
	Operating	17.8	20.1	17.8	18.4	23
	Non-operating	-1.4	-0.3	1.3	2.2	3.9
	Net Transfers	3.1	0	0.7	1.7	4.4
	Total	59	59.2	62.7	66.3	79.2
Serie A	Wages	58.5	57.8	59.1	52.1	62
	Operating	25	31.4	33	31.9	30.7
	Non-operating	1.9	1.9	5.9	2.4	4.5
	Net Transfers	5.5	6.2	-2.5	4.4	6.1
	Total	90.9	97.3	95.5	90.8	103.3
Bundesliga	Wages	46.9	52.0	54.6	59.7	63.2
	Operating	40.8	41.9	43.8	44.2	47.7
	Non-operating	1.1	3.8	4.7	3.1	2.7
	Net Transfers	6.8	0.7	3.1	5.6	10.0
	Total	53.8	95.5	106.2	112.7	123.6

Figure A3. Average costs all leagues, FIGC report





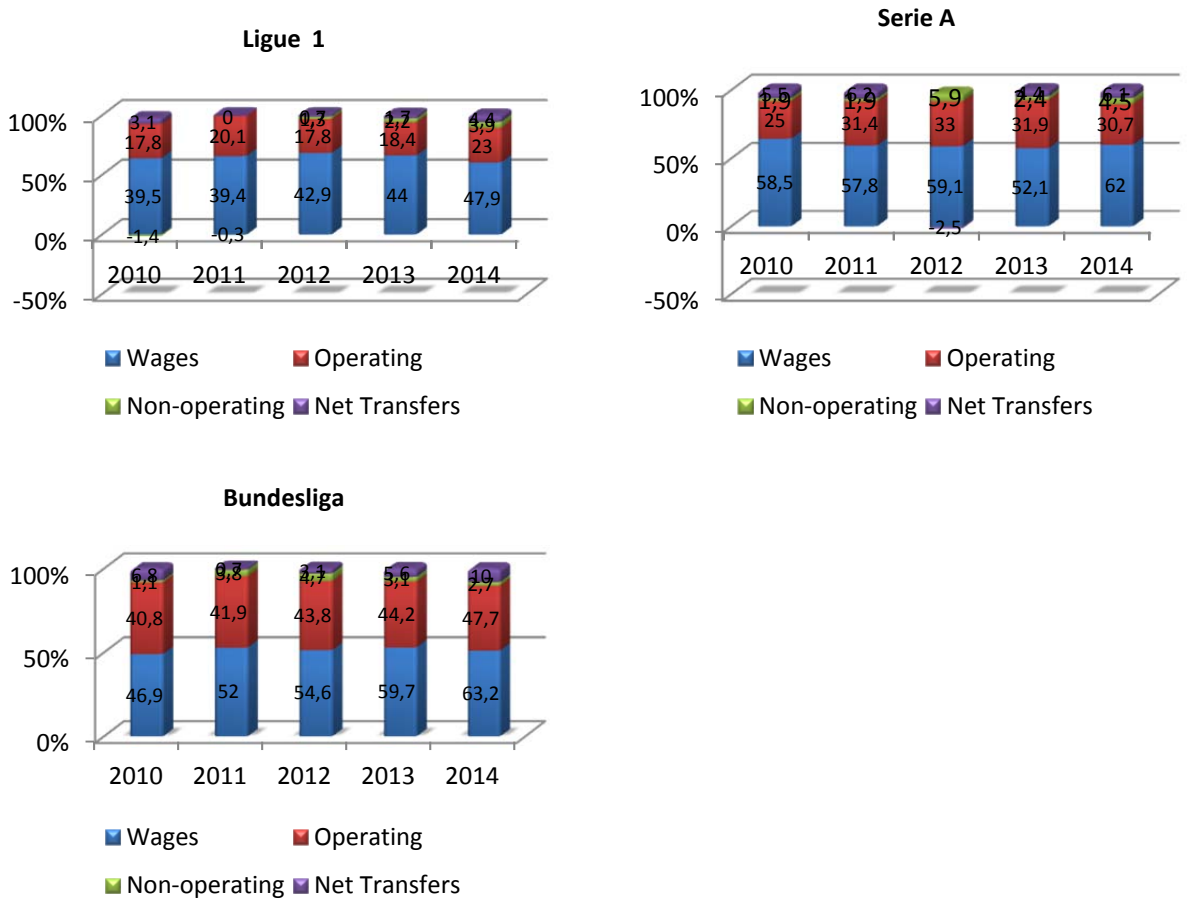
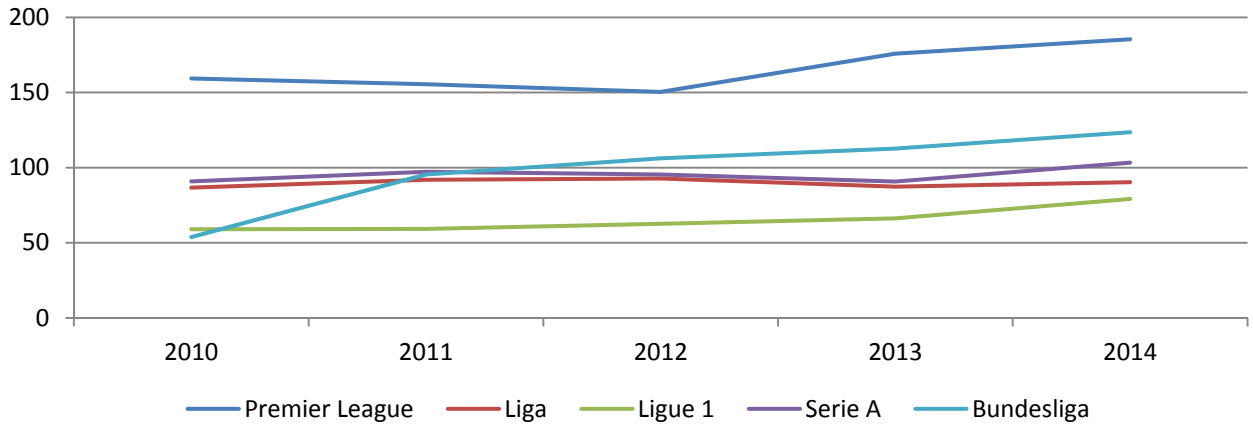


Figure A4. Time series average costs all leagues, FIGC report (Millions of euro)



- **Net income**

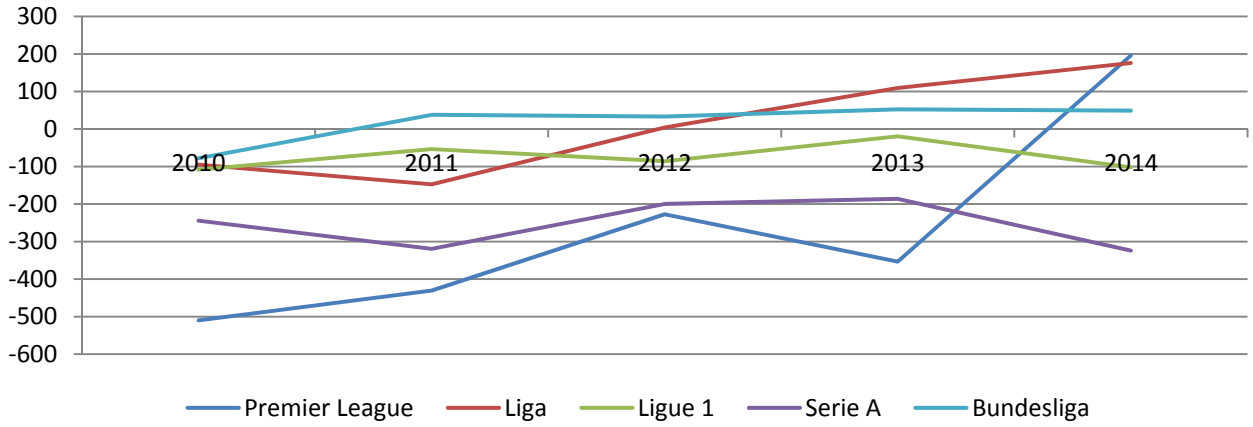
Without overlooking its caveats, net income gives us important information about the operating results of football clubs. Moreover, it also provides a first proxy for the efficiency of the FFPR, given that the BER demands the weak equivalence between total revenues and total costs during the monitoring period. As we can see in Table A3 and Figure A5, the level of net income has extraordinarily jumped in the last three years if we consider the English Premier league and, to a lesser extent, the Spanish Liga. Results are the opposite for the French Ligue 1 and, above all, the Italian Serie A.

At a first sight, this finding might support the idea that the FFPR work differently and produce different results depending on the specific characteristics of each league. However, as already discussed, it is very difficult to make generalizations on the efficiency or the inefficiency of the FFPR without having data for the period before 2010.

Table A3. Average and aggregate net income all leagues, FIGC report

Net income (Millions of euro)						
		2010	**2011**	**2012**	**2013**	**2014**
Premier League	Average	-25.5	-21.5	-11.4	-17.7	9.8
	Aggregate	-509.9	-430.6	-227.3	-353.3	196
Liga	Average	-4.7	-7.4	0.2	5.4	8.8
	Aggregate	-95.1	-147.2	4.1	109.5	176
Ligue 1	Average	-5.4	-2.6	-4.3	-0.9	-5.1
	Aggregate	-108	-53.7	-85.8	-19.3	-102
Serie A	Average	-12.2	-16	-9.9	-9.3	-16.2
	Aggregate	-244	-319.4	-200	-186.3	-324
Bundesliga	Average	-4.3	2.1	1.8	2.9	2.7
	Aggregate	-77.8	37.6	32.9	52.4	48.6

Figure A5. Time series average net income all leagues, FIGC report (Millions of euro)



- **Total assets**

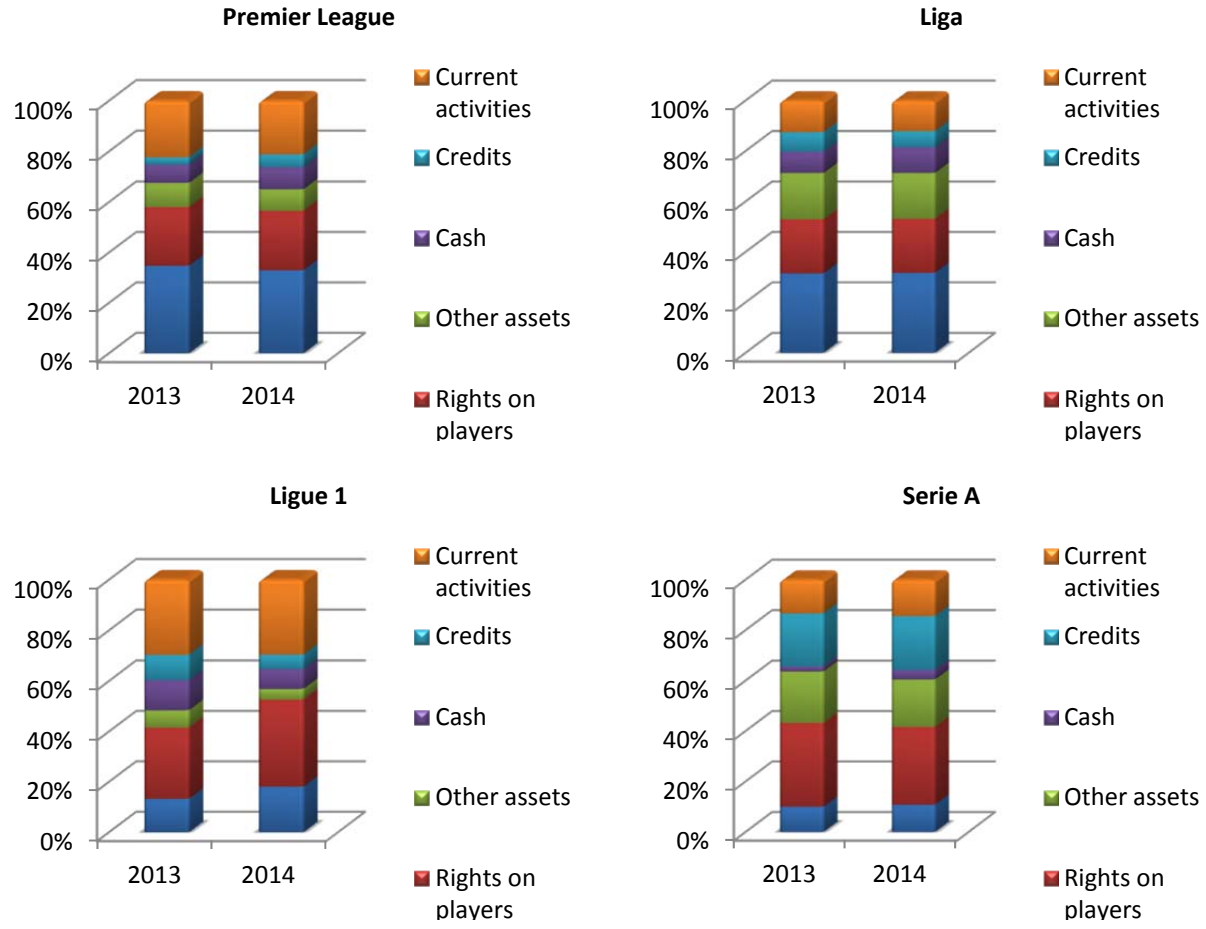
Finally, in the case of total assets and total liabilities the time coverage is even more limited (2013-14). We choose nonetheless to include them because of their high degree of accuracy. While it is obviously not possible to derive meaningful trends, it is interesting to note the discrepancy in the amount of money each league moves and, most importantly, the high degree of heterogeneity when considering each specific item.

Table A4. Average total assets all leagues, FIGC report

Average Total Assets (Millions of euro)			
		2013	**2014**
Premier League	Tangible assets	2180.5	2321
	Rights on players	1461.6	1657.8
	Other assets	600.5	594.3
	Cash	452.4	617.2
	Credits	185.4	352
	Current activities	1398	1489.7
	Total	6278.4	7032
Liga	Tangible assets	1086.8	1117.8
	Rights on players	738.9	755.1
	Other assets	634.8	641.7
	Cash	292.7	356.1
	Credits	266.6	230
	Current activities	431.7	424.4
	Total	3451.5	3525.1
Ligue 1	Tangible assets	158.1	315.5
	Rights on players	336.7	603.3

	Other assets	82.4	73.3
	Cash	141.3	136.6
	Credits	119.7	98.8
	Current activities	352.8	516
	Total	1191	1743.5
Serie A	Tangible assets	355.9	365.2
	Rights on players	1179.2	1044.7
	Other assets	726.9	634.2
	Cash	70.3	130
	Credits	748.1	721.4
	Current activities	473.1	488
	Total	3553.5	3383.5
Bundesliga	Tangible assets	962.2	964.8
	Rights on players	449.6	503.1
	Other assets	57.7	121.8
	Cash	350.6	410.0
	Credits	106.9	78.9
	Current activities	307.6	250.5
	Total	2234.6	2329.1

Figure A6. Average total assets all leagues, FIGC report



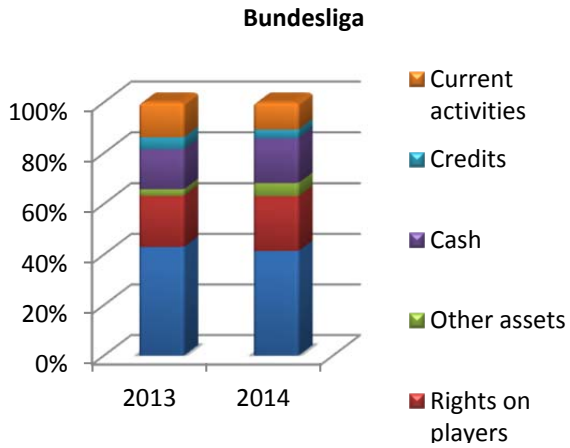
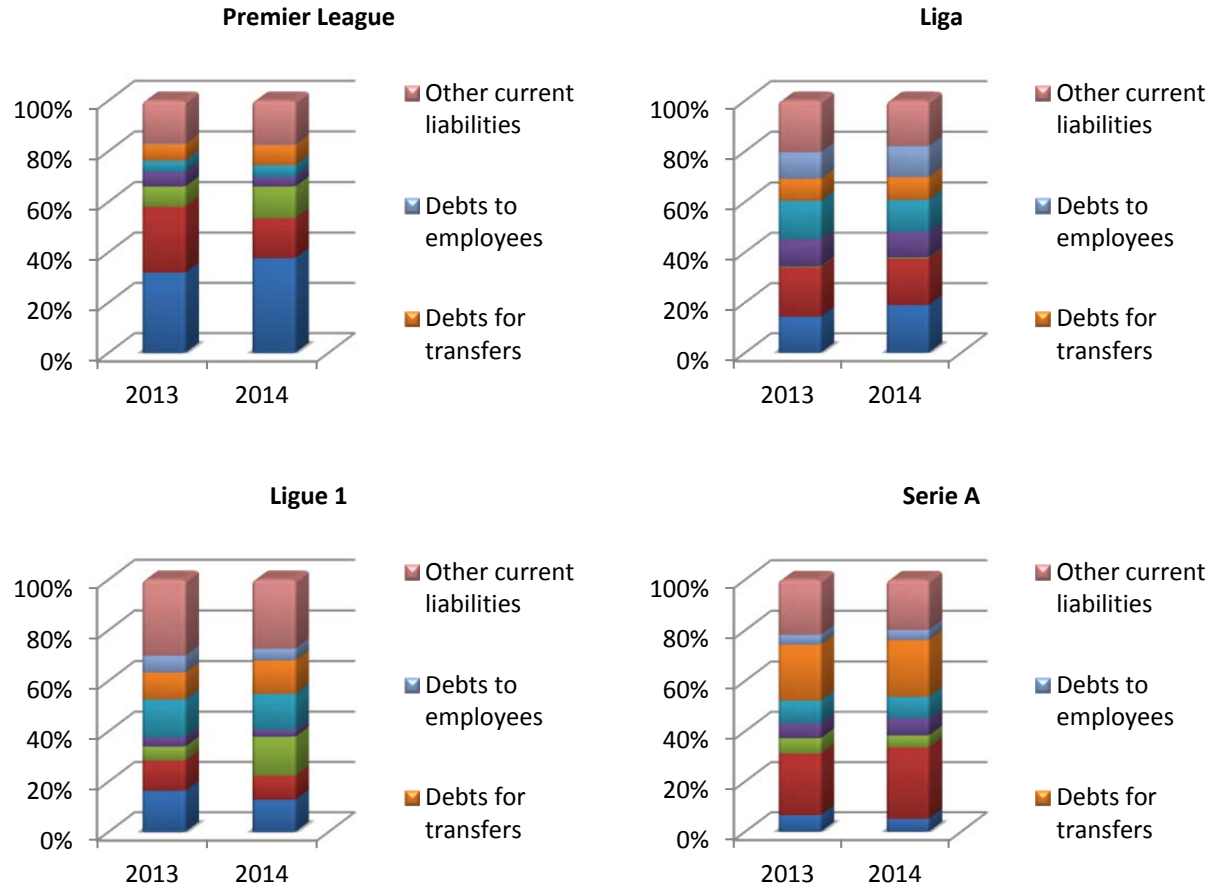


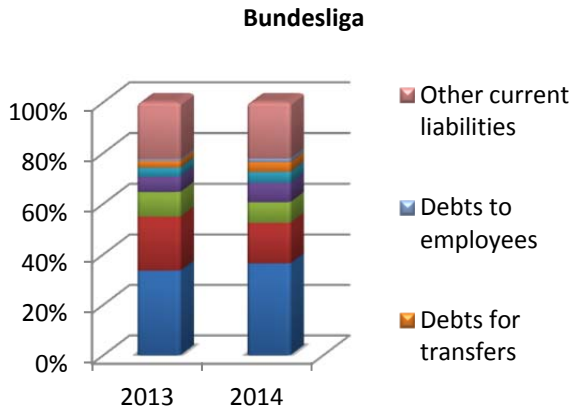
Table A5. Average total liabilities all leagues, FIGC report

Average Total liabilities (Millions of euro)			
		2013	**2014**
Premier League	Net equity	2005.3	2651.4
	Commercial and bank debts	1640.6	1111
	Debts to groups	504.7	888.1
	Other non-current liabilities	360.8	260.4
	Fiscal debts	277.9	328.1
	Debts for transfers	409.8	556.6
	Debts to employees	14.4	15.2
	Other current liabilities	1064.7	1221.2
	Total	6278.2	7032
Liga	Net equity	495.7	668.5
	Commercial and bank debts	675.3	653.2
	Debts to groups	11.9	13
	Other non-current liabilities	377.3	358.7
	Fiscal debts	524.7	449.8
	Debts for transfers	300	317.2
	Debts to employees	362	429.9
	Other current liabilities	704.5	634.7
	Total	1560.2	3525
Ligue 1	Net equity	195.7	224.4
	Commercial and bank debts	142.9	165.9
	Debts to groups	66.4	271.7
	Other non-current liabilities	43.8	46.7
	Fiscal debts	178.5	249.5
	Debts for transfers	127.3	231
	Debts to employees	79	81.3
	Other current liabilities	357.4	475.1
	Total	448.8	1745.6

Serie A	Net equity	235	173.9
	Commercial and bank debts	871	962.9
	Debts to groups	218.2	158.9
	Other non-current liabilities	210.8	229.7
	Fiscal debts	320.4	291.5
	Debts for transfers	786.9	759.6
	Debts to employees	139.2	137.4
	Other current liabilities	771.9	669.5
	Total	1535	3383.4
Bundesliga	Net equity	749.0	848.2
	Commercial and bank debts	478.0	373.5
	Debts to groups	217.6	190.5
	Other non-current liabilities	133.8	177.7
	Fiscal debts	79.2	100.3
	Debts for transfers	59.4	90.1
	Debts to employees	16.1	31.2
	Other current liabilities	501.5	517.6
	Total	2234.6	2329.1

Figure A7. Average total liabilities all leagues, FIGC report




Bundesliga
100%
80%
60%
40%
20%
0%
2013
2014
Other current liabilities
Debts to employees
Debts for transfers