Salary Cap vs. Break-Even Rule: Assessing UEFA Financial Sustainability Regulation through the Analysis of English and Spanish Economic Control Policies.

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Abstract

***Research Question*:** Due to the limited and mixed effects depending on leagues and club size of the Financial Fair Play Regulation (FFP), based mainly on a break-even rule, the UEFA introduced a stricter Financial Sustainability Regulation (FSR) in 2024, including salary cap rule. This study aimed to assess the effectiveness of the new FSR compared with the previous FFP by examining Spanish and English league regulations on clubs' financial performance. Spanish regulation is stricter and aligns with FSR, whereas English regulation resembles the previous FFP.

***Research methods*:** We performed a panel analysis using data from 2014 to 2022 for 63 Spanish and English football clubs. Panel regression models were constructed to analyse the impact of Spanish and English regulations on clubs' financial performance and whether the effect differs by club size.

***Results and Findings*:** Compared with English regulations, Spanish regulations significantly improved the financial performance of Spanish clubs, especially among

medium and small-sized clubs. These findings suggest that the new FSR has the potential to significantly enhance the long-term financial sustainability of European football clubs compared with the previous FFP.

***Implications*:** The findings underscore the critical role of stricter economic controls in improving clubs' financial performance. The study provides compelling evidence for the UEFA, national leagues, governments, and club stakeholders to continue to assess and improve economic control regulations to promote the financial responsibility of all-size European football clubs.

Keywords: Financial Performance, Financial Fair Play, Spanish league, English Premier League, Financial Management

Introduction

European professional football's sporting and economic model is characterised by a high level of competitiveness, which leads clubs to invest in talented players, often exceeding the clubs' income. There has been a debate about whether European football clubs prioritise sporting success over financial performance, acting as utility maximisers (Sloane, 1971), or if they focus on financial performance and seek to maximise profits (Quirk & El Hodiri, 1974; Rottenberg, 1956). Several studies indicate that European clubs prioritise sporting success at the expense of financial performance (Samagaio et al., 2009; Senaux, 2008). However, some studies, particularly those on the English Premier League (EPL), suggest that clubs often follow the neoclassical profit maximisation theory (García-del-Barrio & Szymanski, 2009; Leach & Szymanski, 2015). These differences arise because the objectives of European football clubs can shift over time, focusing either on maximising profits or achieving sporting success, depending on the clubs' context, league, or European competitions (Terrien et al., 2017).

Therefore, the European football model has caused severe financial problems, such as low levels of profitability, high levels of debt and the risk of insolvency (Ascari & Gagnepain, 2006; Barajas & Rodríguez, 2014; Barajas et al., 2017; Barajas & Urrutia, 2007; Dobson & Goddard, 2011). This situation can be explained by the clubs' expectation of receiving financial support from owners or government entities to maintain their financial situation, thereby operating under so-called soft budget constraints (Franck, 2018; Francois et al., 2022; Storm & Nielsen, 2012); an approach that discourages long-term financial responsibility (Storm & Nielsen, 2012). In contrast, American professional leagues implemented a salary cap system for players. This system not only helps control expenses and ensures the profitability and solvency of teams (Szymanski, 2017) but also encourages clubs to focus on maximising their profits.

To address the financial insolvency risk of European clubs (Carin & Brocard, 2024; Evans, 2024; Scelles et al., 2018; Szymanski, 2017; Szymanski & Weimar, 2019), the UEFA approved the Financial Fair Play Regulation (FFP) in 2010, which established limits on accumulated losses (break-even rule) and prohibited overdue debts (non-overdue-debt rule) (UEFA, 2018). The FFP was in effect from 2013 to 2022, with an initial transition period from 2011 to 2013. These measures aimed to harden budget constraints, preventing clubs from overspending. However, the permitted margin for operating losses indicates that FFP was conceived as a flexible framework rather than a rigid form of financial control (Storm et al., 2022).

Previous studies showed that the impact of FFP on clubs' financial performance was limited and mixed, with significant disparities between large and small clubs attributed to their varying access to commercial and investment markets (Author, 2024; Ahtiainen & Jarva, 2022; Calahorro-López & Ratkai, 2024; Francois et al., 2022; Plumley et al., 2021). Smaller clubs, facing restricted access to these markets, had to adopt more

conservative financial management practices, often forcing them to sell talented players to maintain minimally sustainable financial performance, which negatively affected their sporting performance. In contrast, larger clubs benefit from better access to global markets and the ability to generate income through player transfer sales. As a result, they have more flexibility in managing and complying with regulations (Author, 2023; Barajas & Urrutia, 2007; Boscá et al., 2008; Buraimo et al., 2006; Dobson & Goddard, 2011; Franck, 2018; Peeters & Szymanski, 2014).

In 2022, the UEFA approved the Financial Sustainability Regulation (FSR) to replace the previous FFP because of their limited effectiveness. This new regulation established stricter budgetary constraints by introducing a salary cap on player salaries related to operating revenues and the result generated from player transfers, known as the cost control rule. FSR also maintained break-even and non-overdue debt requirements (UEFA, 2022).

For European domestic competitions, countries such as England and Spain established national economic control regulations for all clubs participating in their leagues. The EPL implemented a regulation similar to the FFP, which includes a break-even rule with a maximum loss margin over three seasons. Monitoring is conducted postseason through audited financial statements. In contrast, the Spanish LaLiga (SLL) implemented a model more closely aligned with the new FSR, featuring a break-even rule and a salary cap based on relevant revenue. The SLL includes an a posteriori check of audited financial statements and a priori control of the budget presented by the club for the following season.

Before implementing the UEFA's economic control regulations and those of the respective national leagues, clubs in the English and Spanish leagues faced a challenging economic situation characterised by significant operating losses, excluding player transfer

results. From 2009 to 2013, according to data published in annual financial accounts, English clubs generated a total of €13.1 billion in revenues, but they recorded operating losses of 15% of their total revenues. These losses were partially offset by the player transfer results, contributing 10% to their revenues. In comparison, Spanish clubs generated €8.1 billion in total revenues, with operating losses equivalent to 8% of their revenues. Like in English clubs, these losses were mitigated by player transfer results, accounting for another 10% of their revenues. With respect to financial structure, both leagues presented high debt-to-assets ratios, with English clubs averaging 100% and Spanish clubs averaging 91%. Given their shared financial challenges prior to the introduction of regulations, Spanish and English clubs present ideal cases for studying how different regulatory approaches affect clubs' financial performance, providing a robust basis for comparative analysis.

Owing to the regulatory differences between the two leagues, one might assume that stricter Spanish regulations would lead to a more positive impact on the financial performance of Spanish clubs than English regulations. However, the effects of these two models are not as clear-cut as they might seem at first glance. An example of this is the impact of COVID-19, which profoundly affected club finances during the 2020 and 2021 seasons. The stricter prior control of Spanish regulation could not anticipate a crisis of this magnitude. As a result, many clubs that had planned their finances under normal circumstances faced significant deficits. For example, FC Barcelona reported operating losses of €505 million in 2021 (FC Barcelona, 2021), which violated both the salary cap rule and the break-even regulations of the Spanish league. This situation illustrates that prior control does not automatically ensure a balanced financial performance.

Therefore, we aim to analyse the impact of both regulations on the financial performance of Spanish and English clubs to assess whether regulations with different

levels of economic control affect clubs' financial performance differently and whether if this effect differs depending on the club size. This analysis enables the evaluation of the potential effect of the new FSR compared with the previous UEFA regulation.

English and Spanish leagues represent crucial cases to study since they are the two most important leagues in European football. Together, both leagues represented 56% of the revenue of the Big Five European leagues in 2022; the EPL reached 6.4 billion euros, followed by the SLL with 3.3 billion euros (Deloitte, 2023). Furthermore, in 2022, of the ten European clubs with the highest income, six were English and two were Spanish, and both leagues were rated as the two best leagues in the world in the 21st century by the International Federation of Football History and Statistics.

We examined the relationship between the implementation of financial regulations in the Spanish and English leagues and clubs' financial performance. We also analysed how this relationship varies depending on club size. Our analysis utilised financial data from first-division clubs between 2014 and 2022, employing panel regression models (Hsiao, 2007). Notably, the Spanish regulations closely resemble the new FSR, while the English regulations align more with the previous FFP rules. To our knowledge, this is the first study to assess the potential effects of the new FSR, especially the salary cap rule, on the financial performance of European football clubs.

Our research thoroughly examines the impact of economic control regulations over an extended period, focusing on how different levels of budget constraints—specifically salary cap rules compared to break-even limits—affect clubs' financial performance. Our findings demonstrate that stricter financial constraints can encourage more responsible financial management, enhance long-term financial sustainability, and achieve a better balance between profit maximisation and sporting success. These insights

are critical for European and national regulatory bodies, governments, and club managers, who are assisting in developing future economic control strategies in professional sports.

Literature Review and Hypotheses Development

European Football Model and UEFA Regulations

The economic model of European football is often characterised by utility maximisation theory (Sloane, 1971), where clubs prioritise sporting success and fan satisfaction over financial performance. In line with this model, European clubs tend to invest heavily in acquiring talented players, as it is believed that greater investment in player talent leads to improved sporting performance (Leksowski, 2021; Szymanski, 2003; Szymanski & Smith, 1997). However, some studies indicate that certain clubs, particularly those in the EPL, may adopt a profit maximisation approach similar to that of American sports franchises (García-del-Barrio & Szymanski, 2009; Leach & Szymanski, 2015). Both approaches can coexist since some European football clubs may adjust their objectives over time, shifting their focus between maximising profits and achieving sporting success (Terrien et al., 2017).

Thus, the high increases in European clubs' revenues over the past few decades have focused primarily on player salaries, resulting in an overall lack of profitability. Football clubs have often experienced financial losses and increasing debts, frequently being bailed out by wealthy investors or local, regional or national public institutions allowing the survival of clubs (Boscá et al., 2008; Dobson & Goddard, 2011; Peeters & Szymanski, 2014). These clubs' financial behaviour makes this possible because the European football industry had previously operated under soft budget constraints (Storm & Nielsen, 2012).

The concept of Soft Budget Constraint (SBC) was developed by Kornai (1979, 2001) and Kornai et al. (2003) to explain the situations in which companies are managed inefficiently and did not face strict financial discipline, because they expect bailouts from external supporters. This concept originally was referred to companies in socialist or post-socialist economies. In contrast, Hard Budget Constraint (HBC) requires companies to cover expenses with revenue, facing risk of insolvency if they are not profitable. HBC imposes strict limits on spending and financing, promoting responsible financial management (Maskin, 1999). However, companies are rarely subject to purely SBC or HBC. Instead, there is a spectrum of budgetary restrictions in practice that can influence the degree of financial discipline these entities maintain (Storm & Nielsen, 2012; Storm et al., 2022).

Furthermore, notable economic disparities exist between large and small clubs in the European football industry. Large clubs are usually located in cities with large local markets, which allows them to have greater attendance and sponsorship revenues; they usually qualify for major European competitions such as the UEFA Champions league, which gives them significant additional revenues from prizes and broadcasting rights; and they have also increased their revenues through internationalisation strategies, which has allowed them to have access to a global sponsorship and commercial market (Barajas & Rodríguez, 2014; Dobson & Goddard, 2011; Boscá et al., 2008; Peeters & Szymanski, 2014; Scelles & Andreff, 2017; Scelles et al., 2022).

However, large clubs also tend to carry more indebtedness and financial obligations than small clubs do. This results in a nonlinear relationship between club size and financial performance (Barajas & Rodríguez, 2014). These economic disparities ultimately influence the sporting balance in favour of larger clubs (Pawlowski & Budzinski, 2012; Bisceglia et al., 2018)

In response to the financial crisis affecting European football, the UEFA introduced the *Financial Fair Play Regulation (FFP)* in 2010, which came into full effect in 2013. The primary objective of the FFP is to improve the long-term financial sustainability of football clubs participating in European competitions. The regulations consist of two key rules: the *break-even rule* and the *no-overdue-debt* rule. The UEFA conducts annual reviews of clubs audited financial statements from the previous three years to ensure compliance with these regulations. Clubs that fail to adhere to these rules may face sanctions, ranging from penalties to exclusion from European competitions (UEFA, 2018, 2022).

The break-even rule stated that clubs could not incur losses exceeding €5 million over a three-year monitoring period. However, this limit could be extended to €30 million if the additional losses were fully covered by contributions from the owners or shareholders. The goal was to balance the clubs' income and operating expenses without relying too heavily on external financing. The no-overdue-debt rule required clubs to meet their payment obligations on time and to demonstrate that their debt levels were manageable (UEFA, 2018, 2022).

The effect of the FFP on the financial performance of European football clubs has sparked considerable debate. Academic literature highlights that the impact of the FFP on financial performance has been limited and mixed. While some studies report positive results on the profitability of major league clubs, particularly in Spanish and English leagues (Acero et al., 2017; Ahtiainen & Jarva, 2022; Alabi & Urquhart, 2024; Author, 2023; Barajas et al., 2017; Franck, 2018; Francois et al., 2022; Plumley et al., 2021; Urdaneta-Camacho et al., 2023), others identify negative impacts, especially in French and Italian leagues (Dimitropoulos & Koronios, 2018; Francois et al., 2022; Ghio et al., 2019; Neri et al., 2022; Plumley et al., 2021).

Furthermore, positive effects on debt have been reported in the Spanish league (Barajas et al., 2017; Author, 2023; Urdaneta-Camacho et al., 2023), but no effects have been reported in the English league (Alabi & Urquhart, 2024), and adverse effects have been reported in Italian clubs (Neri et al., 2021). This suggests that several clubs depend on increased external financing to remain competitive (Sass, 2016), undermining the FFP objective of reducing financial leverage.

Moreover, a systematic review and meta-analysis of the literature (Author, 2024) revealed that the FFP had a positive and significant effect on the profitability of European football clubs but had no significant effect on the improvement of indebtedness. This divergence is due to clubs prioritising short-term management, such as obtaining resources via player transfer results, to comply with FFP rather than focusing on long-term sustainable financial management (Dimitropoulos & Scafarto, 2021).

Likewise, the FFP has widened the economic and competitive gap between large and small clubs (Jakar & Gerretsen, 2021; Maclean et al., 2022). This disparity occurs because larger clubs generally have better access to extensive commercial and sponsorship opportunities. Specifically, the internationalisation strategies of large clubs enable them to generate additional income through global markets. This gives them an advantage over smaller clubs, which often lack the same capacity for international expansion. As a result, larger clubs can generate more income to meet FFP requirements (Franck, 2018; Jakar & Gerretsen, 2021; Peeters & Szymanski, 2014; Plumley et al., 2021; Scelles et al., 2022; Szymanski, 2014).

To address these problems, in 2022, the UEFA approved the new *Financial Sustainability Regulation (FSR)*. The new regulations were introduced in 2024 and focused on the long-term financial sustainability of European football. First, the FSR maintained the break-even requirement, but now clubs can incur losses of up to €60

million over a three-year period, extending to €90 million if the club can demonstrate that it is making significant investments in infrastructure, youth development or women's football. Second, FSR maintained non-overdue-debt requirements. Finally, the FSR introduces a new *cost control* rule to tighten the budgetary constraints of the previous FFP.

This cost control rule requires clubs to restrict spending on players—including salaries for players and coaching staff, transfer amortisations, and agent fees—to 70% of their income, calculated as the sum of their operating income and player transfer results. To implement this rule, a gradual phase-in process has been established (i.e., the spending cap is 90% in 2024, 80% in 2025 and 70% in 2026) (UEFA, 2022, 2024).

Spanish and English Leagues Economic Control Regulations

Numerous national leagues, including France, Spain, and England, have implemented economic control regulations with some parallels with UEFA's guidelines. However, a misalignment often exists between these national regulations and the standards set by the FFP. For example, while the FFP aims to promote long-term financial sustainability—allowing only shareholder funds to be used for investments in long-term assets—the French league regulator (DNCG) focuses on the short-term solvency of clubs (Dermit-Richard et al., 2019).

The Spanish league also implemented a *Spanish Economic Control Regulation* (SR) that differs from the FFP. While there are similarities between SR and FFP—such as the requirements for break-even and management of overdue debts—there are two key differences. First, SR incorporates both a priori (before each season) and a posteriori (after each season) controls, whereas FFP relies primarily on after-season assessments of clubs' financial results and debts. This means that the SR requires clubs to present a budget before each season, which must be approved by the Spanish league (LaLiga, 2014, 2023).

Second, SR established an additional rule aimed at further tightening the financial controls on Spanish clubs, known as the *sports squad cost limit*. This rule limits the expenses of each club's sports squad on the basis of their recurring income. The costs associated with the sports squad include salaries for players, coaches, and technical staff, as well as the amortisation of player transfer rights. Recurring income includes revenue from competitions, television and sponsorship rights, ticket sales, marketing, and profits from selling player transfer rights. The sports squad cost limit is, as explained previously, determined before each season on the basis of the clubs' budgets and is also evaluated after each season (LaLiga, 2014, 2023). Additionally, the SR sports squad cost limit requirement is aligned with the UEFA's FSR and their new cost control rule.

The EPL implemented its economic control regulations, the *Profitability and Sustainability Rules* (ER), in 2014. Although the ER was based on the FFP, it established broader limits for break-even compliance. Specifically, the ER introduced a rule that restricts the total accumulated losses a club can incur over a three-year period to a maximum of £105 million. Likewise, the ER also adopted a similar approach with the non-overdue-debt rule to the FFP, albeit with a more permissive approach to debt restructuring (Premier League, 2024a).

The EPL recently updated its financial control regulations, which came into effect in 2024. Club owners must cover accumulated losses exceeding £15 million over three years, up to a maximum limit of £105 million, i.e. must cover a maximum total of £90 million. Clubs' loans have also been more strictly restricted, especially loans secured by future income from broadcasting rights. In general, greater transparency is required in the financial information published by clubs (Premier League, 2024a). The EPL will also trial an alternative in 2025, a nonbinding rule called the squad cost rule, within the current English rules. The EPL aims to evaluate the new rule and consult with all relevant

stakeholders. The new squad cost rule will regulate salary spending at a proportion (85%) of a club's football revenue and player transfer results. The main objective is to improve the financial performance of English clubs (Premier League, 2024b).

Prior studies indicate that Spanish regulations have improved the financial performance of Spanish clubs (Author, 2023; Fernández-Villarino & Domínguez-Gómez, 2022; Urdaneta-Camacho et al., 2023). In contrast, English clubs have shown poor financial performance since the introduction of English regulations, with improvements in profitability limited to the year of implementation of economic control regulations (Evans et al., 2019) or clubs participating in European competitions (Alabi & Urquhart, 2024). Furthermore, Spanish regulations present distinctive features compared with English regulations, including (i) a priori and a posteriori controls, (ii) the implementation of a salary cap on squad costs linked to recurring revenues, and (iii) stricter limits on break-even and non-overdue-debt requirements. Given the stricter budgetary constraints of SR than ER and considering that the empirical literature has shown a positive impact of SR on club financial performance, the following hypothesis is proposed:

Hypothesis 1a (H1a): Compared to English Regulation (ER), Spanish Regulation (SR) had a positive effect on clubs' financial performance.

The impact of economic regulations on football clubs is not homogeneous and varies by club size. Under FFP, large clubs widened their economic and competitive gap over smaller ones, which are more sensitive to regulatory restrictions because of their lower capacity for income growth and external financing (Franck, 2018; Gallagher & Quinn, 2020; Jakar & Gerretsen, 2021; Peeters & Szymanski, 2014; Plumley et al., 2021; Scelles et al., 2022; Szymanski, 2014). This asymmetric effect has been evident in Spanish regulations, improving profitability mainly in small clubs and reducing debt in medium-sized clubs, with no significant effects on large clubs (Author, 2023). This suggests that

stricter Spanish rules primarily affect small clubs. In contrast, English regulations show less clear effects but suggest an unequal impact on the basis of club size. Previous studies have shown that English regulations increase profitability only for clubs in European competitions (Alabi & Urquhart, 2024; Francois et al., 2021), which are usually the largest, and generally improve financial performance for large, not small clubs (Plumley et al., 2021). While the efficiency of all clubs' revenue and sporting results decreased, this effect was smaller in large clubs (Gallagher & Quinn, 2020). This implies that less strict English rules seem to affect large clubs, not small ones. Therefore, given that SR is stricter than ER and considering the positive impact of SR on the financial performance of small Spanish clubs but not that of large Spanish clubs, the following hypothesis is proposed:

Hypothesis 1b (H1b): Compared with English Regulation (ER), Spanish Regulation (SR) had a positive effect on the financial performance of small clubs but not of large clubs.

Methodology and Data

Sample

This study focuses on professional teams that competed in the SLL and the EPL first divisions for eight seasons from 2014 to 2022. The 2014 season marks a significant benchmark, as it was the first in which the FFP was fully implemented. The analysis extends through the 2022 season, which reflects the aftermath of the global impact of the COVID-19 pandemic and the subsequent recovery period. During this period, 31 clubs participated in the SLL and 32 participated in the EPL. Football clubs operated under different economic control rules: those in UEFA competitions had to comply with both

FFP and national regulations, whereas teams competing only in national leagues were subject to national regulations.

To carry out a comprehensive analysis, 358 financial statements were examined. The financial statements of the Spanish football clubs were collected either through the SABI® database or directly from the clubs' official websites. For the English clubs, financial data were obtained from either the Company Check® database or the clubs' corporate websites.

Methodology Strategy and Variables Definition

We assessed the impact of SLL and EPL national economic control regulations on financial performance and whether it may differ depending on club size. We used panel regression models (Hsiao, 2007), which allow for a dynamic and longitudinal interpretation of the data.

First, we segmented the clubs into three groups on the basis of size using the K-means clustering algorithm, following Feuillet et al. (2021). To capture club size, we selected turnover, assets, and wages as clustering variables, following previous studies (Author, 2023; Gasparetto & Barajas, 2022; Plumley et al., 2021). To ensure a stable classification, we averaged these variables over all seasons for each club that appeared in the sample. This approach entailed performing clustering at the club level, not on club-season observations, so that each club belongs to the same cluster throughout all the seasons.

The optimal number of clusters, determined using the Elbow Method and the Silhouette score, was three for SLL and three/four for the EPL. However, the fourth cluster in the EPL contained only two exceptionally large clubs (Manchester United and Liverpool). For consistency with SLL's segmentation into large, medium-sized, and small

clubs, we merged this group into the *Big-clubs* cluster, resulting in three final segments for both leagues.

The final classification, shown in Table 1, was validated through ANOVA tests, confirming significant differences across clusters ($p < 0.01$). Post hoc Tukey comparisons further support these differences, as nearly all pairwise comparisons were statistically significant for all clustering variables, except for one specific case. The centroid values, ANOVA results, and post hoc tests are presented in Appendix A.

[Insert Table 1 here]

Second, we define SR as the main independent variable that represents the application of the economic control regulations to Spanish football clubs (Spanish Economic Control Regulation for all clubs participating in the Spanish league first division and FFP for clubs participating in European competitions). SR is a dummy variable that takes a value of 1 if the club was in the Spanish league or 0 if it was in the English league.

Third, to evaluate the club's financial performance and test our hypotheses, we selected the dependent variables detailed in Table 2. These variables are financial ratios commonly used in previous studies to evaluate the financial performance of football clubs (Acero et al., 2017; Ahtiainen & Jarva, 2022; Author, 2023; Dimitropoulos & Koronios, 2018). *EBIT* measures operating results, whereas *ROA* and *ROS* are profitability ratios, and *DOA* assesses indebtedness.

We also included several control variables in the regression models, as detailed in Table 2. *Turnover* refers to the income generated. *Assets* include total assets and represent economic resources. *Wages* encompass the total staff expenditures. *Transfer* accounts for the player transfer results, allowing us to assess the additional financial resources clubs

generate and can impact their overall financial performance. Finally, we have included the *Promotion* variable to assess the effects of ascending from the second to the first division on clubs' financial performance. We also added a set of dummy variables for each year to capture each year's temporal effects and unique characteristics, including the effects of COVID-19.

[Insert Table 2 here]

We estimated several panel data regressions to analyse the impact of the Spanish Regulation and the control variables on financial performance. We conducted segmented regressions for the entire sample and each cluster separately to better capture the differences across club sizes. Although it is possible to use a single model with interaction terms, this approach may introduce multicollinearity, especially considering each segment's relatively small sample sizes.

Equation [1] shows the structure of each estimated equation in the panel:

$$\text{Dependent variable}_{it} = \alpha_{it} + \beta_1 SR_{it} + \beta_2 \ln(Transfer)_{it} + \beta_3 \ln(Turnover)_{it} + \beta_4 \ln(Assets)_{it} + \beta_5 \ln(Wages)_{it} + \beta_6 Promoted_{it} + \Sigma(\beta_{kt} YEAR_{it}) + \varepsilon_{it} \quad [1]$$

where β_i is the parameter that measures the impact of economic control regulations on Spanish and English clubs on each financial performance indicator in the regressions and where ε represents the usual error term. We used the Hausman test in each model to decide between fixed or random effects estimators. The test did not reject the null hypothesis in all cases, affirming our analysis and validating the choice of a random effects estimator. Heteroskedasticity tests (see Appendix B) rejected the null hypothesis in most models. Therefore, to ensure robust inference, we employ clustered standard errors, which account for grouped data structures and provide valid statistical conclusions (Cameron & Miller, 2015).

For all the models calculated, we transformed the variables *EBIT* and *Transfer* with log(x+min(x)+1), previously removing the FC Barcelona 2021 data[1] because this variable is right-skewed but also takes negative values; thus, this transformation is necessary not only to lose the negative observations but also to transform the scale and reduce the high level of asymmetry (Berger & Mester, 1997; Maudos et al., 2002).

Results

Descriptive Statistics and Correlations

The summary statistics of the dependent and independent variables are presented in Table 3, and their correlations are shown in the Appendix C.

[Insert Table 3 here]

Table 3 shows that the average profitability measures for the whole sample are slightly positive; however, there are notable differences between the two leagues. Spanish clubs show positive figures for *EBIT* (M = €2.2 m) and profitability ratios (*ROA* and *ROS* above 8%). In contrast, English clubs have negative averages for *EBIT* (M = €-4.3 m) and profitability (*ROA and ROS* below minus 1%). Regarding indebtedness, the average *DOA* ratio for the whole sample is approximately 1: Spanish clubs have a ratio below 0.9, whereas English clubs exceed 1. When examining control variables, English clubs have figures approximately double those of Spanish clubs for T*urnover*, *Assets*, and *Wages*. In contrast, the average for the *Transfer* variable is only 15% higher for English clubs than Spanish clubs. The *Promoted* variable shows similar figures in both leagues.

[1] FC Barcelona data for transfer results, percentage of transfer results over turnover, and operating results were €-156.5 million, -26.5%, and €-505 million, respectively. These figures are abnormally negative due to the enormous impact of COVID-19 on the deterioration of FC Barcelona's assets and expenses in relation to the pandemic effects on the remaining clubs.

As we expected, the variables *Transfer*, *Turnover*, *Assets* and *Wages* are highly correlated (see Appendix C). *EBIT* has a positive and significant correlation with the *ROA* and *ROS* (r = 0.552 and 0.680, respectively; $p < 0.05$) and a negative and significant correlation with *DOA* (r = -0.198; $p < 0.05$) because the operating results affect the profitability and debt measures. *Turnover*, *Assets* and *Wages* correlate negatively and significantly with profitability ratios. *Assets* have a negative correlation with debt, indicating an inverse relationship between the amount of assets and indebtedness. Finally, *Transfer* has a positive and significant correlation with *EBIT* (r = 0.182; $p < 0.05$), revealing the relationship between player transfer results and financial performance in football clubs.

Regression Results and Hypothesis Testing

The results obtained through the regression models are shown in Table 4. We first present the impact of SR on financial performance for the whole sample and then for the three club size segments (*Big-clubs, Medium-clubs* and *Small-clubs*) compared with ER.

[Insert Table 4 here]

For the whole sample, the results show that the Spanish Regulation (vs. the English Regulation) significantly increased operating results (*EBIT*) (β = 0.174, $p < 0.05$) and profitability (*ROA*: β = 0.125, $p < 0.01$; *ROS*: β = 0.139, $p < 0.01$). SR also significantly reduced the debt ratio (β = -0.480, $p < 0.01$), indicating lower indebtedness. These results show that, compared with English clubs, Spanish clubs improved financial performance, supporting *Hypothesis 1a*.

However, the results revealed different effects depending on club size. The results do not show a significant difference between the effects of both regulations on large clubs, but they do show differences in the effects on medium-sized and small clubs. For medium-

sized Spanish clubs, SR (vs. ER) significantly increased profitability (*ROS*) ($\beta = 0.110$, $p < 0.01$) and reduced debt (*DOA*) ($\beta = -0.343$, $p < 0.05$). For small Spanish clubs, SR (vs. ER) significantly increased operating results (*EBIT*) ($\beta = 0.150$, $p < 0.05$) and reduced debt (*DOA*) ($\beta = -1.120$, $p < 0.01$). Therefore, Spanish regulations did not have a different effect on large clubs than English regulations did, but they improved the operating results of small clubs, profitability of medium-sized clubs and reduced the indebtedness of both medium-sized and small clubs. These results support *Hypothesis 1b*.

The effects of control variables—*Turnover*, *Assets* and *Wages*—on clubs' financial performance vary by size. *Turnover* had a significant positive effect on profitability (*ROS*) in large clubs and on operating results (*EBIT*) and profitability (*ROA* and *ROS*) in medium-sized clubs. *Assets* had a significant negative effect on debt for all clubs and for small clubs and a significant negative effect on operating results (*EBIT*) and profitability (*ROA* and *ROS*) for medium-sized clubs. *Wages* had a significant negative effect on operating results (*EBIT*) and profitability (*ROA* and *ROS*) for medium-sized clubs and on profitability (*ROS*) for large clubs.

The results show that *Transfer* significantly positively affected profitability for medium-sized (*ROS*: $\beta = 0.142$, $p < 0.01$) and small-sized clubs (*ROA*: $\beta = 0.169$, $p < 0.01$; *ROS*: $\beta = 0.243$, $p < 0.01$). This finding supports the importance that medium-sized and small clubs give to player transfer activity to increase their results and profitability to comply with economic control regulations.

Finally, the results indicate that the COVID-19 pandemic affected clubs differently in terms of size (see Appendix D). The COVID-19 pandemic had significant negative effects on the profitability (*ROS*) of all clubs, particularly impacting medium-sized clubs from 2020 to 2022. Operating results (*EBIT*) were negatively affected for all clubs in 2021 and for small clubs in 2020 and 2021. Additionally, the pandemic increased clubs'

indebtedness in 2022 for all clubs and large clubs, in 2021 for medium-sized clubs, and in 2020 and 2022 for small clubs.

Discussion and Conclusion

The UEFA introduced the new Financial Sustainability Regulation in 2024 to increase the long-term financial sustainability of European football clubs (UEFA, 2024), given the limited and mixed effect of the previous Financial Fair Play Regulation (Author, 2024). To meet its objectives, this new framework tightens regulations on the basis of the implementation of a salary spending cap relative to revenues. This new rule was previously established by the SLL in 2014 (LaLiga, 2014). The prior FFP were based on break-even limits as the main rule, and leagues such as the EPL established their economic control regulations on the basis of this requirement (Premier League, 2024a). Therefore, in contrast to previous FFP and English regulations, the Spanish Economic Control Regulation and FSR impose stricter budgetary constraints to enhance the financial stability of clubs.

This study aimed to analyse the impact of economic control regulations implemented by the SLL and the EPL on clubs' financial performance and whether this effect differs depending on club size. Using panel regression models and financial data from 2014 to 2022, we evaluated whether varying degrees of strictness of economic control regulations—including salary cap rules and break-even limits—affected clubs' financial outcomes differently. This evaluation may provide insights into the potential effects of the new FSR compared with the previous FFP.

Our results showed that compared with English regulations, the Spanish Economic Control Regulation enhances Spanish clubs' financial performance, as measured by

improved operating results and profitability and reduced indebtedness. Moreover, these results revealed different effects depending on club size. There is no difference between the effects of these regulations on large clubs. However, compared with English regulations, the Spanish Economic Control Regulation improved medium clubs' sales profitability and small clubs' operating results, reducing the indebtedness of both medium and small clubs.

These results align with those of previous studies indicating the implementation of economic control regulations has improved the financial performance of Spanish clubs (Ahtiainen & Jarva, 2022; Author, 2023; Barajas et al., 2017; Fernández-Villarino & Domínguez-Gómez, 2022; Urdaneta-Camacho et al., 2023). However, in contrast to Spanish regulations, English regulations have not improved the financial performance of English clubs. This finding is somewhat consistent with previous research indicating that English regulations have only enhanced the profitability of clubs participating in European competitions (Alabi & Urquhart, 2024; Franck, 2018; Francois et al., 2022; Plumley et al., 2021), but have not reduced their debt or benefited other English clubs.

Moreover, our findings revealed that introducing stricter budget constraints, such as the salary cap and a priori control rules, had a greater impact on improving club performance than only the break-even rule and a posteriori control. Therefore, stricter regulations force more responsible financial management practices (Maskin, 1999) and reduce the risk of behaviours associated with the SBC (Kornai, 1979; Storm & Nielsen, 2012), thus aligning with prior studies suggesting that harder regulations can enhance long-term financial sustainability (Franck, 2018; Storm & Nielsen, 2012), albeit with several deficiencies.

Our results reveal a notable deficiency in Spanish regulations, corroborating insights from earlier research (Author, 2023; Franck, 2018; Francois et al., 2022; Jakar &

Gerretsen, 2021; Peeters & Szymanski, 2014; Plumley et al., 2021). Specifically, the stringent nature of Spanish regulations has disproportionately affected medium and small football clubs compared to larger clubs. This disparity is because medium and small clubs are more significantly compelled to adjust their financial management to comply with regulations and avoid potential sanctions because of unequal access to national and international commercial and sponsorship markets (Franck, 2018; Scelles et al., 2022). In contrast, larger clubs have more flexibility to comply with the rules without significantly altering their financial management, increasing the sporting and economic distance between large and small clubs (Author, 2023; Franck, 2018; Francois et al., 2022; Jakar & Gerretsen, 2021; Maclean et al., 2022; Peeters & Szymanski, 2014; Plumley et al., 2021).

The second potential deficiency is that Spanish regulations were more effective than English regulations under normal circumstances, but their efficacy during economic crises is unclear. Our results revealed that the COVID-19 crisis negatively impacted Spanish and English clubs' operating results and profitability and increased their indebtedness. However, the effect of COVID-19 was worse for small clubs than for large clubs. Moreover, as previously explained, the Spanish club FC Barcelona reported operating losses of €505 million in 2021 due to the COVID-19 crisis despite being subject to the leagues' strict economic control, illustrating that stricter control does not automatically ensure better financial performance. Thus, European and national economic regulations must be continuously analysed and revised to increase their effectiveness in improving clubs' financial performance.

Therefore, our findings suggest that the new FSR represents a step in the right direction to correct the inefficiency of the previous FFP because the new salary cap rule may be more favourable for improving European clubs' financial performance. However,

given that FSR maintains control and monitoring exclusively a posteriori and the weaknesses we have highlighted in Spanish regulations, its success will depend on continuous analysis and adaptability to the clubs' financial performance evolution.

Consequently, our study has theoretical and practical implications for different stakeholders within the football industry, including the UEFA, national leagues, governments, club managers and owners. Our results reinforce existing criticisms of FFP (Author, 2023; Acero et al., 2017; Dimitropoulos & Koronios, 2018; Francois et al., 2022; Jakar & Gerretsen, 2021; Plumley et al., 2021; Peeters & Szymanski, 2012, 2014) and underscore the need to implement stricter economic regulations. The salary cost control rule is a good step in this direction.

On the basis of our comprehensive analysis, we propose several recommendations aimed at improving the efficacy of the UEFA FSR to reinforce the long-term sustainability of European football, with particular attention to the differential impacts of club size. First, we propose that salary cost control be redesigned to incorporate differentiated applications on the basis of club size. Specifically, clubs with higher incomes should be subject to stricter limits, considering that their absolute financial capacity allows them to have a much higher spending volume than clubs with lower incomes. To establish these limits, we propose excluding or partially adjusting player transfer results at large clubs, given that (i) they have structural advantages in terms of generating commercial and sponsorship revenues at the domestic and international levels; (ii) player transfer results do not significantly affect their financial performance, unlike what happens at smaller clubs; and (iii) salary expenditures have a significant effect on their profitability. This proposal would help contain wage inflation in the player market, improve the financial performance of all clubs, and reduce the competitive imbalance between large and small clubs.

However, implementing this measure must result from a dialogue process between the UEFA and the clubs. This dialogue is necessary to address any potential rejection of the measure by larger clubs and to seek an agreement that serves the best interests of European football. Ultimately, the goal is to mitigate the risks associated with unfavourable alternatives and ensure the long-term competitive and financial sustainability of the European football industry.

Second, a more dynamic and adaptable regulatory framework should be developed, including continuous financial assessments of clubs and regular adjustments to the rules. Therefore, the financial control regulations should include both a priori (before the season) and a posteriori (after the season) monitoring, with midseason reviews to identify any potential deviations and take early corrective action. The results of these assessments and the monitoring of clubs' financial situations should be utilised to establish mechanisms that allow for a swift response to crises such as the COVID-19 pandemic. If necessary, the rules can be temporarily adjusted to aid clubs in their recovery. It should include the immediate implementation of mandatory financial recovery plans agreed upon between clubs and regulatory bodies such as national leagues or the UEFA. These plans should be flexible and tailored to each club's specific situation, considering factors such as size and funding capacity. They must include clear objectives and defined timelines for clubs to return to compliance with the regulations as quickly as possible.

This study also has limitations. First, it focused exclusively on financial performance while neglecting sporting performance. Additionally, it was limited to leagues in Spain and England, which may result in overlooking variations present in other European leagues with different structures and regulations. Furthermore, the study did not explore other financial factors that could affect clubs differently, such as diverse salary cap structures or revenue-sharing mechanisms. Future research should address these

issues to improve the understanding of economic regulations and their effects on both sporting and financial outcomes and identify potential areas for improving European football.

In conclusion, this study provides critical insights into how financial regulations affect the financial performance of football clubs, highlighting the positive impact of stricter than soft regulations, particularly on medium and small clubs. Our findings suggest that the new UEFA FSR, which introduces stricter rules such as a salary cap, is a positive step forward in enhancing the financial sustainability of European clubs. To improve FSR effectiveness, our findings offer valuable guidance for developing financial requirements that can be adapted and continuously evaluated.

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Table 1. Segments of club size (from the K-means clustering algorithm)

Segment	League	Clubs
Big-clubs	*English Premier League*	Arsenal, Chelsea, Liverpool, Manchester City, Manchester United, Tottenham
	Spanish LaLiga	Atlético de Madrid, FC Barcelona, Real Madrid
Medium-clubs	*English Premier League*	Brentford, Everton, Leeds, Leicester, Newcastle, Southampton, Watford, West Ham, Wolverhampton
	Spanish LaLiga	Athletic Club, Espanyol, Sevilla, Valencia, Villarreal
Small-clubs	*English Premier League*	AFC Bournemouth, Aston Villa, Brighton, Burnley, Cardiff, Crystal Palace, Fulham, Huddersfield, Hull City, Middlesbrough, Norwich, QPR, Sheffield, Stoke City, Sunderland, Swansea, WB Albion
	Spanish LaLiga	Alavés, Almería, Bétis, Celta de Vigo, Cádiz, Córdoba, Deportivo A Coruña, Eibar, Elche, Getafe, Girona, Granada, Huesca, Las Palmas, Leganés, Levante, Málaga, Mallorca, Osasuna, Rayo Vallecano, Real Sociedad, Sporting de Gijón, Valladolid

Table 2. Summary of variables definition and measures.

Variable	Definition	Measure
Independent key variable		
SR	Dummy variable equal to 1 if the club is under Spanish Regulation and 0 if it is under English Regulation.	Binary variable
Dependent variables		
EBIT	Operating results calculated as earnings before interest and taxes.	€ million (in logs)
ROA	Return on assets calculated as $[(EBIT)_t/(Assets)_t]$	Percentage
ROS	Return on sales calculated as $[(EBIT)_t/(Turnover)_t]$	Percentage
DOA	Debt on assets calculated as $[(Debt)_t/(Assets)_t]$	Percentage
Control variables		
Turnover	Total revenue calculated as the sum of matchday sales, broadcasting rights, sponsorship, and commercial revenues.	€ million (in logs)
Assets	Total assets reported in annual financial statements	€ million (in logs)
Wages	Total staff expenditures calculated as the sum of the players' salary costs, coaching staff and nonplaying staff salary costs.	€ million (in logs)
Transfer	Total player transfer results	€ million (in logs)
Promoted	Dummy variable equal to 1 if the club was newly promoted to the first division this season and 0 otherwise.	Binary Variable
Time-Fixed Effects	Set of dummy variables, i.e., one for each year, to collect the temporal effects of each year of the sample	Binary Variables

Table 3. Summary statistics

	Whole sample (n=357)		**SR=1** (Spanish clubs) (n=177)		**SR=0** (English clubs) (N=180)	
Variable	**Mean**	**Std. dev.**	**Mean**	**Std. dev.**	**Mean**	**Std. dev.**
EBIT (€m)	2.2	43.1	8.8	23.4	-4.3	55.4
ROA	0.036	0.210	0.086	0.185	-0.013	0.222
ROS	0.040	0.248	0.104	0.258	-0.023	0.222
DOA	0.972	0.605	0.881	0.619	1.062	0.578
Transfer (€m)	25.1	37.3	23.3	42.4	26.9	31.5
Turnover (€m)	199	188	137	181	261	174
Assets (€m)	377	477	262	369	489	540
Wages (€m)	127	117	88.9	113	165	109
Promoted	0.143	0.350	0.141	0.349	0.144	0.353

Table 4. Panel data models for whole sample and size segments.

		EBIT(log)		ROA		ROS		DOA	
Whole sample	SR	0.174	**	0.125	***	0.139	***	-0.480	***
		(0.084)		(0.044)		(0.047)		(0.146)	
	ln(Transfer)	-0.009		0.022		0.030		0.002	
		(0.024)		(0.016)		(0.025)		(0.008)	
	ln(Turnover)	0.190		0.190		0.207		-0.165	
		(0.164)		(0.134)		(0.153)		(0.146)	
	ln(Assets)	-0.070		-0.001		-0.022		-0.325	***
		(0.091)		(0.071)		(0.041)		(0.124)	
	ln(Wages)	-0.181		-0.192		-0.196		0.145	
		(0.179)		(0.149)		(0.174)		(0.091)	
	Promoted	-0.003		0.088		0.014		-0.077	
		(0.066)		(0.044)		(0.028)		(0.098)	
	Time fixed effects	YES		YES		YES		YES	
	Constant	20.250	***	-0.385		-0.315		7.733	***
		(2.137)		(0.477)		(0.602)		(1.983)	
	Observations	357		357		357		357	
	Number of ID	63		63		63		63	
	Chi^2	44.5		211.5		250.9		38.0	
	p-value	<0.01		<0.01		<0.01		<0.01	
	R^2 overall	0.063		0.202		0.241		0.092	
		EBIT(log)		**ROA**		**ROS**		**DOA**	
Big-clubs	SR	0.784		0.038		0.070	*	-0.113	
		(0.495)		(0.026)		(0.040)		(0.342)	
	ln(Transfer)	0.013		0.002		0.005		0.000	
		(0.046)		(0.004)		(0.008)		(0.004)	
	ln(Turnover)	4.332		0.091		0.260	**	-0.195	
		(3.793)		(0.083)		(0.124)		(0.192)	
	ln(Assets)	-0.496		0.019		0.040		-0.020	
		(0.601)		(0.027)		(0.038)		(0.175)	
	ln(Wages)	-4.847		-0.141	*	-0.395	***	0.148	
		(3.924)		(0.078)		(0.095)		(0.185)	
	Promoted								
	Time fixed effects	YES		YES		YES		YES	
	Constant	36.190	***	0.533		1.626		2.351	
		(13.780)		(0.493)		(1.012)		(3.300)	
	Observations	80		80		80		80	
	Number of ID	9		9		9		9	
	Chi^2	18.68		46.57		75.80		23.45	
	p-value	0.1332		<0.01		<0.01		0.0366	
	R^2 overall	0.221		0.400		0.546		0.082	

(Table 4 continued)

		EBIT(log)		ROA		ROS		DOA	
Medium-clubs	SR	0.112		0.061	*	0.110	***	-0.343	**
		(0.076)		(0.032)		(0.043)		(0.140)	
	ln(Transfer)	0.151	**	0.090	**	0.142	***	-0.049	
		(0.070)		(0.035)		(0.051)		(0.037)	
	ln(Turnover)	0.848	***	0.448	***	0.781	***	0.213	
		(0.233)		(0.108)		(0.162)		(0.146)	
	ln(Assets)	-0.181	***	-0.071	***	-0.164	***	-0.096	
		(0.069)		(0.023)		(0.040)		(0.186)	
	ln(Wages)	-0.913	***	-0.418	***	-0.772	***	-0.230	
		(0.324)		(0.130)		(0.192)		(0.143)	
	Promoted	-0.001		0.034		0.003		-0.198	**
		(0.067)		(0.028)		(0.033)		(0.083)	
	Time fixed effects	YES		YES		YES		YES	
	Constant	20.660	***	-0.849		0.260		3.902	
		(3.021)		(0.969)		(1.289)		(3.170)	
	Observations	100		100		100		100	
	Number of ID	14		14		14		14	
	Chi^2	96.15		172.09		210.52		35.79	
	p-value	<0.01		<0.01		<0.01		<0.01	
	R^2 overall	0.519		0.669		0.712		0.365	
		EBIT(log)		**ROA**		**ROS**		**DOA**	
Small-clubs	SR	0.150	**	0.171		0.069		-1.120	***
		(0.075)		(0.106)		(0.155)		(0.285)	
	ln(Transfer)	0.099	***	0.169	***	0.243	***	0.050	
		(0.021)		(0.047)		(0.057)		(0.056)	
	ln(Turnover)	0.088		0.154		0.016		-0.536	
		(0.067)		(0.177)		(0.186)		(0.275)	
	ln(Assets)	-0.043		-0.044		-0.069		-0.586	***
		(0.031)		(0.131)		(0.054)		(0.218)	
	ln(Wages)	-0.002		-0.151		-0.112		0.154	
		(0.065)		(0.141)		(0.124)		(0.115)	
	Promoted	0.048	**	0.128	**	0.060	**	-0.115	
		(0.020)		(0.058)		(0.030)		(0.125)	
	Time fixed effects	YES		YES		YES		YES	
	Constant	16.570	***	-2.203		-1.087		18.350	***
		(0.906)		(1.478)		(2.449)		(5.106)	
	Observations	177		177		177		177	
	Number of ID	40		40		40		40	
	Chi^2	156.7		325.1		190.8		35.5	
	p-value	<0.01		<0.01		<0.01		0.008	
	R^2 overall	0.297		0.279		0.294		0.089	

Note(s): ***p<0.01, **p<0.05, *p<0.10. Clustered robust standard errors below estimates (in parentheses).

Appendix A. Cluster centroids.

Spanish LaLiga	**Big**	**Medium**	**Small**	**Whole**	**ANOVA**			**Tukey post-hoc test significant**
	(n=3)	(n=5)	(n=23)	(n=31)	F statistic	p-value		(p<0.05)
Turnover (€m)	527.0	105.0	51.7	151.0	96.58	<0.01	***	all but medium vs small
Assets (€m)	1,030.0	258.0	63.2	301.0	193.89	<0.01	***	all
Wages (€m)	332.0	77.5	31.7	96.2	90.98	<0.01	***	all
English Premier League	**Big**	**Medium**	**Small**	**Whole**	**ANOVA**			
	(n=6)	(n=9)	(n=17)	(n=32)	F statistic	p-value		
Turnover (€m)	497.0	183.0	140.0	219.0	133.50	<0.01	***	all
Assets (€m)	1,170.0	266.0	131.0	363.0	62.70	<0.01	***	all
Wages (€m)	299.0	121.0	87.6	137.0	81.56	<0.01	***	all

Note(s): ***p<0.01, **p<0.05, *p<0.10.

Appendix B. Heteroskedasticity tests.

	Dependent variables											
	EBIT(log)			**ROA**			**ROS**			**DOA**		
	statistic	**p-value**		**statistic**	**p-value**		**statistic**	**p-value**		**statistic**	**p-value**	
Breusch-Pagan LM test	0,00	1,00		27.77	<0.01	***	31.46	<0.01	***	378.40	<0.01	***
Breusch-Pagan / Cook-Weisberg	1,475.05	<0.01	***	6.00	0.014	**	18.99	<0.01	***	84.36	<0.01	***
Wald (FE)	1,615,989.49	<0.01	***	5,191.00	<0.01	***	2,218.76	<0.01	***	188,434.32	<0.01	***

Note(s): ***p<0.01, **p<0.05, *p<0.10.

Appendix C. Pairwise correlations matrix

	EBIT		*ROA*		*ROS*		*DOA*		*SR*		*Transfer*		*Turnover*		*Assets*		*Wages*
EBIT	1																
ROA	0.552	**	1														
ROS	0.680	**	0.853	**	1												
DOA	-0.198	**	-0.232	**	-0.185	**	1										
SR	0.152	**	0.235	**	0.257	**	-0.150	**	1								
Transfer	0.182	**	0.017		0.061		-0.024		-0.047		1						
Turnover	0.011		-0.132	**	-0.125	**	-0.088		-0.332	**	0.514	**	1				
Assets	-0.007		-0.115	**	-0.109	**	-0.181	**	-0.239	**	0.463	**	0.888	**	1		
Wages	-0.131	**	-0.196	**	-0.208	**	-0.077		-0.323	**	0.570	**	0.964	**	0.863	**	1
Promoted	0.038		0.179		0.072		0.067		-0.005		-0.230		-0.224		-0.237		-0.249

Note(s): Appendix C shows Pearson pairwise correlations between the variables used in our analysis. **p<0.05.

Appendix D. Time-Fixed Effects coefficient estimates for the whole sample and size segments.

		EBIT		ROA		ROS		DOA	
Whole sample	2015.YEAR	-0.0177		0.0038		-0.0423		0.0824	
		(0.030)		(0.058)		(0.070)		(0.088)	
	2016.YEAR	-0.0417		-0.0071		-0.0522		0.0614	
		(0.042)		(0.061)		(0.068)		(0.076)	
	2017.YEAR	0.0460		0.0443		-0.0125		0.0070	
		(0.046)		(0.053)		(0.050)		(0.077)	
	2018.YEAR	0.0585		-0.0151		-0.0559		0.0074	
		(0.064)		(0.053)		(0.055)		(0.080)	
	2019.YEAR	-0.0409		-0.0483		-0.1050	*	0.0463	
		(0.074)		(0.057)		(0.057)		(0.091)	
	2020.YEAR	-0.6390		-0.1130	*	-0.2240	***	0.1200	
		(0.416)		(0.068)		(0.083)		(0.086)	
	2021.YEAR	-0.2010	**	-0.1190	*	-0.2260	***	0.1450	
		(0.094)		(0.070)		(0.071)		(0.107)	
	2022.YEAR	-0.1340		-0.0954	*	-0.1910	***	0.1820	**
		(0.086)		(0.058)		(0.066)		(0.088)	

		EBIT		ROA		ROS		DOA	
Big-clubs	2015.YEAR	0.2620		-0.0081		-0.0102		-0.0448	
		(0.332)		(0.031)		(0.061)		(0.041)	
	2016.YEAR	0.2010		-0.0353		-0.0451		-0.0106	
		(0.411)		(0.029)		(0.045)		(0.043)	
	2017.YEAR	0.1660		-0.0037		-0.0093		0.0117	
		(0.323)		(0.017)		(0.035)		(0.049)	
	2018.YEAR	0.5070		0.0257		0.0621	*	-0.0513	
		(0.431)		(0.025)		(0.037)		(0.087)	
	2019.YEAR	0.3790		-0.0362		-0.0439		-0.0470	
		(0.507)		(0.030)		(0.055)		(0.098)	
	2020.YEAR	-1.3890		-0.0520	*	-0.0944		0.0028	
		(1.489)		(0.031)		(0.070)		(0.091)	
	2021.YEAR	0.9980		-0.0695	*	-0.1260		0.0103	
		(1.319)		(0.042)		(0.084)		(0.068)	
	2022.YEAR	1.0490		-0.0500		-0.0522		0.1740	**
		(1.107)		(0.042)		(0.077)		(0.074)	

(Appendix D continued)

		EBIT		ROA		ROS		DOA	
Medium-clubs	2015.YEAR								
		0.0836		-0.0132		-0.0124		-0.0121	
		(0.060)		(0.032)		(0.064)		(0.055)	
	2016.YEAR	0.0552		-0.0654	*	-0.0463		0.0152	
		(0.076)		(0.038)		(0.059)		(0.068)	
	2017.YEAR	0.1130		-0.0085		-0.0076		-0.1150	
		(0.082)		(0.013)		(0.033)		(0.075)	
	2018.YEAR	0.0941		-0.0765	**	-0.0540		0.0018	
		(0.106)		(0.034)		(0.068)		(0.086)	
	2019.YEAR	-0.0010		-0.1130	***	-0.1070	***	0.0050	
		(0.070)		(0.035)		(0.037)		(0.072)	
	2020.YEAR	-0.0014		-0.1020	**	-0.1170	*	0.1220	
		(0.074)		(0.043)		(0.067)		(0.085)	
	2021.YEAR	0.0916		-0.0974	**	-0.0656		0.1700	**
		(0.120)		(0.041)		(0.080)		(0.069)	
	2022.YEAR	0.0751		-0.0981	**	-0.0878		0.1340	*
		(0.177)		(0.045)		(0.089)		(0.073)	

		EBIT		ROA		ROS		DOA	
Small-clubs	2015.YEAR	-0.0345		0.0205		-0.0480		0.1860	
		(0.025)		(0.109)		(0.117)		(0.169)	
	2016.YEAR	-0.0439	*	0.0177		-0.0364		0.1940	
		(0.025)		(0.103)		(0.099)		(0.136)	
	2017.YEAR	-0.0172		0.0817		0.0361		0.2630	
		(0.033)		(0.096)		(0.069)		(0.174)	
	2018.YEAR	-0.0683	*	-0.0062		-0.0412		0.2240	
		(0.041)		(0.097)		(0.069)		(0.186)	
	2019.YEAR	-0.0810	*	-0.0188		-0.0286		0.3460	*
		(0.049)		(0.094)		(0.074)		(0.208)	
	2020.YEAR	-0.1660	**	-0.1250		-0.1620		0.4080	**
		(0.070)		(0.095)		(0.101)		(0.202)	
	2021.YEAR	-0.1220	**	-0.1140		-0.1390	*	0.4570	*
		(0.049)		(0.106)		(0.083)		(0.243)	
	2022.YEAR	-0.0838	*	-0.0842		-0.0984		0.5020	**
		(0.044)		(0.073)		(0.072)		(0.235)	

Note(s): ***p<0.01, **p<0.05, *p<0.10. Clustered robust standard errors below estimates (in parentheses).