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The effect of a switch of management company on pension plan fees

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ABSTRACT

The impact of a switch of management company on pension plan fees is analysed by comparing the effects on employer-sponsored versus individual defined-contribution private pension plans in Spain. This framework is ideal because the two types differ significantly both in plan governance structure and consequently in the degree of bargaining power held by the decision-maker. In addition, intense bank restructuring, which has greatly modified the Spanish pension plan map, provides an interesting analytical context for the identification of causal links, because it is a scenario that features shocks exogenous to the relationship under analysis. The results show that a switch of management company significantly reduces management fees for employer-sponsored plans when the management change is not due to the bank restructuring process, on the contrary a switch of management company increases fees for individual pension plans.

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1. Introduction

The Spanish legislation's ongoing concern with pension plan costs and their impact on final savings for pension plan holders eventually resulted in the introduction of fee caps, last updated in the Royal Decree 62/2018, dated 9 February, imposing value-based fee caps of 0.85% for fixed income plans, 1.30% for mixed fixed income plans, 1.50% for other (mixed equity, equity, and guaranteed plans) and 1% of total net assets and 9% of the income statement for the case of performance-based fees. Custodial fees were set at a maximum of 0.2% of total net assets.

Despite this level of concern, which gave rise to several decrees regulating pension plans, early research on the matter reported relatively high fee levels for Spanish individual pension plans (Devesa et al., 2002). This is possibly what motivated later research analysing the determinants of individual pension plan fees (Martí et al., 2006, 2007, 2009).

Under Spanish legislation, however, individual and employer-sponsored pension plans¹ coexist, despite their considerable differences in terms of corporate governance, investor sophistication, switching costs and the bargaining power of the beneficiaries.

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Some consequences of these differences are reflected in the use of market penetration strategies based on low-fees, which can be observed in individual pension plans, contrasting with the permanent low fees found in those that are employer-sponsored (Abinzano et al., 2016), and the parasitisation phenomenon which occurs when employer-sponsored plans feed on individual ones managed by the same company (Abinzano et al., 2017).

The cited papers show that fees can be an indicator of market power, the strength of which depends on the degree of competitiveness in the market and investors' fee sensitivity (see Luo, 2002). In the presence of information asymmetry, the relative bargaining power of the decision maker is potentially another crucial determinant of fees.

One way of studying the effect of the relative bargaining power of the management company and the customer on fees of the pension plan is by analysing the consequences of observable actions, such as a change of management company. When the decision-maker's bargaining power is high as a result of the corporate governance structure and low switching costs, it is reasonable to interpret a change of management company as a move to find one with a lower fee offer. Obviously, not every change of management company is undertaken in an attempt by its members to reduce fees. An example for such a change is repercussions of a bank restructuring process.

Two features of the Spanish pension plan framework make it ideal for the empirical analysis of this issue. The first is that Spanish individual and employer-sponsored pension plans are poles apart in terms of their corporate governance mechanisms, the typology of the decision makers and their bargaining power (Abinzano et al., 2017). The second feature that contributes to its suitability as a framework of analysis is the turn of events during the study period (2008–2014) resulting from Spain's bank restructuring process. Far from complicating the analysis, this situation offers a magnificent opportunity to avoid potential bias due to simultaneous changes of management company and fee changes. These changes are therefore used as the control variable in a diff-in-diff analysis that will enable us to check for the presence of causal links between changes of management company and fee changes.

The results obtained highlight the role of bargaining power in the management–client relationship in Spanish pension plans. Specifically, changes of management company lead to significant management fee reductions in employer-sponsored plans, where the governance structure is aligned with the objectives of the decision-maker, allowing a greater bargaining power. The analysis for these plans shows, in addition, that this effect varies when changes are due to factors unrelated to the management–investor relationship, such as those resulting from the bank restructuring process. On the contrary, for individual plans, however, changes of management company are found in association with management fee increases. In the case of individual plans, furthermore, the analysis shows no significant differences when the changes are due to bank restructuring processes.

This paper makes two particularly relevant contributions to the literature. Firstly, it confirms the key role played by the relative bargaining power in the management–investor relationship by examining the impact on pension plan management fees after a change of management company, a topic previously unexplored in the literature. The second contribution relies on the availability of data on exogenous changes resulting from the deep restructuring of banks that took place during the financial crisis in Spain.

These data enable us to carry out a diff-in-diff analysis to check for potential variation between decision-maker or participant-driven changes and those due to exogenous factors and in this way identify possible causal links between the two variables.

The rest of the paper is organised as follows. Section 2 describes Spanish private pension plan framework. Section 3 presents related literature and the working hypotheses. Section 4 presents the database. The methodology and results are discussed in Section 5, and Section 6 provides some robustness checks. The paper concludes with the main conclusions in Section 7.

2. Spanish context

Legal and governance structures for pension plans differ from one country to another. As shown in Stewart and Yermo (2009), there are two types of autonomous pension funds: the institutional type (which has its own internal governing board) and the contractual type (the governing body is usually the board of directors of the management company). There are also mixed types. In particular, the trust, which is the legal structure adopted in Anglo-Saxon countries has characteristics of both types. Spain belongs to the contractual type of autonomous pension funds, although governance is shared with a separate oversight committee ('Control Committee').

Specifically, in Spain there are two types of private pension plans: personal and employer-sponsored. Personal pension plans can be individual or associated.² In this study, we focus on individual and employer-sponsored plans, which are the poles apart in terms of bargaining power of the decision maker and corporate governance characteristics.

In the case of individual plans, a control committee is required only if more than one promoter is involved, which is extremely rare in practice, since the promoter is always a financial institution (bank, savings bank, insurance company, etc.) and it generally owns the management company. Just what might be termed a 'participants' advocate' (*Defensor del Partícipe*) exists to help in settling potential conflicts between participants and the management company. As a consequence of the absence of any direct representation of plan participants or beneficiaries in the governance structure, the promoter is free to choose whichever management company or custody company it desires, and this can potentially increase agency costs. In addition, these plans have none of the freedom of choice and management allowed to US individual retirement accounts (IRAs) or United Kingdom Self-Invested Personal Pensions (SIPPs), and membership is actually very similar to investing in mutual funds offered by financial institutions. Individual pension plan participants have little decision-making power beyond that of selecting a plan according to the criteria they consider relevant (investment style, fees, seller company, past performance, etc.). Subsequently, the nature of the plan governance regime allows them virtually no bargaining power over management and custody fees. The only option open to participants who are dissatisfied with pension plan performance or the associated fees and expenses, is to exercise their exit right; that is, to withdraw their money from their current pension plan and transfer it to another.

In employer-sponsored plans, the promoter is the employer firm itself. In this case, the Control Committee has the competence to fix the terms of the pension fund, and select

Table 1. Number of credit institutions registered in Spain during the period 2007–2014.

	2008	2009	2010	2011	2012	2013	2014
Domestic Banks	48	47	52	58	54	50	46
<i>Of which: Heads of IPSs of Savings Banks</i>	-	-	5	5	3	-	-
Savings Banks	46	46	36	6	2	2	2
<i>Of which: Savings Banks participating in IPSs</i>	-	-	22	-	-	-	-
Credit Cooperatives	81	80	78	74	68	65	63
<i>Of which: Heads of IPSs of Cooperatives</i>	-	1	2	4	3	3	1
<i>Of which: Cooperatives participating in IPSs</i>	-	2	18	26	28	25	24
Financial credit establishments	75	66	59	58	53	46	47

IPS: Institutional Protection Scheme. Year-end data. Source: Bank of Spain.

the management and the custody company. In contrast to what happens in US 401(k) plans or UK defined contribution workplace pension plans, moreover, individual workers joining the plan have no say in the choice of products although the plan might contain sub-plans with different characteristics. The promoter wields 50% of the votes in the Control Committee, while the remainder are shared among the participants and beneficiaries. By the very composition of the committee, its objectives are aligned with those of the participants, since it is reasonable to assume that the firm's concerns for its workers will not differ appreciably from their own. This set of circumstances greatly increases the decision-maker's (Control Committee's) power to bargain with the management company, monitor its performance and negotiate fees and other expenses associated with the plan and obviously gives them much more bargaining power than is enjoyed by investors in individual pension plans.

The bank restructuring that took place in Spain as a consequence of the financial crisis therefore had an enormous impact on the map of the Spanish mutual fund and pension plan sector. A detailed description of this bank restructuring process can be found in the Appendix. The period 2008 to 2014 saw an intense wave of mergers that reduced the total number of banking institutions, who are also the main owners of management companies and thus play a key role in financial groups, from 94 to 48. The most visible consequence of this process was the almost total demise of the savings banks, most of which were turned into banks or taken over by banking groups. As shown in Table 1, while there were 46 savings banks in 2008, nowadays, only two independent savings banks remain, due to the said restructuring process. In the same table, we can also see some decrease in the number of credit cooperatives³ and financial credit establishments,⁴ although this observation has no relevance to the issue in hand.

This bank restructuring process obviously led to significant changes in the pension plan map. Some were taken on by the newly merged bank (sometimes with a change of management and custody company, sometimes without, according to the individual group strategy). Others were sold to other banks either before or during the merger, again, sometimes with, sometimes without a change of management/custody company. These operations meant changes in financial groups such that some management companies were handed over to a different financial group and some saw the one to which they belonged being absorbed by a surviving group.

3. Literature review and testable hypotheses

3.1. Literature review

The literature has highlighted several relevant aspects of corporate governance and investor typology that can influence fee setting policies in pension plans. Some of them are the designation of a number of independent directors, the role played by the ownership stakes of the directors, the presence of institutional or retail investors, or the conflict of interest between the firm that promotes the plan and its workers.

To resolve the conflict of interests between managers and investors in fee setting, a minimum for the number of independent directors has been introduced in some countries, such as the US. The empirical evidence for the effectiveness of such a measure is mixed, however. Tufano and Sevick (1997) show that small boards dominated by independent directors tend to set more competitive fund fees, and Ding and Wermers (2012), analysing the characteristics of management company and mutual fund board jointly, show that the presence of independent directors is crucial for terminating underperforming seasoned portfolio managers and for assessing performance, thereby upholding the findings of Tufano and Sevick (1997) concerning fees. Ferris and Yan (2007) however, assert that the probability of a fund scandal, the level of fund fees and fund performance are not significantly related either with chair or board independence. In the case of Australian not-for-profit pension funds, Tan and Cam (2015) find a positive relationship between the proportion of independent trustees and management fees and expenses.

Cremers et al. (2009), furthermore, highlight the role played by the ownership stakes of the directors, in line with previous findings by Khorana et al. (2007) who provide evidence to show that mutual fund manager ownership is positively related to risk-adjusted mutual fund performance. For Cremers et al. (2009), directors' ownership stakes play a more important role than their degree of independence. In fact, they find underperformance in funds where the ownership stakes of independent (and non-independent) directors are low, principally because of non-alignment with shareholders' interests. The same authors also show effective governance to be associated with lower shareholder fees. In this relationship, however, directors' ownership is significant only in the case of non-independent directors. Their findings, therefore, go beyond the impact of fee bargaining to highlight the importance of the monitoring role of non-independent directors.⁵

Moreover, the role of investor typology in fee setting, especially in context of mutual funds, is not a novel topic in the literature. Indeed, Khorana et al. (2008) find that fees vary according to the customer profile (institutional versus retail), with higher fees for retail investors; and Evans and Fahlenbrach (2012), analysing mutual fund twins, find stronger sensitivity to high fees and poorer risk-adjusted performance among institutional investors than among retail investors, which is consistent with switching costs being lower for the former than for the latter. They also find that, after the institutional twin is created, expenses decrease while indicators of managerial effort improve, which is consistent with agency problems being mitigated by closer monitoring. More recently, for the case of pension plans, and considering differences in decision-maker sophistication, switching costs and bargaining power, Abinzano et al. (2016) have shown that market penetration strategies based on launching low-fee plans to increase market share

are found being implemented only in plans where the decision-makers lack sophistication, incur high switching costs and hold little bargaining power.

Finally, in the firm's relations with the financial institutions, the possibility of conflicts of interest between the firm and its workers could also be considered. In fact, there is plenty of published evidence from the Anglo Saxon setting, where there is a very different pension plan structure, to show that there is no such thing as perfect alignment of interests between a firm and its pension plan beneficiaries (see, among others, Davis & Kim, 2007 or Ashraf et al., 2012). Nevertheless, a management firm is clearly more likely to cater to the interests of the beneficiaries of employer-sponsored plans than to those of individual pension plans.

3.2. Testable hypotheses

In this context, this paper aims to analyse whether observed fee changes are in any way linked to a change of management company. If this were the case, such a change could then be identified as an important, easily interpretable and verifiable fee-reducing mechanism that would, *ceteris paribus*, improve the ultimate profitability of the pension plan.⁶

In the case of Spanish employer-sponsored pension plans, it is reasonable to assume that one of the reasons why the decision-maker might suggest a change of management company is to secure a lower management fee. Of course, a decision-maker who fails to see a positive correlation between fees and performance will wish to switch to a management company that charges lower fees. This option is possible in this type of pension plan due to the nature of the governance structure, which grants considerable bargaining power to the decision-maker. The switching costs incurred by the decision-maker are also low enough as not to outweigh the potential benefits of changing company.

Participants in individual pension plans have no power of their own to change management company. If dissatisfied with the current company's fee-performance ratio, therefore, they can only exercise their right of exit and switch to another pension plan. On the basis of this possibility alone, no significant relationship should be found between a pension plan changing management company and the fee level. However, a change of management company can be the result of a strategic decision by the financial group (e.g., management outsourcing) or, when there is a need for liquid resources, the sale of the plan to another financial group.⁷ In this last case, and in view of the high switching costs facing participants in individual pension plans, a change of management company might be accompanied by a fee increase as the new financial group tries to recoup part of the investment required to purchase the plan. This sort of fee increase will be easier to implement, because there will be no commercial ties between the pension plan clients and the group purchasing the plan, and the relationship cost will not be as high as it might be otherwise.⁸

We address this issue in the context of the following hypotheses:

H1E. *Changes in management fees for employer sponsored plans are unrelated to changes of management company.*

H1I. *Changes in management fees for individual plans are unrelated to changes of management company.*

In line with the above reasoning, the hypothesis (H1E) is expected to be rejected for employer-sponsored plans, where a change of management company should lead to a significant fee reduction. For individual pension plans, on the other hand, either the hypothesis (H1I) will not be rejected, or, if it is, the results will reveal a fee increase deriving from management company strategies to turn to their favour the high switching costs and low reputation costs associated with the new pension plan provider.

However, we must take into account that by providing funding by mergers Spain has gone through a deep bank restructuring process that has affected the leading individual pension plan promoters and owners of companies managing both individual and employer-sponsored plans. Given that any change of management company caused by this restructuring process will be due to factors unrelated to the investor-management company relationship, and therefore different from those described earlier, our second hypothesis is:

H2. *The fee impact of a change of management company will be the same whether it is due to the bank restructuring process or to any other cause.*

We expect to be able to reject the hypothesis for the case of employer-sponsored plans. For that of individual plans, however, there are no solid arguments to suggest any differences, given that, generally speaking, changes of fees by this type of pension plan will be driven neither by the decision-maker nor by the restructuring process.

4. Data base

The data base for this study includes annual data for all Spanish individual and employer-sponsored defined-contribution private pension plans over the period from 2008 to 2014 according to data supplied by the Spanish General Insurance Authority (*Dirección General de Seguros y Fondos de Pensiones*, DGS).⁹ These data comprise for each plan: the year; name of pension fund; name of pension plan; custodian company; financial group to which the custodian company is affiliated; management company; financial group to which the management company is affiliated; type of plan (1.1: employer-sponsored with defined benefit; 1.2: employer-sponsored with defined contribution; 1.3: hybrid employer-sponsored; 2.1: associated with defined benefit; 2.2: associated with defined contribution; 2.3: hybrid associated; and 3.2: individual); past 1, 5, 10, and 15-year returns; type of investment policy (1: short term fixed income; 2: long term fixed income; 3: (balanced) mixed fixed income; 4: (balanced) mixed equity and 5: equity); the custodian fee; the management fee; the number of fund participants; and assets under fund management in Euros.

We must take into account that, particularly due to the recent financial crisis, many pension funds have been liquidated (Alda, 2018). Thus, in order to avoid the survivorship bias, the sample includes all actively managed plans fulfilling the above characteristics. After screening for the above-mentioned criteria, the sample comprises a total of 274 employer-sponsored funds with 1,332 plans in all, and 692 individual funds comprising 1,203 plans in all. Panel A, Table 2, contains the descriptive statistics for pension plan fees throughout the study period. For all investment styles considered, lower fees can be

observed for employer-sponsored pension plans, in line with previous evidence and in consistence with the stronger bargaining power of the decision makers of such plans. The % fee changes over the reference period (2009–2014), displayed in the same table, reveal reductions in fees for both employer-sponsored and individual pension plans (3.19% and 6.54% of the total fee, respectively).

Panel B [Table 2](#) shows other complementary descriptive statistics of the sample. It can be seen that, whereas the majority of employer-sponsored plans are (balanced) mixed fixed income (61.35%), the typology of the individual plans is much more varied (30.11% balanced mixed fixed income, 20.22% balanced mixed equity and 20.67% equity). There are somewhat more employer-sponsored plans than individual plans per fund (5.21 vs. 1.94, respectively) and per management company (20.53 vs. 11.57, respectively), due, in the second case, possibly, to the number of management companies involved. Specifically, there are considerably more companies, on average, managing individual plans (75.29) than employer-sponsored plans (50.00).

Since the database identifies both the management company and the financial group or family to which it is affiliated, changes of management company can be identified by means of a dummy variable labelled *MgFirmChg*. Another dummy variable, labelled *BRestr*, is used to identify cases where the financial institution owning the management company was directly affected by the bank restructuring process. These data were compiled from information supplied by the Bank of Spain (*Banco de España*) showing changes in the map of the Spanish banking system during the period of analysis for this study. Restructuring is considered to have taken place on the date of the formal announcement, regardless of when it became effective.¹⁰ It can be seen from [Table 2](#), Panel B, that management company changes in percentage terms are not very high for either type of plan: only 2.36% for employer-sponsored plans and 3.09% for individual plans per year, on average.¹¹ The restructuring process affected 1.48% of the management companies of employer-sponsored plans and 3.12% of the management companies of individual plans each year. Even more notable was the incidence of changes of financial group, which affected 7.36% of employer-sponsored plans and 6.23% of individual plans per year on average, largely due to the bank restructuring process.

5. Methodology and results

This section deals with the testing of the hypotheses for the relationship between change of management company and change in management fees, as outlined in [Section 3](#). The first test uses a basic model incorporating the above variables (change in management fees and change of management company), management fees and the lag of change of management company, as control variables, and year dummies to capture potential time effects. The model for the second test adds information on the bank restructuring process and management companies that passed into the hands of a different financial group. The last test incorporates the interaction term between change of management company and the restructuring process, which is exogenous to the relationship, and will enable causal analysis.

Table 2. Descriptive statistics.

	Employer sponsored			Individual		
	CdFee	MgFee	TotFee	CdFee	MgFee	TotFee
Avg	0.083	0.506	0.589	0.182	1.382	1.564
Median	0.070	0.400	0.480	0.100	1.490	1.600
MAX	0.500	2.000	2.500	0.500	2.000	2.500
% change	-7.90%	-2.42%	-3.19%	-15.80%	-5.31%	-6.54%
Average fee by investment style						
Style 1	0.182	0.604	0.786	0.132	1.036	1.168
Style 2	0.069	0.566	0.635	0.176	1.312	1.488
Style 3	0.078	0.526	0.604	0.202	1.433	1.635
Style 4	0.087	0.506	0.593	0.198	1.529	1.727
Style 5	0.087	0.392	0.479	0.184	1.481	1.666

	Employer		Individual		Employer		Individual	
	Employer	Individual	Employer	Individual	Employer	Individual	Employer	Individual
Funds	274	692	Changes by year		24.17	29.33		
Plans	1332	1203	Manag. company		15.17	29.17		
Style 1	2.39%	18.96%	Restructuring		75.50	52.67		
Style 2	1.76%	10.04%	Family					
Style 3	61.35%	30.11%	% changes by year					
Style 4	22.00%	20.22%	Manag. company		2.36%	3.09%		
Style 5	12.51%	20.67%	Restructuring		1.48%	3.12%		
Number of Plans per Fund			Family		7.36%	6.23%		
			Number of Management					
			companies					
Avg	5.21	1.94	Avg		50.00	75.29		
SD	8.04	2.63	SD		3.87	7.43		
Number of Funds per Management company			Number of Plans per					
			Management company					
Avg	4.37	7.62	Avg		20.53	11.57		
SD	7.25	8.63	SD		35.51	20.94		

CdFee Custody Fees; MgFee Management Fees; TotFee Total Fees. Style 1 short-term Fixed Income plans; Style 2 long-term Fixed Income plans; Style 3 (Balanced) mixed fixed income plans; Style 4 (Balanced) mixed equity plans; Style 5: Equity plans.

5.1. Changes in management fees and changes of management company

Following the reasoning given above, the dependent variable in the first estimation is *FeeChg*, which is the change in the pension plan management fee from one year to the next. The main independent variable is the dummy variable *MgFirmChg*, which takes a value of 1 if the plan has changed its management company during that year and 0 otherwise. The control variables are the amount of the management fee, *MgFee*, computed as the average for the interval $t-1$ to t (t^*), to control for the relative measure of the dependent variable,¹² the dependent variable lagged to adjust for potential autocorrelation, and year dummies to control for potential time effects.

$$\text{FeeChg}_{it} = \alpha + \beta \cdot \text{MgFirmChg}_{it} + \gamma \cdot \text{MgFee}_{it^*} + \delta \cdot \text{FeeChg}_{it-1} + \sum_{j=2010}^{2014} \theta_j D_j + u_{it} \quad (1)$$

Table 3 gives the results of this estimation for both employer-sponsored and individual pension plans using Huber-White robust standard errors. As can be seen, the effect of a change of management company on fees charged to employer-sponsored plans is negative and significant ($\beta = -0.130$; $p = 0.01$), in line with our reasoning the plan governance structure grants a high level of bargaining power to this type of decision-maker. It can be deduced from this that either a fee reduction is a reason to switch management company or that a switch of management company provides an opportunity to obtain a fee reduction, at least in the short term. This is in line with expectations and allows us to reject Hypothesis, H1E. We must stress that this result is not in conflict with the possibility of previously higher bargaining power. Indeed, fees are clearly lower in employer-sponsored plans than in individual plans. What this result does show is that employer-sponsored plans also achieve fee reductions by switching their management firm.

For individual plans, however, the effect is positive and significant ($\beta = 0.086$; $p = 0.01$). As noted earlier, there are reasons to assume that the coefficient is not different from zero, which would reject Hypothesis H1I, insofar as a change of management company does not depend on the criterion of the individual pension investor. However, further support for the rejection of Hypothesis H1I can be seen in the positive sign resulting from the fact that some changes of management company, especially during the period selected for this study, may be due to plans being sold to other groups for profit to prop up banks' ailing balance sheets. In this context, where individual investors are known to have low bargaining power and high switching costs, groups purchasing plans might take the opportunity to raise the fee to recoup their investment in purchasing the fund. In the light of the result, this would appear the most plausible explanation for the observed effect. The main point, however, is that, in line with expectations, the impact on management fees brought due to a change of management company is significantly different for each type of plan.

Additionally, we must remark that some changes of management company that took place in Spain during the study period were due to bank restructuring process, however, indicating the usefulness of including another control variable to capture possible changes due to factors exogenous to pension plan decisions. We therefore created a dummy variable, *BRestr*, which takes a value of 1 if the financial group that owns the

Table 3. Change in management fees.

	(1)		(2)		(3)		(4)	
Panel A: Employer-sponsored								
	Coef	pvalue	Coef	pvalue	Coef	pvalue	Coef	pvalue
Constant	0.010	0.02	0.010	0.02	0.010	0.02	0.010	0.02
Mg.FirmChg	-0.130	0.01	-0.130	0.01	-0.130	0.01	-0.136	0.01
MgFee	-0.021	0.00	-0.021	0.00	-0.021	0.00	-0.021	0.00
FeeChange -1	0.258	0.00	0.257	0.00	0.257	0.00	0.257	0.00
BRestr			-0.005	0.80	-0.008	0.69	-0.014	0.51
FamChg					0.004	0.71	0.004	0.68
MgFirmChg.BR							0.143	0.01
D2010	0.001	0.90	0.001	0.89	0.001	0.90	0.001	0.89
D2011	-0.006	0.34	-0.006	0.34	-0.006	0.33	-0.006	0.34
D2012	-0.003	0.55	-0.003	0.56	-0.003	0.52	-0.003	0.49
D2013	0.011	0.08	0.011	0.08	0.011	0.08	0.012	0.07
D2014	-0.003	0.57	-0.003	0.57	-0.004	0.51	-0.004	0.51
AdjR2	0.079		0.078		0.077		0.077	
DW	1.748		1.748		1.748		1.749	
Panel B: Individual								
	Coef	pvalue	Coef	pvalue	Coef	pvalue	Coef	pvalue
Constant	0.057	0.00	0.057	0.00	0.058	0.00	0.058	0.00
Mg.FirmChg	0.086	0.01	0.083	0.02	0.099	0.01	0.113	0.03
MgFee	-0.033	0.00	-0.033	0.00	-0.032	0.00	-0.032	0.00
FeeChange -1	-0.044	0.32	-0.044	0.33	-0.048	0.32	-0.048	0.32
BRestr			0.010	0.59	0.027	0.24	0.041	0.07
FamChg					-0.021	0.12	-0.022	0.12
MgFirmChg.BR							-0.053	0.39
D2010	-0.060	0.00	-0.060	0.00	-0.065	0.00	-0.066	0.00
D2011	0.046	0.00	0.045	0.00	0.048	0.00	0.047	0.00
D2012	-0.013	0.27	-0.013	0.27	-0.017	0.18	-0.017	0.19
D2013	-0.011	0.24	-0.011	0.22	-0.014	0.17	-0.014	0.17
D2014	-0.104	0.00	-0.104	0.00	-0.109	0.00	-0.109	0.00
AdjR2	0.047		0.047		0.051		0.051	
DW	1.988		1.988		1.887		1.886	

Results of models (1) to (4). FeeChg is the change in management fees. The dummy variable MgFirmChg is the change of management company, MgFee is the Management fee, BRestr is the dummy variable that takes a value of 1 if the financial group to which the management company is affiliated has been involved in a merger or takeover and 0 otherwise, and FamChg is the dummy variable that takes a value of 1 if the management company has passed into the hands of a different financial group and 0 otherwise. Finally, D2010, D2011, D2012, D2013 and D2014 are year dummy variables. p-values are computed using the Huber-White robust standard errors.

$$\begin{aligned}
 FeeChg_{it} = & \alpha + \beta.MgFirmChg_{it} + \gamma.MgFee_{it}^* \\
 & + \delta.FeeChg_{it-1} + \lambda.BRestr_{it} + \varphi.FamChg_{it} \\
 & + \omega.MgFirmChg_{it}.BRestr_{it} + \sum_j = 2010^{2014} \theta_j D_j + u_{it}
 \end{aligned}$$

management company has been involved in a restructuring process during that year and 0 otherwise.

$$\begin{aligned}
 FeeChg_{it} = & \alpha + \beta \cdot MgFirmChg_{it} + \gamma \cdot MgFee_{it}^* + \delta \cdot FeeChg_{it-1} + \lambda \cdot BRestr_{it} \\
 & + \sum_{j=2010}^{2014} \theta_j D_j + u_{it}
 \end{aligned} \tag{2}$$

The results in Table 3 show that bank restructuring processes involving the financial group associated with the management company have no significant impact on fee changes,¹³ and the above – reported effects due to a change of management company

remain unaltered, both for individual ($\lambda = 0.01$; $p = 0.59$) and employer-sponsored plans ($\lambda = -0.005$; $p = 0.80$), supporting that switch of management company resulting from bank restructuring should not affect fees.

Moreover, the literature on mutual funds and, to a lesser extent, on pension plans has highlighted the role played by the financial group (or family) that owns the management company. As a further control, therefore, we create a dummy, *FamChg*, for whether the management company has passed to a different family. This dummy takes a value of 1 if the management company has become affiliated to another group and 0 otherwise.

$$\begin{aligned} \text{FeeChg}_{it} = & \alpha + \beta \cdot \text{MgFirmChg}_{it} + \gamma \cdot \text{MgFee}_{it*} + \delta \cdot \text{FeeChg}_{it-1} + \lambda \cdot \text{BRestr}_{it} \\ & + \varphi \cdot \text{FamChg}_{it} + \sum_{j=2010}^{2014} \theta_j D_j + u_{it} \end{aligned} \quad (3)$$

The results show that the *FamChg* variable also lacks significance,¹⁴ both for employer-sponsored ($\varphi = 0.004$; $p = 0.71$) and individual pension plans ($\varphi = -0.021$; $p = 0.12$). As in the previous case, the results of the variable for the effect of a change of management company on the change in fees remain unaltered.

In summary, the results from the analysis of employer-sponsored and individual pension plans lead to the conclusion that the impact of a change of management company on the changes in fees is mixed; resulting in a fee reduction in the case of employer-sponsored plans, due to the nature of the governance structure and lower switching costs that allow high decision-makers bargaining power; and a fee increase in the case of individual plans.

5.2. Change of management company and bank restructuring process

Although the above results enable us to observe the link between changes of management company and fee changes, it cannot be ignored that potential endogeneity might confound interpretation of the relationship. To address this shortcoming, we follow the line of research conducted by Kelly and Ljungqvist (2012) or Balakrishnan et al. (2014), and look for a source of exogenous variation in the change of management company variable. We find it, in the case that concerns us, precisely in changes of management company resulting from bank restructuring process. These are as likely to have affected the takeover as the taken over, since they are related to the strategies of the financial groups selling the plan and not to its corporate governance structure, or to the amount of fees charged by the management company, or to the degree of satisfaction of the investor with the plan's performance. Thus, they are not the result of pension plan participants' decisions.

This independence of the relationship of interest enables us to perform a diff-in-diff analysis by adding an interaction term ($\text{MgFirmChg} \cdot \text{BRestr}$) to expression (3)¹⁵:

$$\begin{aligned} \text{FeeChg}_{it} = & \alpha + \beta \cdot \text{MgFirmChg}_{it} + \gamma \cdot \text{MgFee}_{it*} + \delta \cdot \text{FeeChg}_{it-1} + \lambda \cdot \text{BRestr}_{it} \\ & + \varphi \cdot \text{FamChg}_{it} + \omega \cdot \text{MgFirmChg}_{it} \cdot \text{BRestr}_{it} + \sum_{j=2010}^{2014} \theta_j D_j + u_{it} \end{aligned} \quad (4)$$

It is important to note that such changes constitute a set of shocks affecting different firms at exogenously different times, and, as such, are not subject to the problems associated with time-specific shocks. Another point to be made here concerns the proposed means of identifying the groups whose differences are to be analysed (the fee after a change of management firm minus the fee prior to that change). Given that any single plan may have been affected by more than one change of management firm and/or more than one restructuring process during the sample period, inclusion in the group during a specific period t is dependent upon a plan having switched management firm during that same period t . Plans cease to be included in the respective groups in periods during which there was no change of management firm or restructuring process.

Thus, the analysis of differences in fee changes between the group that had for some reason switched their management firm and the group where a change of management firm had resulted from a restructuring process, is determined by the afore-mentioned interaction term ($MgFirmChg \cdot BRestr$). This term allows to specifically measure the difference in fees between those plans for which restructuring during that year had led to a change of management firm and those that had, in the same year, switched management firm for other reasons; basically in accordance with a plan governance decision. Keeping the plans in one group throughout the entire sample period would considerably hamper interpretation of the results, since they would be obscured by effects due to the inclusion of plans free of any switch of management firm or restructuring process during that year.

If the decision to change management company is motivated by participants' looking to reduce the management fee, the interaction term should be significant, showing that different results ensue according to whether the change of management company is due to a decision by the Control Committee or participants or to some other factor. In the last column of Table 3, it can be seen that the coefficient ($\omega = 0.143$; $p = 0.01$) for employer-sponsored plans is both economically large and statistically significant, thus supporting the rejection of the hypothesis H2. This result confirms that the relationship between change in management fee and change of management company varies according to whether the change of management company is or is not due to the action of the decision-maker. In other words, the relationship is negative when the change is decided by the decision-maker. However, the coefficient in question is slightly positive ($\beta + \omega = 0.006$; $\chi^2 = 0.12$; $p = 0.73$), but not significant, when the change is not directly linked to the decision-maker/participant's actions.

We cannot reject the hypothesis H2 for individual plans, because the coefficient ω is small ($\omega = -0.053$; $p = 0.39$) and not statistically significant. Again, this is consistent with differences in the relative levels of real decision-making power held by participants in individual vs. employer-sponsored pension plans, due to their very distinct decision-maker bargaining power and plan governance structure.

6. Robustness checks

6.1. Total fees analysis

Given that, in Spain, the majority of pension plan providers are financial institutions, affiliated, in turn, with a financial group owning both management and custodian

companies, it is reasonable to assume that the management fee is not necessarily the relevant variable, since it could also be the total fees charged to participants: i.e., management plus custody fees.

Table 4 presents the results of the four models estimated above, this time using changes in total fees, rather than changes in management fees only, as the dependent variable. The results of the different estimations using Huber-White robust standard errors show, in line with those obtained using the management fee only, that changes of management company and changes in total fees are negatively associated in the case of employer-sponsored plans and positively associated in that of individual plans. Changes deriving from financial group merger and takeover processes again lack significance, as

Table 4. Change in total fees.

	(1)		(2)		(3)		(4)	
Panel A: Employer-sponsored								
	Coef	pvalue	Coef	pvalue	Coef	pvalue	Coef	pvalue
Constant	0.011	0.24	0.011	0.24	0.011	0.22	0.011	0.23
Mg.FirmChg	-0.201	0.00	-0.202	0.00	-0.200	0.00	-0.212	0.00
TotFee	-0.058	0.00	-0.058	0.00	-0.058	0.00	-0.058	0.00
FeeChange -1	0.101	0.00	0.101	0.00	0.101	0.00	0.102	0.00
BRestr			0.030	0.14	0.028	0.28	0.007	0.76
FamChg					0.002	0.90	0.004	0.79
MgFirmChg.BR							0.224	0.00
D2010	-0.002	0.79	-0.003	0.76	-0.003	0.73	-0.003	0.77
D2011	-0.014	0.16	-0.014	0.16	-0.015	0.15	-0.014	0.16
D2012	-0.015	0.10	-0.015	0.09	-0.016	0.07	-0.016	0.07
D2013	-0.002	0.88	-0.002	0.83	-0.003	0.80	-0.002	0.82
D2014	-0.020	0.05	-0.020	0.06	-0.021	0.07	-0.021	0.07
AdjR2	0.054		0.054		0.053		0.054	
DW	1.819		1.819		1.819		1.820	
Panel B: Individual								
	Coef	pvalue	Coef	pvalue	Coef	pvalue	Coef	pvalue
Constant	0.045	0.00	0.045	0.00	0.044	0.01	0.045	0.01
Mg.FirmChg	0.101	0.00	0.093	0.01	0.111	0.01	0.119	0.03
TotFee	-0.022	0.00	-0.022	0.00	-0.020	0.01	-0.020	0.01
FeeChange -1	-0.023	0.60	-0.023	0.60	-0.024	0.60	-0.024	0.60
BRestr			0.027	0.22	0.035	0.17	0.043	0.08
FamChg					-0.013	0.40	-0.013	0.39
MgFirmChg.BR							-0.031	0.66
D2010	-0.062	0.00	-0.064	0.00	-0.069	0.00	-0.070	0.00
D2011	0.040	0.00	0.039	0.00	0.041	0.01	0.041	0.01
D2012	-0.022	0.07	-0.022	0.07	-0.029	0.04	-0.028	0.04
D2013	-0.010	0.30	-0.010	0.27	-0.013	0.22	-0.013	0.22
D2014	-0.128	0.00	-0.128	0.00	-0.134	0.00	-0.134	0.00
AdjR2	0.048		0.048		0.051		0.051	
DW	1.987		1.986		1.893		1.892	

Results of models (1) to (4). FeeChg is the change in total fees. The dummy variable MgFirmChg is the change of management company, TotFee is Total fees (management fee + custody fee), BRestr is the dummy variable that takes a value of 1 if the financial group to which the management company is affiliated has been involved in a merger or takeover and 0 otherwise, and FamChg is the dummy variable that takes a value of 1 if the management company has passed into the hands of a different financial group and 0 otherwise. Finally, D2010, D2011, D2012, D2013 and D2014 are year dummies. p-values are computed using Huber-White robust standard errors.

$$\begin{aligned}
 \text{FeeChg}_{it} = & \alpha + \beta \cdot \text{MgFirmChg}_{it} + \gamma \cdot \text{TotFee}_{it} + \delta \cdot \text{FeeChg}_{it-1} \\
 & + \lambda \cdot \text{BRestr}_{it} + \varphi \cdot \text{FamChg}_{it} + \omega \cdot \text{MgFirmChg}_{it} \cdot \text{BRestr}_{it} \\
 & + \sum_{j=2010}^{2014} \theta_j D_j + u_{it}
 \end{aligned}$$

do changes of financial group in all cases. Finally, the results of the diff-in-diff analysis again enable us to observe that, in the case of employer-sponsored plans, the effect of a change in management company on changes in total fees varies significantly according to whether the change is due to a decision by the Control Committee/participant or to exogenous factors ($\omega=0.224$, $p =0.00$), such as mergers and takeovers between financial groups dealing in pension plans. In the case of individual plans, and in line with the results obtained using the management fee only, no significant differences are observed in the relationship between change of management company and fee change, irrespective of whether the former is a consequence of the bank restructuring process ($\omega=-0.031$, $p =0.66$). This suggests that individual pension plan participants have little or no direct impact on the pension plan fee policy and strengthens the conclusions obtained earlier.

6.2. Seemingly unrelated regression methodology

Furthermore, since there is a possibility of missing variables in the equations used above, it might be advisable to select an alternative means of testing, especially in view of the fact that the analysis focuses on comparing individual and employer-sponsored pension plans in relation to the role played by their respective corporate governance structures and by their respective decision-makers’ degree of bargaining power. Specifically, it might be useful to estimate a system of equations with both types of plan to enable their direct comparison. These are the reasons for the choice of the SUR (Seemingly Unrelated Regression) method, which estimates the parameters of the system, accounting for heteroscedasticity and contemporaneous correlation in the errors across equations. The estimates of the cross-equation covariance matrix are based upon parameter estimates of the unweighted system. Apart from the structural variables specified in the regression model, there may be others whose influence on the dependent variable may be significant enough to make them worth including in the analysis, but which are excluded for lack of explicit data. Thus, the expression to be estimated is written as follows:

$$\begin{aligned}
 \text{FeeChg}_{itk} = & \alpha_k + \beta_k \cdot \text{MgFirmChg}_{itk} + \gamma_k \cdot \text{MgFee}_{it^*k} + \delta_k \text{FeeChg}_{it-1k} + \lambda_k \cdot \text{BRestr}_{itk} \\
 & + \varphi_k \cdot \text{FamChg}_{itk} + \omega_k \cdot \text{MgFirmChg}_{itk} \cdot \text{BRestr}_{itk} + \sum_{j=2010}^{2014} \theta_{jk} D_{jk} + u_{itk}
 \end{aligned}
 \tag{5}$$

where $k =E, I$ for employer-sponsored and individual plans, respectively.

Table 5 presents the results of the above models estimated using the SUR method for the case of management fees. As we can see, the findings are identical to those reported above in Table 3. In particular, the association between change of management company and management fee changes is negative for employer-sponsored plans and positive for individual plans. This difference is attributable, moreover, to the different plan governance structures and decision-maker bargaining power of the two types of plan. The results of the diff-in-diff analysis reveal significant variation in the findings when the change of management company is due to factors exogenous to the investor.

As already noted, joint estimation also enables directing testing to determine the significance of differences between the two types of pension plan. Specifically, it will be useful to ascertain whether a change of management company has the same fee impact in



Table 5. Change in management fees.

	Coef	pvalue	Coef	pvalue	Coef	pvalue	Coef	pvalue
Constant_E	0.010	0.05	0.010	0.05	0.010	0.05	0.010	0.05
MgFirmChg_E	-0.130	0.00	-0.130	0.00	-0.130	0.00	-0.136	0.00
MgFee_E	-0.021	0.00	-0.021	0.00	-0.021	0.00	-0.021	0.00
FeeChange_E - 1	0.258	0.00	0.257	0.00	0.257	0.00	0.257	0.00
BRestr_E	-0.005	0.77	-0.008	0.65	-0.008	0.65	-0.014	0.45
FamChg_E			0.004	0.67	0.004	0.67	0.004	0.64
MgFirmChg.BR_E					0.143	0.09	0.143	0.09
D2010E	0.001	0.91	0.001	0.90	0.001	0.92	0.001	0.90
D2011E	-0.006	0.29	-0.006	0.29	-0.007	0.28	-0.006	0.29
D2012E	-0.003	0.64	-0.003	0.65	-0.003	0.63	-0.003	0.60
D2013E	0.011	0.06	0.011	0.06	0.011	0.06	0.012	0.06
D2014E	-0.003	0.66	-0.003	0.65	-0.004	0.58	-0.004	0.58
Constant_J	0.057	0.00	0.057	0.00	0.057	0.00	0.058	0.00
MgFirmChg_J	0.086	0.00	0.083	0.00	0.099	0.00	0.113	0.00
MgFee_J	-0.033	0.00	-0.033	0.00	-0.032	0.00	-0.032	0.00
FeeChange_J - 1	-0.044	0.00	-0.044	0.00	-0.048	0.00	-0.048	0.00
BRestr_J			0.010	0.65	0.027	0.39	0.041	0.24
FamChg_J					-0.021	0.34	-0.022	0.33
MgFirmChg.BR_J					-0.053	0.32	-0.053	0.32
D2010I	-0.060	0.00	-0.060	0.00	-0.065	0.00	-0.066	0.00
D2011I	0.046	0.00	0.045	0.00	0.048	0.00	0.047	0.00
D2012I	-0.012	0.35	-0.013	0.34	-0.017	0.24	-0.017	0.25
D2013I	-0.011	0.43	-0.011	0.42	-0.014	0.34	-0.014	0.34
D2014I	-0.104	0.00	-0.104	0.00	-0.109	0.00	-0.109	0.00
AdjR2(E)	0.078		0.078		0.076		0.077	
DW(E)	1.748		1.748		1.748		1.748	
AdjR2(I)	0.047		0.047		0.051		0.051	
DW(I)	1.988		1.988		1.887		1.886	
$\beta_E = \beta_I$	Chi-Squared	p value	Chi-Squared	p value	Chi-Squared	p value	Chi-Squared	p value
$\lambda_E = \lambda_I$	66.26	0.00	61.92	0.00	63.41	0.00	60.61	0.00
$\beta_E + \omega_E = \beta_I + \omega_I$			0.29	0.58	0.95	0.33	1.97	0.16
							0.31	0.57

Results of the system estimated using SUR (Seemingly Unrelated Regression) methodology. FeeChg is change in management fees. The dummy variable MgFirmChg is change of management company, MgFee is the Management fee, BRestr is the dummy variable that takes a value of 1 if the financial group to which the management company is affiliated has been involved in a merger or takeover and 0 otherwise, and FamChg is the dummy variable that takes a value of 1 if the management company has passed into the hands of a different financial group and 0 otherwise. Finally, D2010k, D2011k, D2012k, D2013k and D2014k are year dummies, where $k = E, I$ denote emg_{jt} year-sponsored and individual plans, respectively. $FeeChg_{itk} = \alpha_k + \beta_k \cdot MgFirmChg_{itk} + \gamma_k \cdot MgFee_{itk} + \delta_k \cdot FeeChg_{it-k} + \lambda_k \cdot BRestr_{itk} + \phi_k \cdot FamChg_{itk} + \omega_k \cdot MgFirmChg_{itk} \cdot BRestr_{itk} + \sum_{j=2010}^{j=2010} \theta_{jk} D_{jk} + u_{itk}$

employer-sponsored and individual pension plans. It is also worth testing whether the relationship varies significantly for changes of management company unrelated to participants' decision-making. The results for the first of these issues ($\beta_I - \beta_E = -0.249$; $\chi^2=60.61$; $p = 0.00$) show clearly that the effect on fees due to a change of management company differs significantly between individual and employer-sponsored plans. With respect to the second issue, it can be seen that there is no difference between the two types of plan in terms of the fee impact of changes of management company exogenous to the decisions of the Participant/Control Committee ($\beta_I + \omega_I = \beta_E + \omega_E$; $\chi^2=0.31$; $p = 0.57$).

Similar findings to the above are obtained when management fees are replaced by total fees as the dependent variable (see Table 6), which further adds to the robustness of the findings obtained throughout the study.

We must remark that the findings when using the variable *MgFee (TotFee)*, measured at t , instead of t^* (the average for the interval $t-1$ to t), are fully consistent with those reported above, both in the analysis of management fee changes, and in that of overall fee changes, and with both estimation techniques (OLS and SUR).¹⁶

6.3. Mean-difference tests

Finally, a mean difference (t-test) was performed on H1I, H1E, and H2, assuming samples with equal or unequal variances according to the results of a prior Levene test of equality of variances. The results for changes in total fees, which are consistent with those presented throughout the paper, are given in Table 7. In the case of employer-sponsored pension plans, company changes are significantly associated with a reduction in total fees (Panel A), thus enabling the rejection of H1E. For all investment styles considered, we obtain a negative sign for the difference between Change and No Change which is significant for '(balanced) mixed fixed income' and '(balanced) mixed equity' types, styles 3 and 4, respectively. The difference for individual pension plans, meanwhile, is positive across the entire sample, largely due to fee increases in plans affected by a change of management company. Differentiating by investment style, we obtain a positive difference in all cases, which is significant in the case of 'short-term fixed income' and '(balanced) mixed equity' types, styles 1 and 4, respectively.

The analysis concludes with a comparison between fee changes introduced by a new management company due to the bank restructuring process or to other causes. This tells us (Panel B) that, in the case of employer-sponsored plans, fee reductions due to a company change unconnected with the bank restructuring process are significantly higher, enabling the rejection of H2. In the case of individual pension plans, however, the differences are non-significant for the whole sample and all investment styles considered.

However, when, in the course of this same analysis, the implications of a company change on performance outcomes were examined, a significantly damaging effect was observed in both individual and employer-sponsored pension plans. The only positive impact appears in the case of short term fixed income plans.¹⁷



Table 6. Change in total fees.

	Coef	pvalue	Coef	pvalue	Coef	pvalue	Coef	pvalue	Coef	pvalue
Constant_E	0.011	0.21	0.011	0.20	0.011	0.20	0.011	0.19	0.011	0.20
Mg.FirmChg_E	-0.201	0.00	-0.202	0.00	-0.200	0.00	-0.200	0.00	-0.212	0.00
TotFee_E	-0.058	0.00	-0.058	0.00	-0.058	0.00	-0.058	0.00	-0.058	0.00
FeeChange_E - 1	0.101	0.00	0.101	0.00	0.101	0.00	0.101	0.00	0.102	0.00
BRestr_E			0.030	0.26	0.027	0.35	0.007	0.86	0.005	0.82
FamChg_E					0.002				0.005	0.72
MgFirmChg.BR_E									0.229	0.02
D2010E	-0.002	0.82	-0.003	0.79	-0.003	0.75	-0.003	0.80	-0.003	0.80
D2011E	-0.014	0.16	-0.014	0.16	-0.015	0.15	-0.014	0.16	-0.014	0.16
D2012E	-0.015	0.15	-0.015	0.13	-0.016	0.12	-0.016	0.12	-0.016	0.12
D2013E	-0.001	0.90	-0.002	0.85	-0.002	0.81	-0.002	0.81	-0.002	0.84
D2014E	-0.020	0.08	-0.019	0.08	-0.020	0.07	-0.020	0.07	-0.020	0.08
Constant_I	0.045	0.00	0.045	0.00	0.044	0.01	0.044	0.01	0.044	0.01
Mg.FirmChg_I	0.101	0.00	0.094	0.00	0.111	0.00	0.119	0.00	0.119	0.00
TotFee_I	-0.022	0.00	-0.022	0.00	-0.020	0.01	-0.020	0.01	-0.020	0.00
FeeChange_I - 1	-0.023	0.08	-0.023	0.09	-0.024	0.09	-0.024	0.09	-0.024	0.09
BRestr_I			0.027	0.26	0.035	0.30	0.043	0.24	0.043	0.24
FamChg_I					-0.013	0.60	-0.013	0.59	-0.013	0.59
MgFirmChg.BR_I									-0.032	0.57
D2010I	-0.062	0.00	-0.064	0.00	-0.069	0.00	-0.069	0.00	-0.069	0.00
D2011I	0.040	0.00	0.039	0.01	0.041	0.01	0.041	0.01	0.041	0.01
D2012I	-0.021	0.13	-0.022	0.12	-0.028	0.07	-0.028	0.07	-0.028	0.07
D2013I	-0.009	0.50	-0.010	0.48	-0.013	0.41	-0.013	0.41	-0.013	0.41
D2014I	-0.128	0.00	-0.129	0.00	-0.134	0.00	-0.134	0.00	-0.134	0.00
AdjR2(E)	0.054		0.054		0.053		0.054		0.054	
DW(E)	1.819		1.819		1.819		1.820		1.820	
AdjR2(I)	0.048		0.048		0.051		0.051		0.051	
DW(I)	1.987		1.986		1.893		1.892		1.892	
Chi-Squared	105.80	pvalue	96.57	pvalue	92.34	pvalue	86.09	pvalue	86.09	pvalue
$\beta_1 = \beta_E$		0.00	0.01	0.93	0.03	0.87	0.58	0.44	0.58	0.44
$\lambda_1 = \lambda_E$										
$\beta_1 + \omega_1 = \beta_E + \omega_E$										

Results of the system estimated using SUR (Seemingly Unrelated Regression) methodology. FeeChg is the change in total fees. The dummy variable MgFirmChg is change of management company, TotFee is the Total fee (management fee+custody fee), BRestr is the dummy variable that takes a value of 1 if the financial group to which the management company is affiliated has been involved in a merger or takeover and 0 otherwise, and FamChg is the dummy variable that takes a value of 1 if the management company has passed into the hands of a different financial group and 0 otherwise. Finally, D2010k, D2011k, D2012k, D2013k and D2014k are year dummies, where $k = E, I$ denote 2000 employer-sponsored and individual financial plans, respectively. $FeeChg_{itk} = \alpha_k + \beta_k \cdot MgFirmChg_{itk} + \gamma_k \cdot TotFee_{itk} + \delta_k \cdot FeeChg_{it-k} + \lambda_k \cdot BRestr_{itk} + \phi_k \cdot FamChg_{itk} + \omega_k \cdot MgFirmChg_{itk} + \sum_{j=2010}^{j=2010} \theta_{jk} D_{jk} + u_{itk}$

Table 7. Mean difference test: total fees.

<i>Panel A: Change of Management Company</i>						
	Employer-sponsored plans			Individual plans		
	Change	No change	Difference	Change	No change	Difference
Full sample	-0.2741	-0.0436	-0.2306***	0.1416	-0.0095	0.1512***
Style 1	-0.2500	-0.1377	-0.1123	0.3230	0.0057	0.3173***
Style 2	-0.7400	-0.0091	-0.7309	0.0592	-0.0081	0.0673
Style 3	-0.2387	-0.0459	-0.1927***	-0.0009	-0.0113	0.0104
Style 4	-0.3287	-0.0456	-0.2831***	0.2185	-0.0206	0.2391*
Style 5	-1.0900	-0.0224	-1.0676	0.1120	-0.0081	0.1201

<i>Panel B: Change of Management Company due to Bank Restructuring (CHBR)</i>						
	Employer-sponsored plans			Individual plans		
	CHBR	OTHER	Difference	CHBR	OTHER	Difference
Full sample	-0.0287	-0.2895	0.2607*	0.0628	0.1709	-0.1081
Style 1		-0.2500		0.3075	0.3252	-0.0177
Style 2		-0.7400		0.1800	0.0230	0.1570
Style 3	-0.0329	-0.2534	0.2205	0.0008	-0.0016	0.0023
Style 4	0.0000	-0.3436	0.3436	0.0642	0.3067	-0.2425
Style 5		-1.0900		0.0136	0.1571	-0.1434

Panel A shows the results of t-test for difference of means between the change in fees if there is a change of management company or not, for employer-sponsored and individual plans, respectively. Panel B shows the results of t-test for difference of means between the change in fees if there is a change of management company due to the bank restructuring process or not, for employer-sponsored and individual plans, respectively. In column *Change (CHBR)* the mean of the change in fees if there is a change of the management company (due to the bank restructuring process) is shown, and in column *No change (OTHER)* the mean is shown when the change is due to other causes. Style 1: short-term Fixed Income plans; Style 2: long-term Fixed Income plans; Style 3: (Balanced) mixed fixed income plans; Style 4: (Balanced) mixed equity plans; Style 5: Equity plans. Finally, column *Difference* shows the difference of means, while *** and * denotes coefficients that are significant at the 1 and 10% level, respectively, for the mean differences t-test.

7. Conclusions

Pension plan fees are a key variable, both for the management company, for which they are the principal source of income, and for the pension plan participant, since they have a notable impact on the amount ultimately received at retirement. This obviously makes them the main focus of any potential bargaining process between the management company/pension plan provider and the plan investors. In this context, the plan's governance structure and the characteristics of its decision-makers, in particular, their level of sophistication and the level of switching costs they incur, will clearly condition the bargaining framework. If negotiations reach a deadlock, and the decision-makers are sufficiently empowered, they will be able to fire the current management company and look for one that can provide the same quality of management for a smaller fee.

It is hard to obtain accurate information about bargaining processes between management companies (or pension plan providers, if that is the case) and the decision-maker (Control Committee or participant). For this reason, poles apart in terms of bargaining power are analysed in this paper. Spanish pension plan system is an ideal empirical setting in which to explore this issue. Firstly, two main types of plan (individual and employer-sponsored) existing side by side. Although both types are sold by the same type of agent (primarily financial institutions), there are important differences between them in terms of plan governance structure and decision-maker characteristics, such as level of decision-maker sophistication, switching costs and bargaining power. Through the comparison of poles apart, it is possible to investigate whether these differences are the

reason for the observed variation between the two types of plan with respect to the relationship between changes of management company and fee changes.

Secondly, another important role is played by the effects of the bank restructuring process that took place during the period of analysis. There is a degree of simultaneity between changes of management company and fee changes, which could hamper analysis of the causal relationship between the two variables, but the presence of an exogenous shock could provide a means to overcome this problem. Shocks exist in the case in hand because of the intense bank restructuring process that transformed Spain's map of financial institutions, who are the main owners of management and custody companies. This has led to plans merging and/or switching between different management companies and financial groups. These circumstances have enabled us to identify an exogenous shock that changed the management–investor relationship, offering us the opportunity to perform a diff-in-diff analysis between fee changes resulting from action on the part of the decision-maker and those deriving from the bank restructuring process. This will help us to identify a potential causal relationship between changes of management companies and fee changes due to direct action on the part of the decision-maker.

The results obtained show that, in the case of employer-sponsored plans, changes of management company are associated with a fee reduction when the change is instigated by the management company/decision-maker relationship. This causal link is clearly distinct from that observed when the decision-maker is not the instigator, as can be seen from the diff-in-diff analysis between these and changes of management company deriving from the bank restructuring process.

The association between changes of management company and fee changes is positive for individual pension plans, however, where it makes no difference whether the change is due to the bank restructuring process or not. This suggests that, when the individual plan membership is dominated by unsophisticated investors with low bargaining power, the management company (or financial group that owns it) will increase the fees in order to recoup the funds invested in purchasing the plan, confident in the belief that the strategy will succeed, because of the above conditions (low bargaining power and high switching costs) and the lack of strong commercial ties with the new plan members.

An interesting avenue for future research would be to analyse whether the described changes in fees are transmitted to returns obtained by participants. Preliminary results show declines in returns for both individual and employer-sponsored pension plans, with the exception of short-term fixed-income category. The annual frequency of DGS database makes such analysis particularly challenging for risk-adjusted returns, although Martí et al. (2007) use measures such as the Sharpe ratio or the style-adjusted return to overcome this problem.

The implications for policy measures affecting the corporate governance structure of pension plans are obvious. They show clearly that, when it comes to achieving results in line with objectives, one powerful tool is the regulation of governance structures to ensure the alignment of the directors' interests with those of the investors, and create mechanisms to strengthen investors' bargaining power (the Control Committee in the case that concerns us). These results are consistent with those reported by Stewart and Yermo (2009), who suggest that some of the important problems of governance failures could be solved, among other ways, through a more balanced representation of stakeholders in the governing body, as exists in Spanish employer-sponsored plans. It should be noted, however, that,

as reported by Adams et al. (2010), the solution does not lie in merely regulating board attributes since it is a complex issue with a large number of interacting variables. Endowing individual pension plans with the same corporate governance mechanisms as exist in employer-sponsored plans could potentially complement fee cap measures.

Notes

1. Individual and employer-sponsored pension plans are identical products, managed by the same management companies, most of which are affiliated with the same families. According to data supplied by Inverco (<http://www.inverco.es/en/>), in 2015, 65% of all management companies, which includes the largest, manage both individual and employer-sponsored plans. Indeed, the total assets of companies managing both types of plan are 25 times greater on average than those of companies specialising in one type. Calculating the data in terms of the financial group to which the managing company is affiliated, the figures are 69% and 33 times greater, respectively.
2. An associated pension plan is one that is founded by an association or union, where all participants must be associates, members, or affiliates of the promoting body.
3. Credit cooperatives are private institutions with dual competencies, being both cooperative societies, and thus subject to the Law on Cooperatives, and also credit institutions. They are also subject to territorial restrictions preventing them from operating outside their statutory area.
4. Financial credit establishments operate in very specific settings such as leasing, factoring, consumer credit, mortgages, credit cards or bank guarantees. One of their main features is that they are not authorised to accept deposits from the public. With the approval on 1 January 2014 of Royal Decree 14/2013, dated 29 November 2013, these institutions lost their status as credit institutions.
5. To all of the above, it is necessary to add, as shown in Morley and Curtis (2010) that exit rights distort voting, boards and fee liability, which further complicates assessment of the role of board structure in effective fund monitoring.
6. This paper studies the impact on fees because they are an observable magnitude and negotiable ex-ante. Analysis of the impact on pension plan performance is much more complex because it can only be known ex-post and is subject to factors that are difficult to monitor with annual data such as portfolio risk exposure.
7. As has occurred during the recent restructuring of the Spanish banking sector brought about by the financial crisis.
8. Although participants in a plan sold to another group may face lower switching costs due to the lack of commercial ties with the provider, they will, by the same token, have less bargaining power if tempted to transfer to another plan being offered by a different financial group. These circumstances might lead more sophisticated investors to switch to a plan with a better performance-fee ratio, but they are unlikely to trigger any changes among the less sophisticated.
9. Given the annual nature of the data supplied by the DGS there could be more than one fee change within the same year, not necessarily all due to a change of management company. Since fee changes are strategically planned, and, as can be seen in Table 2, the percentage of plans with a change of management company is not very high for either type (only 2.36% for employer-sponsored plans and 3.09% for individual plans per year, on average), the possibility of more than one fee change in the same year (whatever the reason) is very unlikely and therefore has little significant impact on our findings.
10. If there was a pre-existing financial group, 'no change of management company' was recorded; and likewise in cases of mergers between two institutions of very different size, where the management companies of the larger group were considered not to have changed group.

11. Though company changes might be assumed a rare occurrence, there were 175 affecting individual plans and 145 affecting employer-sponsored plans over the reference period.
12. Management fees are included to analyse changes in fees in the spirit of Sirri and Tufano (1998) who include fund size as a control variable when analysing net percentage fund growth. To avoid simultaneity bias, this variable is measured as the average for the interval $t-1$ to t . The results for the value of this variable at t , given in the robustness checks, lead to the same conclusions.
13. The estimates from model 4 show that, in individual plans, the effect has a positive sign and is significant at the 10% level. However, the effect is not observed when using the increase in total fees as a dependent variable or when estimating with the SUR method, as reported in the robustness checks.
14. It must be noted that there are different reasons for a pension plan passing into the hands of a different financial group. Mainly this is due to a switch between management companies belonging to different financial groups, but can also be the result of one of the many mergers and takeovers that took place in Spain during the study period. Obviously, variation depending on the underlying cause explains the limited explanatory power of this variable.
15. We estimate the differences-in-differences estimator in a regression framework (see, among others, Angrist and Pischke, 2009) in order to control for other variables which may reduce the residual variance and to include multiple periods.
16. Results omitted for brevity but available from the authors upon request.
17. The results of the differences in means test for performance changes are available upon request from the authors. It is worth noting that a more exhaustive analysis of the results would require higher frequency data in order to control for risk exposure in the different types of pension plans.
18. Sistemas Institucionales de Protección, SIPs.
19. According to the financial regulation of Basel III, common equity Tier 1 capital is composed of common shares, stock surplus, retained earnings, and disclosed reserves.

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Appendix

The bank restructuring alluded to above was largely imposed by the Spanish authorities in an attempt to respond to the financial crisis. In 2008, when the crisis was reaching its peak and the Spanish economy was going into recession, the adjustment was based on reducing the leverage of households and firms and introducing structural reforms, the key part of which took place in the banking sector. To achieve this, the Spanish authorities set up a series of measures to transform the sector. One was the funding of mergers to address overcapacity issues and the problem of high exposure to property risk that was affecting some banking institutions. This would enable financial institutions that were in trouble to merge with others that were more efficient and/or less exposed to such risk. A specific type of merger arrangement, the Institutional Protection Scheme (IPS)¹⁸ was also instituted to deal with the problematic involved in mergers between savings banks. In IPSs, savings banks hand over decisions affecting the main areas of their activity to a central body, while each still maintained its own legal status, framework of governance, and control over its social projects. The funding for these operations was channelled through the Fund for Orderly Restructuring of the Banking Sector ('Fondo de Reestructuración Ordenada Bancaria', FROB) specially created in June 2009 to deal also with the restructuring of unviable banking institutions. Table A1 shows that several mergers between savings banks were underway by the end of that year.

We must remark that the Spanish authorities' decision to address the banking crisis by providing funding for mergers was different from that adopted by most other countries, where the option was rapid, wholesale recapitalisation of the banking system. As proof of their clean-up efforts and to demonstrate the healthy state of the banking system as a whole, the Spanish authorities decided to submit fully 95% of the country's banking assets to stress tests by the European Banking Authority, when only required to submit 50%. The results for most of Spain's banking institutions were modest at best, however, and five financial groups actually failed.

These results, in conjunction with the country's economic plight which was reflected in a risk premium that had been rising gradually since May 2010, forced the authorities into the decision to facilitate the transformation of savings Banks into Banks via an amendment to the so-called Savings Bank Law ('Ley de Cajas'), by Royal Decree 11/2010. This enabled savings Banks to pursue their financial activity through a bank. By the end of 2010, all the savings Banks undergoing

**Table A1.** Ownership transitions among Spain's main banking groups (2009–2014). Source: Bank of Spain.

	2009	2010	2011	2012	2013	2014
Banco Santander	Banco Santander					
BBVA	BBVA	BBVA	BBVA	BBVA	BBVA	BBVA
Caixa Sabadell	Unnim	Unnim Banc				
Caixa Terrasa						
Caixa Manlleu						
Caixa Catalunya	Catalunya Caixa	Catalunya Banc CX	Catalunya Banc CX	Catalunya Banc CX	Catalunya Banc CX	
Caixa Tarragona						
Caixa Manresa						
La Caixa	La Caixa	Caixabank	Caixabank	Caixabank	Caixabank	Caixabank
Caixa Girona						
Caja Sol	Caja Sol	Banca Cívica	Banca Cívica	Banca Cívica		
Caja Guadalupe						
Caja Navarra	Banca Cívica					
Caja Burgos						
Caja Canarias						
Banco de Valencia	Banco de Valencia	Banco de Valencia	Banco de Valencia	B. Valencia		
Caja Madrid	BFA-Bankia	BFA-Bankia	BFA-Bankia	BFA-Bankia	BFA-Bankia	Bankia
Bancaja						
Cada de Ávila						
Caja Segovia						
Caja La Rioja						
Caixa Lletana						
Caja I. de Canarias						
Banco Sabadell	Banco Sabadell	Banco Sabadell	Banco Sabadell	Banco Sabadell	Banco Sabadell	Banco Sabadell
Banco Guipuzcoano	CAM	CAM	Banco CAM			
CAM	Banco Gallego	Banco Gallego	Banco Gallego	Banco Gallego		
Banco Gallego						
Banco Popular	Banco Popular	Banco Popular	Banco Popular	Banco Popular	Banco Popular	Banco Popular
Banco Pastor	Banco Pastor	Banco Pastor	Banco Pastor			
Unicaja	Unicaja	Unicaja	Unicaja	Unicaja Banco	Unicaja Banco	Unicaja Banco

(Continued)



Table A1. (Continued).

	2009	2010	2011	2012	2013	2014
Caja Jaén						
Caja Duero		Caja España de inversiones	Banco CEISS	Banco CEISS	Banco CEISS	
Caja España						
Caja de Ahorros Inmaculada		Caja 3	Banco Grupo Caja3	Banco Grupo Caja 3	Banco Grupo Caja 3	Ibercaja Banco
C. C. Católico Burgos Burgos						
Caja Badajoz		Ibercaja	Ibercaja Banco	Ibercaja Banco		
Ibercaja						
Kutxa		Kutxa	Kutxabank	Kutxabank	Kutxabank	Kutxabank
Caja Vital		Caja Vital				
BBK		BBK				
CajaSur						
Bankinter		Bankinter				
Banco Etcheverría		Banco Etcheverría	Banco Etcheverría	Banco Etcheverría	B.E.	Abanca
Caixa Galicia		Novacaixagalicia	NCGBanco	NCGBanco	Evo Banco	
Caixa Nova						
Caja Murcia		Mare Nostrum	Banco Mare Nostrum	Banco Mare Nostrum	Banco Mare Nostrum	Banco Mare Nostrum
Caja Penedés						
Caja Granada						
Sa Nostra						
Cajastur		Cajastur	Liberbank	Liberbank	Liberbank	Liberbank
CCM						
Caja Cantabria		Caja Cantabria				
Caja Extremadura		Caja Extremadura				
C.R. Cajamar		G. C. Cajamar	G. C. Cajamar	CRU-Cajas Rurales Unidas	CRU-Cajas Rurales Unidas	G.C. Cajamar
C.R. Mediterráneo		Ruralcaja	Ruralcaja			

mergers had completed the necessary formalities, and were able, at least formally, to operate as banks as of January 2011. The level of integration of some groups was limited, however.

The decline in wholesale financing that followed the crisis in Ireland convinced the Spanish government of the need to accelerate and complete the bank restructuring process, which it did by means of Royal Decree 2/2011, which raised the capital requirement for finance companies to improve their access to funding and generally strengthen confidence in the Spanish banking system. Thus, stock exchange listed banks were required to maintain a common equity Tier 1 capital¹⁹ ratio of 8% by the end of 2011, versus 10% for financial groups that were non-listed, had no large-scale private investors, or were more than 20% reliant on wholesale financial markets. This meant much higher capital demands than under Basel III rules. The aim of Basel III was to strengthen the quality and quantity of the capital held by finance companies, but it was intended for gradual implementation, with a view to all of them achieving a common equity Tier 1 capital ratio of 3.5% by the end of 2013, and attaining the required level of 7% by the beginning of 2019. The effects of the Royal Decree were not long in coming and, by September 2011, four of the thirteen institutions that needed to raise their capital levels had opted for recapitalisation through their parent companies or through capital increase, two had successfully gone public, another two had found private investors; three had been recapitalised through the FROB, and the two remaining were set to reach the required minimum through mergers. Table A1 shows that the main transformation of savings banks into banks took place between 2011 and 2012, and that this was followed by some of the new banks being taken over ones that were in existence prior to the bankarization process and have survived to the present time.